INTRODUCTORY INFORMATION

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PROCUREMENT AND CONTRACTING REQUIREMENTS GROUP

INTRODUCTORY INFORMATION

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SECTION 01 1100

SUMMARY OF WORK

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements Summary of Work requirements.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provisions contained in Division 01 apply to Sections of Divisions 02 through 49 of Specifications. Instructions contained in Specifications are directed to Contractor. Unless specifically provided otherwise, obligations set forth in Contract Documents are obligations of Contractor.

B. Contractor shall furnish total labor, materials, equipment, and services necessary to perform The Work in accordance with Contract Documents.

1.3 WORK BY OWNER

A. Owner will furnish and install some portions of The Work with its own forces. Contractor will be provided with schedule of when these items are to be performed.
   1. General:
      a. Complete work necessary to accommodate work to be performed by Owner before scheduled date for performance of such work. Contractor will be back charged for actual expenses incurred by Owner for failure to timely complete such work.
      b. Store and protect completed work provided by Owner until date of Substantial Completion.
   2. Work furnished and installed by Owner include, but are not limited to, following:
      a. None proposed.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

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SECTION 01 1200

MULTIPLE CONTRACT SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements for Multiple Contracts.

1.2 SUMMARY OF CONTRACTS

A. Owner may issue separate contracts for operations scheduled to precede and be substantially completed before beginning of The Work under this Contract.
   1. Contractor will be given written notice from such contractors of any revisions to scheduled completion of their work at least 30 days in advance. Owner will reimburse Contractor for expenses incurred by Contractor by failure to be properly notified.

B. Owner has issued or will issue separate contracts for operations scheduled to be completed between Notice to Proceed and Substantial Completion.
   1. General:
      a. Schedule performance of work covered by such separate contracts in Contractor's Construction Schedule so as to avoid delays in Substantial Completion. Give written notice to such contractors and to Owner of any revisions to scheduled delivery and work dates at least 90 days in advance.
      b. Complete work necessary to accommodate items provided under such separate contracts before scheduled date for performance of such work. Contractor will be back charged for actual expenses incurred by Owner for failure to timely complete such work including, but not limited to, cost of crews during downtime or for call backs and costs to correct substrate deficiencies.
      c. Store and protect completed work provided under separate contracts until date of Substantial Completion.

C. Owner has issued or will issue separate contracts for operations normally scheduled to follow Substantial Completion.
   1. General:
      a. Give written notice to such contractors and to Owner of any revisions of scheduled date of Substantial Completion at least 90 days in advance. Contractor will be back charged for actual expenses incurred by Owner for failure to accurately report date of Substantial Completion.
      b. Complete work necessary to accommodate items provided under such separate contracts before Substantial Completion. Contractor will be back charged for actual expenses incurred by Owner for failure to complete such work before Substantial Completion.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

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SECTION 01 1400

WORK RESTRICTIONS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements for Work Restrictions.

1.2 PROJECT CONDITIONS

A. During construction period, Contractor will have use of premises for construction operations. Contractor will ensure that Contractor, its employees, subcontractors, and their employees comply with following requirements:
   1. Confine operations to areas within Contract limits shown on Drawings. Do not disturb portions of site beyond Contract limits.
   2. Do not allow alcoholic beverages, illegal drugs, or persons under their influence on Project site.
   3. Do not allow use of tobacco in any form on Project Site.
   4. Do not allow pornographic or other indecent materials on site.
   5. Do not allow work on Project site on Sundays except for emergency work.
   6. Refrain from using profanity or being discourteous or uncivil to others on Project Site or while performing The Work.
   7. Wear shirts with sleeves, wear shoes, and refrain from wearing immodest, offensive, or obnoxious clothing, while on Project Site.
   8. Do not allow playing of obnoxious and loud music on Project Site. Do not allow playing of any music within existing facilities.
   9. Do not build fires on Project Site.
   10. Do not allow weapons on Project Site, except those carried by law enforcement officers or other uniformed security personnel who have been retained by Owner or Contractor to provide security services.
   11. Owner will occupy the building during construction.

B. Do not load or permit any part of the structure to be loaded with a weight that will endanger its safety. Questions of structural loading as part of construction means and methods shall be addressed by a licensed structural engineer engaged by Contractor, subject to the review by Architect.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

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SECTION 01 2900

PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements to prepare and process Applications for Payments.

1.2 PAYMENT REQUESTS

A. Use Payment Request forms provided by Owner.

B. Each Payment Request will be consistent with previous requests and payments certified by Architect and paid for by Owner.

C. Request Preparation:
   1. Complete every entry on Payment Request form.
   2. Entries will match data on approved schedule of values and Contractor's Construction Schedule. Use updated schedules if revisions have been made.
   3. Submit signed Payment Request to Architect with current Construction Schedule.

D. Provide following submittals before or with submittal of Initial Payment Request:
   1. List of Subcontractors.
   2. Initial progress report.
   3. Contractor's Construction Schedule.
   4. Submittal Schedule.

E. Provide Affidavit of Contractor and Consent of Surety with Payment Request following Substantial Completion.

1.3 SCHEDULE OF VALUES

A. Submit schedule of values on Owner's standard form to Architect 20 days minimum before submission of Initial Payment Request as a necessary condition before payment will be processed. Coordinate preparation of schedule of values with preparation of Contractor's Construction Schedule. Correlate line items in Schedule of Values with other required administrative schedules and forms, including:
   1. Contractor's Construction Schedule.
   2. Payment Request form.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

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SECTION 01 3100

PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements for Project Management and Coordination on Projects.

1.2 PROJECT COORDINATION

A. Project designation for this Project is **LDS 515-5037-1904-0101 Rocky Mountain House.**

B. This Project designation will be included on documents generated for Project by Contractor and Subcontractors or be present on a cover letter accompanying such documents.

1.3 MULTIPLE CONTRACT COORDINATION

A. Contractor shall be responsible for accurately maintaining and reporting schedule of The Work from Notice to Proceed to date of Substantial Completion.

B. Contractor shall be responsible for providing Temporary Facilities And Controls for those who perform work on Project from Notice to Proceed to date of Substantial Completion.

C. Contractor shall be responsible for providing Construction Waste Management And Disposal services for those who perform work on Project from Notice to Proceed to date of Substantial Completion.

D. Contractor shall be responsible for Final Cleaning for entire Project.

1.4 PROJECT MEETINGS AND CONFERENCES

A. Preconstruction Conference:
   1. Attend preconstruction conference and organizational meeting scheduled by Architect at Project site or other convenient location.
   2. Be prepared to discuss items of significance that could affect progress, including such topics as:
      a. Construction schedule.
      b. Critical Work sequencing.
      c. Current problems.
      d. Designation of responsible personnel.
      e. Distribution of Contract Documents.
      f. Equipment deliveries and priorities.
      g. General schedule of inspections by Architect and its consultants.
      h. General inspection of tests.
      i. Office, work, and storage areas.
      j. Preparation of record documents and O & M manuals.
      k. Procedures for processing interpretations and Modifications.
      l. Procedures for processing Payment Requests.
      m. Project cleanup.
      n. Security.
      o. Status of permits.
      p. Submittal of Product Data, Shop Drawings, Samples, Quality Assurance / Control submittals.

q. Use of the premises.
r. Work restrictions.
s. Working hours.

3. Architect will record minutes of meetings and distribute copies to Owner and Contractor within three (3) working days.

B. Progress Meetings:
1. Attend progress meetings at Project site at regularly scheduled intervals determined by Architect, at least once a month.
2. Progress meetings will be open to Owner, Architect, Subcontractors, and anyone invited by Owner, Architect, and Contractor.
3. Be prepared to discuss items of significance that could affect progress, including following:
a. Progress since last meeting.
b. Whether Contractor is on schedule.
c. Activities required to complete Project within Contract Time.
d. Labor and materials provided under separate contracts.
e. Off-site fabrication problems.
f. Access.
g. Site use.
h. Temporary facilities and services.
i. Hours of work.
j. Hazards and risks.
k. Project cleanup.
l. Quality and Work standards.
m. Status of pending modifications.
n. Documentation of information for Payment Requests.
o. Maintenance of Project records.
4. Architect will prepare minutes of progress meetings and distribute copies of minutes to Owner and Contractor within three (3) working days.

C. Pre-Installation Conferences:
1. Attend pre-installation conferences specified in Contract Document.
a. If possible, schedule these conferences on same day as regularly scheduled Progress Meetings. If this is not possible, coordinate scheduling with Architect.
b. Request input from attendees in preparing agenda.
2. Be prepared to discuss following items:
a. Requirements of Contract Documents.
b. Completed work necessary for installation of items or systems.
c. Conditions not in compliance with installation requirements.
d. Installation and inspection schedule.
e. Coordination between trades.
f. Space and access limitations.
g. Testing.
3. Architect will prepare meeting minutes and distribute minutes to Owner and Contractor within three (3) working days.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 3200

CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements for documenting the progress of construction during performance of the Work.

1.2 SCHEDULING OF WORK

A. Bar Chart Schedule:
   1. Submit horizontal bar chart schedule before Preconstruction Conference. Provide separate time bar for each construction activity listed on Owner's payment request form. Within each time bar, show estimated completion percentage. Provide continuous vertical line to identify first working day of each week. Show each activity in chronological sequence. Show graphically sequences necessary for completion of related portions of The Work. As The Work progresses, place contrasting mark in each bar to indicate actual completion.
   2. Provide copies of schedule for Architect and Owner and post copy in field office.
   3. Revise schedule monthly. Send copy of revised schedule to Owner and Architect and post copy in field office.
   4. Project Management Software Programs:
      a. Any software project management program capable of Bar Chart Scheduling for projects of equal size and complexity is approved by Contractor and approved by Owner's Project Manager.

B. Daily Construction Reports:
   1. Prepare daily reports of operations at Project including at least following information:
      a. List of Subcontractors at site.
      b. Approximate count of personnel at site by trade.
      c. High and low temperatures, general weather conditions.
      d. Major items of equipment on site.
      e. Materials, equipment, or Owner-furnished items arriving at or leaving site.
      f. Accidents and unusual events.
      g. Site or structure damage by water, frost, wind, or other causes.
      h. Meetings, conferences, and significant decisions.
      i. Visitors to the job including meeting attendees.
      j. Stoppages, delays, shortages, losses.
      k. Any tests made and their result if known.
      l. Meter readings and similar recordings.
      m. Emergency procedures.
      n. Orders and requests of governing authorities.
      o. Modifications received, carried out.
      p. Services connected, disconnected.
      q. Equipment or system tests and start-ups.
      r. Brief summary of work accomplished that day.
      s. Signature of person preparing report.
   2. Submit daily reports to Architect at least weekly.
   3. Maintain copies of daily reports at field office.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 3300

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements for Submittal Procedures.

B. Related Requirements:
   1. Section 01 7800: 'Closeout Submittals' for administrative and procedural requirements for closeout submittals.

1.2 SUBMITTAL SCHEDULE

A. Furnish submittal schedule within 20 days after receipt of Notice to Proceed, listing items specified to be furnished for review to Architect including product data, shop drawings, samples, and Informational submittals.
   1. Coordinate submittal schedule with Contractor's construction schedule.
   2. Enclose the following information for each item:
      a. Scheduled date for first submittal.
      b. Related Section number.
      c. Submittal category.
      d. Name of Subcontractor.
      e. Description of part of the Work covered.
      f. Scheduled date for resubmittal.
      g. Scheduled date for Architect's final release or approval.

B. Print and distribute copies to Architect and Owner and post copy in field office. When revisions are made, distribute to same parties and post in same location.

C. Revise schedule monthly. Send copy of revised schedule to Owner and Architect and post copy in field office.

1.3 SUBMITTAL PROCEDURES

A. Coordination:
   1. Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently before performance of related construction activities to avoid delay.
      a. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
      b. Coordinate transmittal of different types of submittals required for related elements of The Work so processing will not be delayed by need to review submittals concurrently for coordination. Architect reserves right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
   2. Processing Time:
      a. Allow sufficient review time so installation will not be delayed by time required to process submittals, including time for resubmittals.
         1) Allow 21 days for initial review. Allow additional time if processing must be delayed allowing coordination with subsequent submittals. Architect will promptly advise Contractor when submittal being processed must be delayed for coordination.
         2) If an intermediate submittal is necessary, process same as initial submittal.

3) Allow 10 days for reprocessing each submittal.
4) No extension of Contract Time will be authorized because of failure to transmit submittals to Architect in sufficient time before work is to be performed to allow processing.

3. Identification:
   a. Place permanent label or title block on each submittal for identification. Include name of entity that prepared each submittal on label or title block.
      1) Provide space approximately 4 by 5 inches on label or beside title block on Shop Drawings to record Contractor's review and approval markings and action taken.
      2) Include following information on label for processing and recording action taken:
         a) Project name.
         b) Date.
         c) Name and address of Architect.
         d) Name and address of Contractor.
         e) Name and address of Subcontractor.
         f) Name and address of supplier.
         g) Name of manufacturer.
         h) Number and title of appropriate Specification Section.
         i) Drawing number and detail references, as appropriate.
4. Transmittal:
   a. Package each submittal appropriately for transmittal and handling. Transmit each submittal from Contractor to Architect using transmittal letter. On transmittal, record relevant information and requests for data. Include Contractor's certification that information complies with Contract Document requirements, or, on form or separate sheet, record deviations from Contract Document requirements, including minor variations and limitations.
   b. Submittals received from sources other than Contractor or not marked with Contractor's approval will be returned without action.

1.4 ACTION SUBMITTALS

A. Product Data:
   1. Submit Product Data, as required by individual Sections of Specifications.
   2. Mark each copy of each set of submittals to show choices and options used on Project. Where printed Product Data includes information on products that are not required for Project, mark copies to indicate information relating to Project.
   3. Certify that proposed product complies with requirements of Contract Documents. List any deviations from those requirements on form or separate sheet.
   4. Submit five copies of each required submittal unless otherwise required. Architect will return three copies marked with action taken and with corrections or modifications required.
   5. Submit electronic files PDF: Architect will return a PDF copy marked with action taken and with corrections or modifications required.

B. Shop Drawings:
   1. Submit newly prepared graphic data to accurate scale. Except for templates, patterns, and similar full-size Drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm) but no larger than 36 by 48 inches (915 by 1 200 mm). Highlight, encircle, or otherwise show deviations from Contract Documents. Include following information as a minimum:
      a. Dimensions.
      b. Identification of products and materials included.
      c. Compliance with specified standards.
      d. Notation of coordination requirements.
      e. Notation of dimensions established by field measurement.
   2. Do not reproduce Contract Documents or copy standard information as basis of Shop Drawings. Standard printed information prepared without specific reference to Project is not acceptable as Shop Drawings.
   3. Review and designate (stamp) approval of shop drawings. Unless otherwise specified, submit to Architect six copies of shop drawings required by Contract Documents. Shop drawings not required by Contract Documents, but requested by Contractor or supplied by Subcontractor, need not be submitted to Architect for review.

C. Samples:
   1. Submit full-size, fully fabricated Samples cured and finished as specified and physically identical with material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture, and pattern.
      a. Mount, display, or package Samples to ease review of qualities specified. Prepare Samples to match samples provided by Architect, if applicable. Include following:
         1) Generic description of Sample.
         2) Sample source.
         3) Product name or name of manufacturer.
         4) Compliance with recognized standards.
         5) Availability and delivery time.
   2. Submit Samples for review of kind, color, pattern, and texture, for final check of these characteristics with other elements, and for a comparison of these characteristics between final submittal and actual component as delivered and installed.
      a. Where variations in color, pattern, texture or other characteristics are inherent in material or product represented, submit set of three samples minimum that show approximate limits of variations.
      b. Refer to other specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation and similar construction characteristics.
      c. Refer to other Sections for Samples to be returned to Contractor for incorporation into The Work. Such Samples shall be undamaged at time of use. On transmittal, indicate special requests regarding disposition of Sample submittals.
   3. Where Samples are for selection of color, pattern, texture, or similar characteristics from a range of standard choices, submit full set of choices for material or product. Preliminary submittals will be reviewed and returned with Architect's mark indicating selection and other action.
   4. Except for Samples illustrating assembly details, workmanship, fabrication techniques, connections, operation, and similar characteristics, submit three sets. One will be returned marked with action taken.
   5. Samples, as accepted and returned by Architect, will be used for quality comparisons throughout course of construction.
      a. Unless noncompliance with Contract Documents is observed, submittal may serve as final submittal.
      b. Sample sets may be used to obtain final acceptance of construction associated with each set.

1.5 INFORMATIONAL SUBMITTALS

A. Informational submittals are design data, test reports, certificates, manufacturer's instructions, manufacturer's field reports, and other documentary data affirming quality of products and installations. Submit five copies of each required submittal unless otherwise required. Architect will return three copies marked with action taken and with corrections or modifications required. [or] Submit electronic files: PDF. Architect will return a PDF copy marked with action taken and with corrections or modifications required.
   1. Certificates: Describe certificates intended to document affirmations by Contractor or others that the work is in accordance with the Contract Documents, but do not repeat provisions of Parts 2 or 3.
   2. Delegated Design Submittals / Design Data: Describe submittals intended to demonstrate design work prepared by Contractor’s licensed professionals.
   3. Test And Evaluation Reports: Describe submittal of test reports or evaluation service reports intended to document required tests.
   4. Manufacturer Instructions: Describe submittals intended to document manufacturer instructions.
   5. Source Quality Control Submittals: Describe submittal of source quality control documentation.
   6. Field Quality Control Submittals: Describe submittal of field quality control documentation.
   7. Manufacturer Reports: Describe submittal of Manufacturer reports as documentation of manufacturer activities.
   8. Special Procedure Submittals: Describe submittals intended to document special procedures. An example would be construction staging or phasing for remodeling an existing facility while

keeping it in operation. While the Contractor would normally be responsible for managing this, submittal of his plan as documentation could be specified.

9. Qualification Statements: Describe submittals intended to document qualifications of entities employed by Contractor.

1.6 CLOSEOUT SUBMITTALS

A. This title groups submittals that occur during project closeout. Coordinate with section 01 7800 Closeout Submittals.
   1. As Built Record Drawings as defined in the Agreement.
   2. Project Manual: Complete Project Manual including Addenda and Modifications as defined in General Conditions.
   3. Maintenance Contracts: Describe submittal of the maintenance contract specific to the Section.
   4. Operations & Maintenance Data: Describe submittal of operation and maintenance data necessary for products of the Section.
   5. Warranty Documentation: Describe submittal of final executed warranty document specific to the Section.
   6. Record Documentation: Describe submittal of record documentation specific to the Section.

1.7 MAINTENANCE MATERIAL SUBMITTALS

A. This title groups maintenance material required submittals specific to the Section. Items may be provided at completion of Work or submitted with section 01 7800 Closeout Submittals:
   1. Spare Parts: Describe spare parts necessary for Owner's use in facility operation and maintenance. 'Parts' are generally understood to be items such as filters, hardware, lamps, and other similar manufactured items that require only simple replacement.
   2. Extra Stock Materials: Describe extra stock materials to be provided for Owner's use in facility operation and maintenance. Extra stock materials are generally understood to be items such as ceiling tiles, flooring, paint etc.
   3. Tools:
      a. Describe tools to be provided for Owner's use in facility operation and maintenance. Tools are generally understood to be wrenches, gauges, circuit setters, etc, required for proper operation or maintenance of a system.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 3500

SPECIAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements for Special Procedures.

1.2 ADMINISTRATIVE REQUIREMENTS

A. Acceleration of Work:
   1. Complete The Work in accordance with Construction Schedule. If Contractor falls behind schedule, take such actions as are necessary, at no additional expense to Owner, to bring progress of The Work back in accordance with schedule.
   2. Owner may request proposal for completion of The Work at date earlier than expiration of Contract Time:
      a. Promptly provide requested proposal showing cost of such acceleration of The Work. Consult with Owner and Architect regarding possible options to decrease cost of such acceleration.
      b. If Owner determines to order acceleration of The Work, change in Contract Sum and Contract Time resulting from acceleration will be included in a Change Order.

1.3 QUALITY ASSURANCE

A. Regulatory Agency Sustainability Approvals:
   1. Meet current applicable OHAS and Alberta WCB regulations, 'Construction Industry Regulations'.
   2. Owner's Safety Requirements:
      a. Personal Protection:
         1) Contractor shall ensure:
            a) Positive means of fall protection, such as guardrails system, safety net system, personal fall arrest system, etc, is provided to employees whenever exposed to a fall 6 feet (1.80 m) or more above a lower level.
            b) Personnel working on Project shall wear hard hats and safety glasses as required by regulation and hazard.
            c) Personnel working on Project shall wear long or short sleeve shirts, long pants, and hard-toed boots or other sturdy shoes appropriate to type and phase of work being performed.
      b. Contractor Tools And Equipment:
         1) Contractor shall ensure:
            a) Tools and equipment are in good working condition, well maintained, and have necessary guards in place.
            b) Ground Fault Circuit Interrupters (GFCI) is utilized on power cords and tools.
            c) Scaffolding and man lifts are in good working condition, erected and maintained as required by governmental regulations.
            d) Ladders are in good condition, well maintained, used as specified by Manufacturer, and secured as required.
      c. Miscellaneous:
         1) Contractor shall ensure:
            a) Protection is provided on protruding rebar and other similar objects.
            b) General Contractor Superintendent has completed the OHAS construction outreach training course or equivalent.
            c) Implementation and administration of safety program on Project.

d) Material Safety Data Sheets (MSDS) are provided for substances or materials for which an MSDS is required by governmental regulations before bringing on site.
e) Consistent safety training is provided to employees on Project.
f) Implement and coordinate Lockout / Tagout procedures with Owner's Representative as required.

2) Report accidents involving injury to employees on Project that require off-site medical treatment to Owner's designated representative.

d. Hot Work Permit:
1) Permit shall document that fire prevention and protection requirements in 29 CFR 1926.352, 'Fire Prevention' have been implemented prior to beginning hot work operations.
2) Required for doing hot work involving open flames or producing heat or sparks such as:
a) Brazing.
b) Cutting.
c) Grinding.
d) Soldering.
e) Welding.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 4000

QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for quality assurance and quality control.

B. Related Requirements:
1. Section 01 3100: 'Project Management and Coordination' for Pre-Installation Conferences for testing and inspection.
2. Section 01 3200: 'Construction Progress Documentation' for developing a schedule of required tests and inspections.
3. Section 01 3300: 'Submittal Procedures'.
4. Section 01 4301: 'Quality Assurance – Qualifications' establishes minimum qualification levels required.
5. Section 01 7300: 'Executions' for cutting and patching for repair and restoration of construction disturbed by testing and inspecting activities.
6. Divisions 01 thru 49 establish responsibility for providing specific testing and inspections.

1.3 REFERENCES

A. Definitions:
1. Accreditation: Process in which certification of competency, authority, or credibility is presented. Verify that laboratories have an appropriate quality management system and can properly perform certain test methods (e.g., ANSI, ASTM, and ISO test methods) and calibration parameters according to their scopes of accreditation.
2. Experienced: When used with an entity, "experienced" means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with requirements indicated; and having complied with requirements of authorities having jurisdiction.
3. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a construction operation, including installation, erection, application, and similar operations.
    a. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to trades people of corresponding generic name.
4. Mockups: Full-size, physical assemblies that are constructed on-site. Mockups are used to verify selections made under sample submittals, to demonstrate aesthetic effects and, where indicated, qualities of materials and execution, and to review construction, coordination, testing, or operation; they are not Samples. Approved mockups establish standard by which the Work will be judged.
5. Observation: Visual observation of building / site elements or structural system by registered design professional for general conformance to approved construction documents at significant construction stages and at completion. Observation does not include or waive responsibility for performing inspections or special inspections.

6. Preconstruction Testing: Tests and inspections that are performed specifically for Project before products and materials are incorporated into the Work to verify performance or compliance with specified criteria.
7. Product Testing: Tests and inspections that are performed by testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with industry standards.
8. Source Quality Control Testing: Tests and inspections that are performed at source, i.e., plant, mill, factory, or shop.
9. Testing Agency: Entity engaged to perform specific tests, inspections, or both.
10. Testing Agency Laboratory: Agency or firm qualified to perform field and laboratory tests to determine characteristics and quality of materials and workmanship.
11. Verification: Act of reviewing, inspecting, testing, etc. to establish and document that product, service, or system meets regulatory, standard, or specification requirements.

B. Reference Standards:
1. International Code Council (IBC) (2015 or most recent edition adopted by AHJ):
a. IBC Chapter 17, 'Structural Tests and Special Inspections'.
2. Alberta Building Code 2014.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Conflicting Requirements:
1. General:
a. If compliance with two or more standards is specified and standards establish different or conflicting requirements for minimum quantities or quality levels, comply with most stringent requirement.
b. Refer uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding.
2. Minimum Quantity or Quality Levels:
a. Quantity or quality level shown or specified shall be minimum provided or performed.
b. Actual installation may comply exactly with minimum quantity or quality specified, or it may exceed minimum within reasonable limits.
c. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for context of requirements.
d. Refer uncertainties to Architect for decision before proceeding.

B. Coordination:
1. Coordinate sequence of activities to accommodate required quality assurance and quality control services with minimum of delay.

C. Scheduling:
1. Schedule times for tests, inspections, obtaining samples, and similar activities.

1.5 QUALITY ASSURANCE

A. Testing and inspecting services are used to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with Contract Document requirements.
1. Specific quality assurance and quality control requirements for individual construction activities are specified in Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
2. Specified tests, inspections, and related actions do not limit Contractor's other quality control procedures that facilitate compliance with Contract Document requirements.
3. Requirements for Contractor to provide quality assurance and quality control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

B. Quality Assurance Services:

1. Activities, actions, and procedures performed before and during execution of the Work to verify compliance and guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
2. Owner or Owner's designated representative(s) will perform quality assurance to verify compliance with Contract Documents.

C. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with following requirements, using materials indicated for completed Work:
   1. Coordinate with individual section in Division 01 through Division 49 if there are any additional requirements or modification to these requirements:
      a. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.
      b. Notify Architect seven days in advance of dates and times when mockups will be constructed.
      c. Demonstrate proposed range of aesthetic effects and workmanship.
      d. Obtain Architect's approval of mockups before starting work, fabrication, or construction.
         1) Allow seven days for initial review and each re-review of each mockup.
      e. Maintain mockups during construction in undisturbed condition as standard for judging completed Work.
         1) Demolish and remove mockups when directed, unless otherwise indicated.

1.6 QUALITY CONTROL

A. Quality Control Services:
   1. Quality Control will be sole responsibility of Contractor.
      a. Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements performed by Contractor:
         1) They do not include inspections, tests or related actions performed by Architect, Owner, governing authorities or independent agencies hired by Owner or Architect.
         2) Quality assurance performed by Owner will be used to validate Quality Control performed by Contractor.
      b. Where services are indicated as Contractor's responsibility, engage a qualified Testing Agency to perform these quality control services.
         1) Contractor shall not employ same testing entity engaged by Owner, without Owner's written approval.

B. Manufacturer's Field Services: Where indicated, engage factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 01 3300: 'Submittal Procedures'.

C. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality control services, and provide reasonable auxiliary services as requested. Notify Testing Agency sufficiently in advance of operations to permit assignment of personnel. Provide following:
   1. Access to the Work.
   2. Incidental labor and facilities necessary to facilitate tests and inspections.
   3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist Testing Agency in obtaining samples.
   4. Facilities for storage and field curing of test samples.
   5. Delivery of samples to testing agencies.
   6. Preliminary design mix proposed for use for material mixes that require quality control by Testing Agency.
   7. Security and protection for samples and for testing and inspecting equipment at Project site.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
   1. Provide materials and comply with installation requirements specified in other Specification Sections. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.
   2. Comply with Contract Document requirements for Section 01 7300 'Execution' for cutting and patching.

B. Protect construction exposed by or for Quality Assurance and Quality Control activities.

C. Repair and protection are Contractor's responsibility, regardless of assignment of responsibility for Quality Assurance and Quality Control Services.

END OF SECTION

SECTION 01 4200

REFERENCES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Reference standards, definitions, specification format, and industry standards.

1.2 REFERENCES

A. Definitions:
   1. Approved: The term "approved," when used to convey Architect's action on Contractor's submittals, applications, and requests, is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
   2. Directed: The term "directed" is a command or instruction by Architect. Other terms including "requested," "authorized," "selected," "approved," and "permitted" have the same meaning as "directed."
   3. Experienced: The term "experienced," when used with an entity, means having successfully completed a minimum often previous projects similar in size and scope to this Project; being familiar with the special requirements indicated, and having complied with requirements of authority having jurisdiction.
   4. Furnish: The term "furnish" means supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
   5. General: Basic Contract definitions are included in the Conditions of the Contract.
   6. Indicated: The term "indicated" refers to requirements expressed by graphic representations, or in written form on Drawings, in Specifications, and in other Contract Documents. Terms such as "shown," "noted," "scheduled," and "specified" are used to help the user locate the reference.
   7. Install: The term "install" describes operations at Project site including unloading, temporary storage, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
   8. Installer: An "Installer" is the Contractor or another entity engaged by the Contractor, as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
   9. Project Site: The term "Project site" means the space available for performing construction activities. The extent of the Project site is shown on the Drawings and mayor may not be identical with the description of the land on which the Project is to be built.
   10. Provide: The term "provide" means to furnish and install, complete and ready for the intended use.
   11. Regulations: The term "regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
   12. Submitted: The terms "submitted," "reported," "satisfactory" and similar words and phrases means submitted to Architect, reported to Architect and similar phrases.
   13. Testing Agencies: A "testing agency" is an independent entity engaged to perform specific inspections or tests, either at the Project site or elsewhere, or to report on and, if required, to interpret results of those inspections or tests.
   14. Trades: Using terms such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.

B. References Standards:

1. Specification Format: Specifications will follow MasterFormat™ 2004 for organizing numbers and titles. (The Construction Specifications Institute, Project Resource Manual/CSI Manual of Practice, 5th *Edition*. New York, McGraw-Hill, 2005).
    a. Specification Identifications:
        1) The Specifications use section numbers and titles to help cross referencing in the Contract Documents.
        2) Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of sections in the Contract Documents.
    b. Specification Language:
        1) Specifications should be prepared, with concern and respect for their legal status. Specifications should be Clear, Concise, Correct and Complete.
        2) Streamlining: Streamlining is used to list products, materials, reference standards, and other itemized specifications. This technique places the subject first and provides keywords for quick reference
    c. Sentence Structure:
        1) Specifications to be written in the “Imperative Mood”.
            a) The verb that clearly defines the action becomes the first word in the sentence.
            b) The imperative sentence is concise and readily understandable.
        2) Streamlining is used to list products, materials, reference standards, and other itemized specifications. This technique places the subject first and provides keywords for quick reference.
    d. Abbreviated Language:
        1) Abbreviations should be used only on drawings and schedules where space is limited.
        2) Abbreviations with multiple meanings should be avoided, unless used in different disciplines where their meaning is clear from the context in which they are used.
        3) Abbreviations should be limited to five or fewer letters
            a) The verb that clearly defines the action becomes the first word in the sentence.
    e. Symbols:
        1) Caution should apply to symbols substituted for words or terms.
    f. Numbers:
        1) The use of Arabic numerals rather that words for numbers is recommended.

C. Industry Standards:
    1. Except where Contract Documents specify otherwise, construction industry standards will apply and are made a part of Contract Documents by reference.
    2. Where compliance with two or more standards is specified and standards apparently establish different or conflicting requirements for minimum quantities or quality levels, refer to Architect for decision before proceeding. Quantity or quality level shown or specified will be minimum provided or performed. Actual installation may comply exactly with minimum quantity or quality specified, or it may exceed minimum within reasonable limits. In complying with these requirements, indicated numeric values are minimum or maximum, as appropriate for context of requirements. Refer uncertainties to Architect for decision before proceeding.
    3. Each entity engaged in construction on Project is required to be familiar with industry standards applicable to that entity's construction activity. Copies of applicable standards are not bound with Contract Documents. Where copies of standards are needed for performance of a required construction activity, Contractor will obtain copies directly from publication source.
    4. Trade Association names and titles of general standards are frequently abbreviated. The acronyms or abbreviations, as referenced in Contract Documents, are defined to mean association names. Names and addresses are subject to change and are believed to be, but are not assured to be, accurate and up to date as of date of Contract Documents.

D. Federal Government Agencies:
    1. Names and titles of federal government standard or specification producing agencies are often abbreviated. The acronyms or abbreviations referenced in Contract Documents represent names of standard or specification producing agencies of federal government. Names and addresses are subject to change but are believed to be, but are not assured to be, accurate and up to date as of date of Contract Documents.

E. Governing Regulations / Authorities:

1. Contact authorities having jurisdiction directly for information and decisions having a bearing on the Work.
2. Obtain copies of regulations required to be retained at Project Site, available for reference by parties who have a reasonable need for such reference.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

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SECTION 01 4301

QUALITY ASSURANCE - QUALIFICATIONS

PART 1 - GENERAL

1.1 SUMMARY

A. Related Documents:
   1. Drawings and general provisions of the Contract, including General Conditions and Division 01 Specification Sections, apply to this Section.

B. Related Requirements:
   1. Section 01 4000: 'Quality Requirements' includes administrative and procedural requirements for quality assurance and quality control.

1.2 REFERENCES

A. Definitions:
   1. Accreditation: Process in which certification of competency, authority, or credibility is presented. Verify that laboratories have an appropriate quality management system and can properly perform certain test methods (e.g., ANSI, ASTM, and ISO test methods) and calibration parameters according to their scopes of accreditation.
   2. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
   3. Testing Agency: Entity engaged to perform specific tests, inspections, or both.
   4. Testing Agency Laboratory: Agency or firm qualified to perform field and laboratory tests to determine characteristics and quality of materials and workmanship.

B. Reference Standards:
   1. ASTM International:
      a. ASTM E329-14a, 'Standard Specification for Agencies Engaged in Construction Inspection and/or Testing.'

1.3 QUALIFICATIONS

A. Qualifications: Qualifications paragraphs in this Article establish minimum qualification levels required; individual Specification Sections specify additional requirements:
   1. Fabricator / Supplier / Installer Qualifications: Firm experienced in producing products similar to those indicated for this Project and with record of successful in-service performance, as well as sufficient production capacity to produce required units.
      a. VMR (Value Managed Relationship):
         1) Where heading '*VMR (Value Managed Relationship) / Manufacturers / Suppliers / Installers*' is used to identify list of specified suppliers or installers, Owner has established relationships that extend beyond requirements of this Project.
         2) No other *Suppliers / Installers* will be acceptable.
         3) Follow specified procedures to preserve relationships between Owner and specified suppliers / installers and advantages that accrue to Owner from those relationships.
         4) Following areas of the Work have restrictions on sub-bids by Contractor:
            a) None proposed.
      b. Approved:
         1) Where heading '*Approved Suppliers / Distributors / Installers / Applicators / Fabricators*' is used to identify list of specified suppliers / distributors / installers / applicators / fabricators, use only listed suppliers / installers / fabricators.

2) No substitutions will be allowed.
3) **Following areas of the Work have restrictions on sub-bids by which may be accepted by Contractor**:
a) Roofing, Section 07 3113 and 07 5423: No other Suppliers accepted.

c. Acceptable Suppliers / Installers:
1) Where heading '*Acceptable Suppliers / Installers / Fabricators*' is used, qualifications as specified in Quality Assurance in Part 1 of individual sections will be used to determine requirements of those that will be acceptable to be used on Project. Lists for acceptable installers can include additional installers that may be approved before bidding or by addendum.

2. Factory-Authorized Service Representative Qualifications:
a. Authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
3. Installer Qualifications:
a. Firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
4. Manufacturer Qualifications:
a. Firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
5. Manufacturer's Field Services Qualifications:
a. Experienced authorized representative of manufacturer to inspect field-assembled components and equipment installation, including service connections.
6. Professional Engineer Qualifications:
a. Professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of kind indicated. Engineering services are defined as those performed for installations of system, assembly, or products that are similar to those indicated for this Project in material, design, and extent.
7. Specialists:
a. Certain sections of Specifications require that specific construction activities shall be performed by entities who are recognized experts in those operations.
b. Specialists shall satisfy qualification requirements indicated and shall be engaged for activities indicated.
c. Requirement for specialists shall not supersede building codes and regulations governing the Work.
8. Testing Agency Qualifications:
a. Independent Testing Agency with experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E329; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.
1) Testing Laboratory:
a) AASHTO Materials Reference Laboratory (AMRL) Accreditation Program.
b) Cement and Concrete Reference Laboratory (CCRL).
c) Nationally Recognized Testing Laboratory (NRTL): Nationally recognized testing laboratory according to 29 CFR 1910.7.
d) National Voluntary Laboratory (NVLAP): Testing Agency accredited according to National Institute of Standards and Technology (NIST) Technology Administration, U. S. Department of Commerce Accreditation Program.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 5100

TEMPORARY UTILITIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements for Temporary Utilities.

1.2 ADMINISTRATIVE REQUIREMENTS

A. Where necessary, engage appropriate local utility companies to install temporary service or connect to existing service. Where utility company provides only part of service, provide remainder with matching, compatible materials and equipment. Comply with utility company's recommendations.
   1. Comply with industry standards and applicable laws and regulations of authorities having jurisdiction.
   2. Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.
   3. Arrange with utility company and existing users for time when service can be interrupted, where necessary, to make connections for temporary services.
   4. Provide adequate capacity at each stage of construction. Before temporary utility availability, provide trucked-in services.
   5. Obtain construction easements necessary to bring temporary and/or permanent utilities to site.
   6. Use qualified personnel for installation and maintenance of temporary facilities. Locate temporary utilities where they will serve Project adequately and result in minimum interference with the Work of Owner or other Contractors on Project Site. Relocate and modify temporary utilities as required.
   7. Pay cost and use charges for temporary and permanent utilities until Substantial Completion has been granted by Owner.

B. Prepare schedule indicating dates for implementation and termination of each temporary utility. At earliest feasible time, change over from use of temporary service to use of permanent service.

C. Keep temporary utilities clean and neat in appearance. Operate in safe and efficient manner. Take necessary fire prevention measures. Do not overload utilities, or allow them to interfere with progress of The Work. Do not allow hazardous, dangerous or unsanitary conditions, or public nuisances to develop or persist on Project site.

D. Limit availability of temporary utilities to essential and intended uses to reduce waste and abuse.

E. Maintain temporary utilities in good operating condition until removal. Protect from damage by freezing temperatures and similar elements.
   1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on 24-hour day basis where required to achieve indicated results and to avoid possibility of damage.
   2. Prevent water filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.

F. Remove each temporary utility and control when need has ended, or when replaced by permanent utility, but not later than Substantial Completion. Complete permanent construction that may have been delayed because of interference with temporary utility. Repair damaged work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
   1. Materials and facilities that make up temporary utilities are property of Contractor.

1.3 TEMPORARY ELECTRIC POWER

A. As needed, provide weatherproof, grounded electric power service and distribution system of sufficient size, capacity, and power characteristics during construction period.

1.4 TEMPORARY FIRE PROTECTION

A. Install and maintain temporary fire protection facilities of types needed to protect against predictable and controllable fire losses. At a minimum, provide and maintain in working order two Standard ULC Labeled ABC all-purpose 10 lb fire extinguishers. Do not incorporate these extinguishers into final Project.
   1. Locate fire extinguishers where convenient and effective for their intended purpose, but not less than one extinguisher.
   2. Store combustible materials in containers in fire-safe locations.
   3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire protection facilities, stairways, and other access routes for fighting fires.
   4. Provide supervision of welding operations, combustion type temporary heating units, and similar sources of fire ignition.
   5. At earliest feasible date in each area of Project, complete installation of permanent fire protection facility, including connected services, and place into operation and use. Instruct key personnel on use of facilities.

1.5 HEATING, COOLING, AND VENTILATING:

A. As needed, install and operate temporary heating, cooling, and ventilating units including fuel, temporary piping, fittings, wiring, and connections necessary to provide environmental conditions specified for various portions of the Work. Coordinate ventilation requirements to produce ambient conditions required and reduce consumption of energy.

B. Repair damage to building and contents caused by cold, heat, dampness, and/or heating, cooling, and ventilating equipment. Select equipment that will not have harmful effect on completed installations or on elements being installed.

C. Maintain safe conditions for use of temporary heating, cooling, and ventilating systems including, but not limited to, following requirements:
   1. Operate equipment according to equipment manufacturer's instructions.
   2. Provide fresh air ventilation required by equipment manufacturer.
   3. Keep temperature of fuel containers stabilized.
   4. Secure fuel containers from overturning.
   5. Operate equipment away from combustible materials.

D. Permanent mechanical system may be operated subject to following conditions:
   1. Do not operate system when work causing air-borne dust is occurring or when dust caused by such work is present without installation of temporary filtering system approved by Architect.
   2. Operate system at no cost to Owner, including cost of fuel.
   3. Assume all responsibility and risk for operation of system.
   4. Return permanent mechanical equipment to 'like-new' condition for Substantial Completion Inspection.

1.6 TEMPORARY LIGHTING

A. As needed, install and operate temporary lighting that will provide adequate illumination for construction operations and traffic conditions.

1.7 TEMPORARY TELEPHONES

A. As needed, provide temporary telephone service for all personnel engaged in construction activities, throughout construction period.

B. Contractor will pay for Local calls. Party making call will pay for long-distance and toll calls.

C. At each telephone, post list of important telephone numbers.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

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SECTION 01 5200

CONSTRUCTION FACILITIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements for Construction Facilities.

1.2 ADMINISTRATIVE REQUIREMENTS

A. As needed, prepare schedule indicating dates for implementation and termination of each temporary facility.

B. Keep temporary facilities clean and neat in appearance. Operate in safe and efficient manner. Take necessary fire prevention measures. Do not overload facilities, or allow them to interfere with progress of The Work. Do not allow hazardous, dangerous or unsanitary conditions, or public nuisances to develop or persist on Project site.

C. Maintain facilities in good operating condition until removal.

D. Remove each temporary facility when need has ended, or when replaced by authorized use of permanent facility, or by Substantial Completion. Complete permanent construction that may have been delayed because of interference with temporary facility. Repair damaged work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
   1. Materials and facilities that make up temporary facilities are property of Contractor.
   2. By Substantial Completion, clean and renovate permanent facilities used during construction period.

1.3 FIELD OFFICES

A. Provide and maintain insulated, weather tight temporary office of sufficient size to accommodate Contractor's personnel at Project site and for use by Owner, Architect and Subcontractors.
   1. Keep office clean and orderly.
   2. Heat and cool office as needed.
   3. Furnish office with locking door, light(s), table(s), bench(es), rack(s) for drawings, telephone, and FAX machine / email service.
   4. Make office available for progress meetings.
   5. Provide an operable fire extinguisher in facility.
   6. Provide hardhats for Owner’s Representatives for site visits.

B. If Owner agrees to permit removal of temporary office before Substantial Completion, Contractor may use a room as an office after temporary office is removed. Equip room as specified above and restore to 'like-new' condition before Substantial Completion.

1.4 SANITARY FACILITIES

A. Provide temporary sanitary toilets. Service and maintain temporary toilets in a clean, sanitary condition.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 5400

CONSTRUCTION AIDS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements for Construction Aids.

1.2 SCAFFOLDING, PLATFORMS, STAIRS, ETC

A. Furnish and maintain equipment such as temporary stairs, ladders, ramps, platforms, scaffolds, hoists, runways, derricks, chutes, and bracing as required for proper execution of The Work.

B. Apparatus, equipment, and construction shall meet requirements of applicable laws and safety regulations.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

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SECTION 01 5600

TEMPORARY BARRIERS AND ENCLOSURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements for Temporary Barriers and Enclosures.

1.2 ADMINISTRATIVE REQUIREMENTS

A. Protection Of Existing Improvements: Protect streets, private roads, and sidewalks, including overhead protection where required. Repair damage to existing improvements caused by construction activities.

B. Protection Of Adjacent Property: Provide necessary protection for adjacent property and lateral support thereof.

C. Proprietary Camera Services: In its absolute discretion, and with or without notice to Contractor, Owner may provide from time to time, but is not obligated to provide, one or more cameras on or about Project site and/or signage or notices of the same:
   1. If provided by Owner, such camera(s) and/or signage and notices are solely for Owner's benefit and convenience and shall not be for benefit of Contractor, Subcontractor(s) or for any third person.
   2. Owner shall have no liability, obligation, or responsibility to Contractor, Subcontractors, or any third person relative to such camera(s), signage, or notices, or absence of camera(s), signage, or notices, including without limitation, installation, maintenance, operation, repair, testing, functionality, capacity, recording, monitoring, posting, etc., of the same (hereafter 'Proprietary Camera Services').
   3. Contractor, with Owner's prior consent (which shall not be unreasonably withheld), may relocate such camera(s), signage, or notices as necessary to not unreasonably, materially and physically interfere with work at Project Site.
   4. Contractor's obligations under Contract Documents, including but not limited to, Contractor's obligation for security of Project Site, are not modified by Owner's opportunity to provide, actually providing, or not providing Proprietary Camera Services and/or signage or notices regarding the same.
   5. This Specification Section does not preclude Contractor from providing its own camera(s), signage, or notices pursuant to terms and conditions of this Agreement. Neither does this Section reduce, expand or modify any other right or obligation of Owner pursuant to terms of this Agreement.

1.3 TEMPORARY BARRICADES

A. Comply with standards and code requirements in erecting barricades, warning signs, and lights.

B. Take necessary precautions to protect persons, including members of the public, from injury or harm.

1.4 TEMPORARY SECURITY BARRIERS

A. Install temporary enclosures of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft, and other violations of security.

B. Secure materials and equipment stored on site.

C. Secure building at the end of each work day.

D. Maintain exterior building security until Substantial Completion.

1.5 TEMPORARY TREE AND PLANT PROTECTION

A. Protection:
   1. Before commencing site work, build and maintain protective fencing as required around existing trees and shrubs in area of work that are to remain.
   2. Keep areas within protective fencing undisturbed and do not use for any purpose.
      a. Remove and replace vegetation that dies or is damaged beyond repair due to construction activities.
      b. Damage to any tree that has been indicated to remain and be protected, will have a cost associated with it. This includes branches, trunk and root systems:
         1) Trees: $1,500.00.
         2) Shrubs: $150.00.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 5700

TEMPORARY CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements for Temporary Controls.

1.2 TEMPORARY ENVIRONMENTAL CONTROLS

A. Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations, and reduce possibility that air, waterways, and subsoil might be contaminated or polluted, or that other undesirable effects might result:
   1. Avoid use of tools and equipment that produce harmful noise.
   2. Restrict use of noise making tools and equipment to hours that will minimize complaints from persons or firms near site.

B. Provide protection against weather (rain, winds, storms, frost, or heat) to maintain all work, materials, apparatus, and fixtures free from injury or damage.

C. Protect excavation, trenches, and building from damage from rain water, spring water, ground water, backing up of drains or sewers, and all other water.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

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SECTION 01 5800

PROJECT IDENTIFICATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements for Project Identification.

1.2 TEMPORARY PROJECT SIGNAGE

A. Contractor may, at its option, erect a temporary project identification sign.
   1. Sign may be free-standing or attached to temporary field office or storage shed.
   2. No other signs or advertisements are allowed on building site.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

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SECTION 01 6100

COMMON PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements for Common Product Requirements.

1.2 ADMINISTRATIVE REQUIREMENTS

A. Provide products that comply with Contract Documents, that are undamaged, and, unless otherwise indicated, new and unused at time of installation. Provide products complete with accessories, trim, finish, safety guards, and other devices and details needed for complete installation and for intended use and effect.

B. Except for required labels and operating data, do not attach or imprint manufacturer's or producer's nameplates or trademarks on surfaces of products that will be exposed to view in occupied spaces or on building exterior.
   1. Locate required product labels and stamps on concealed surface or, where required for observation after installation, on accessible surface that is not conspicuous.
   2. Provide permanent nameplates on items of service-connected or power-operated equipment. Locate on easily accessible surface that is inconspicuous in occupied spaces. Nameplate will contain following information and other essential operating data:
      a. Name of product and manufacturer.
      b. Model and serial number.
      c. Capacity.
      d. Speed.
      e. Ratings.

C. Where specifications describe a product or assembly by specifying exact characteristics required, with or without use of brand or trade name, provide product or assembly that provides specified characteristics and otherwise complies with Contract requirements.

D. Where Specifications require compliance with performance requirements, provide products that comply with these requirements and are recommended by manufacturer for application described. General overall performance of product is implied where product is specified for specific application. Manufacturer's recommendations may be contained in published product literature, or by manufacturer's certification of performance.

E. Where specifications only require compliance with an imposed code, standard, or regulation, select product that complies with standards, codes or regulations specified.

F. Where Specifications require matching an established Sample, Architect's decision will be final on whether proposed product matches satisfactorily. Where no product available within specified category matches satisfactorily nor complies with other specified requirements, refer to Architect.

G. Where specified product requirements include phrase ` . . . *as selected from manufacturer's standard colors, patterns, textures* . . . ' or similar phrase, select product and manufacturer that comply with other specified requirements. Architect will select color, pattern, and texture from product line selected.

H. Remove and replace products and materials not specified in Contract Documents but installed in the Work with specified products and materials at no additional cost to Owner and for no increase in Contract time.

I. Informational Submittals:
   1. Sustainable Design Submittals:
      a. Submit electronic files: PDF. Architect will return a PDF copy marked with action taken and with corrections or modifications required.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 6200

PRODUCT OPTIONS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements for Product Options.

1.2 ADMINISTRATIVE REQUIREMENTS

A. Product Selection:
   1. When option of selecting between two or more products is given, product selected will be compatible with products previously selected, even if previously selected products were also options.

B. Non-Conforming Work:
   1. Non-conforming work as covered in Article 12.3 of General Conditions applies, but is not limited, to use of non-specified products or manufacturers.

C. Product selection is governed by Contract Documents and governing regulations, not by previous Project experience. Procedures governing product selection include:
   1. Substitutions And Equal Products:
      a. Generally speaking, substitutions for specified products and systems, as defined in the Uniform Commercial Code, are not acceptable. However, equal products may be approved upon compliance with Contract Document requirements.
      b. Approved Products / Manufacturers / Suppliers / Installers:
         1) Category One:
            a) Owner has established 'Value Managed Relationships' that extend beyond requirements of this Project. No substitutions or equal products will be allowed on this Project.
            b) Follow specified procedures to preserve relationships between Owner and specified manufacturers / suppliers and advantages that accrue to Owner from those relationships.
         2) Category Two:
            a) Owner has established National Contracts that contain provisions extending beyond requirements of this Project. No substitutions or equal products will be allowed on this Project.
            b) Follow specified procedures to preserve relationships between Owner and specified manufacturers / suppliers and advantages that accrue to Owner from those relationships.
         3) Category Three:
            a) Specified products are provided to Church Projects under a National Account Program. Use these products to preserve advantages that accrue to Owner from those programs. No substitutions or equal products will be allowed on this Project.
         4) Category Four:
            a) Provide only specified products available from manufacturers listed. No substitutions, private-labeled, or equal products, or mixing of manufacturers' products is allowed on this Project.
            b) In Sections where lists recapitulating Manufacturers previously mentioned in Section are included under heading '*Manufacturers*' or '*Approved Manufacturers*', this is intended as a convenience to Contractor as a listing of contact information only. It is not intended that all manufacturers in list may provide products where specific products and manufacturers are listed elsewhere in Section.

c. Acceptable Products / Manufacturers / Suppliers / Installers:
   1) Type One: Use specified products / manufacturers unless approval to use other products / manufacturers has been obtained from Architect by Addendum.
   2) Type Two: Use specified products / manufacturers unless approval to use other products and manufacturers has been obtained from Architect in writing before installing or applying unlisted or private-labeled products.
   3) Use 'Equal Product Approval Request Form' to request approval of equal products, manufacturers, or suppliers before bidding or before installation, as noted in individual Sections.

d. Quality / Performance Standard Products / Manufacturers:
   1) Class One: Use specified product / manufacturer or equal product from specified manufacturers only.
   2) Class Two: Use specified product / manufacturer or equal product from any manufacturer.
   3) Products / manufacturers used shall conform to Contract Document requirements.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 6400

OWNER - FURNISHED PRODUCTS

PART 1 - GENERAL

1.1 SUMMARY

A. Administrative and procedural requirements for Owner-Furnished Products. Install items furnished by Owner or receive and store in safe condition items purchased directly by Owner according to requirements of Contract Documents:
   1. None proposed.

1.2 ADMINISTRATIVE REQUIREMENTS

A. General:
   1. Review 'Contractor Notice of Owner Furnished Materials' notice listing Owner-furnished products to be delivered for Project:
      a. Review due (delivery) dates and vendor lead times for each item and coordinate with construction schedule. Immediately report recommended changes to Owner's Purchasing Coordinator listed in 'Contractor Notice of Owner Furnished Materials'. Contact vendors directly if changes to delivery dates become necessary during construction.
      b. Report problems in coordinating due (delivery) dates with construction schedule to Architect and Owner's Purchasing Coordinator.
   2. Receive unload, store and protect Owner-furnished materials and products.
      a. Provide labor and equipment necessary to receive, unload, and store materials and products.
      b. Count number of pieces received and note any discrepancies on Delivery Receipt before driver leaves:
         1) Compare ' Contractor Notice of Owner Furnished Materials' notice' with packing slips.
         2) Note discrepancies in number, size, color, model numbers, etc. on Delivery Receipt.
      c. Include Project Name and Project Number on Delivery Receipt.
      d. Check for visible evidence of damage such as holes, tears, or crushed portions of cartons and note on Delivery Receipt before driver leaves:
         1) Include Project Name and Project Number on Delivery Receipt.
         2) If you are unsure if carton is damaged, take photo of cartons and share it with Owner's Purchasing Coordinator.
      e. Properly store and protect all deliveries of Owner Furnished materials and Products.
   3. Within forty-eight (48) hours of delivery:
      a. Open and inspect each piece of freight delivered. Take picture of any concealed damage not reported at time of delivery and report it to Owner's Purchasing Coordinator.
      b. Compare 'Contractor Notice of Owner Furnished Materials' with packing slips. Note discrepancies in number, size, color, model numbers, etc.
      c. Deliver copy of Delivery Receipt (bill of lading) on which you have noted any loss or damage to Owner's Purchasing Coordinator. Include in your submission any report of concealed damage, discrepancies or photos.
   4. Failure to strictly follow above procedures will result in your assumption of all financial responsibility for this shipment. All replacement and reorders must be made through Owner's Purchasing Coordinator and must allow Owner's vendor sufficient lead time to produce and ship new product.
   5. When above procedures are strictly followed, shortages and damaged items will be replaced by Owner at Owner's cost.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 6600

PRODUCT DELIVERY, STORAGE, AND HANDLING REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements for Product Delivery, Storage, and Handling Requirements.

1.2 ADMINISTRATIVE REQUIREMENTS

A. Deliver, store, and handle products according to manufacturer's recommendations, using means and methods that will prevent damage, deterioration, and loss, including theft.

1.3 DELIVERY AND ACCEPTANCE REQUIREMENTS

A. Schedule delivery to reduce long-term storage at site and to prevent overcrowding of construction spaces.

B. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.

C. Deliver products to site in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.

D. Inspect products upon delivery to ensure compliance with Contract Documents, and to ensure that products are undamaged and properly protected.

1.4 STORAGE AND HANDLING REQUIREMENTS

A. Store products at site in manner that will simplify inspection and measurement of quantity or counting of units.

B. Store heavy materials away from Project structure so supporting construction will not be endangered.

C. Store products subject to damage by elements above ground, under cover in weathertight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

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SECTION 01 7300

EXECUTION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements for governing Execution of the Work.

1.2 COMMON INSTALLATION PROVISIONS

A. Manufacturer's Instructions: Comply with Manufacturer's installation instructions and recommendations to extent that those instructions and recommendations are more explicit or stringent than requirements contained in Contract Documents. Notify Architect of conflicts between Manufacturer's installation instructions and Contract Document requirements.

B. Provide attachment and connection devices and methods necessary for securing Work. Secure work true to line and level. Anchor each product securely in place, accurately located, and aligned with other Work. Allow for expansion and building movement.

C. Visual Effects: Provide uniform joint widths in exposed work. Arrange joints in exposed work to obtain best visual effect. Refer questionable choices to Architect for final decision.

D. Install each component during weather conditions and Project status that will ensure best possible results. Isolate each part of completed construction from incompatible material as necessary to prevent deterioration.

E. Coordinate temporary enclosures with required inspections and tests, to reduce necessity of uncovering completed construction for that purpose.

F. Mounting Heights: Where mounting heights are not shown, install individual components at standard mounting heights recognized within the industry or local codes for that application. Refer questionable mounting height decisions to Architect for final decision.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

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SECTION 01 7400

CLEANING AND WASTE MANAGEMENT

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Administrative and procedural requirements for Cleaning and Waste Management as described in Contract Documents.

B. Related Requirements:
   1. Section 01 1200: Coordination of responsibilities for waste management.
   2. Section 01 6400: Waste removal of Owner furnished products.
   3. In addition to standards described in this section, comply with all requirements for cleaning-up as described in various other Sections of these Specifications.

1.2 REFERENCES

A. Definitions:
   1. Brick and Concrete (ABC) Rubble: Rubble that contains only clay bricks and attached mortar normally used in construction, or concrete that may contain rebar. The rubble shall not be mixed with, or contaminated by, another waster or debris.
   2. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
   3. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
   4. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
   5. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
   6. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

PART 2 - PRODUCTS: Not Used

PART 3 - EXECUTION

3.1 PROGRESS CLEANING

A. Comply with regulations of authorities having jurisdiction and safety standards for cleaning.

B. Keep premises broom clean during progress of the Work.

C. Keep site and adjoining streets reasonably clean. If necessary, sprinkle rubbish and debris with water to suppress dust.

D. During handling and installation, protect construction in progress and adjoining materials in place. Apply protective covering where required to ensure protection from soiling, damage, or deterioration until Substantial Completion.

E. Clean and maintain completed construction as frequently as necessary throughout construction. Adjust and lubricate operable components to ensure ability to operate without damaging effects.

F. Supervise construction activities to ensure that no part of construction completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during construction.

G. Before and during application of painting materials, clear area where such work is in progress of debris, rubbish, and building materials that may cause dust. Sweep floors and vacuum as required and take all possible steps to keep area dust free.

H. Clean exposed surfaces and protect as necessary to avoid damage and deterioration.

I. Provide and maintain a dust barrier to area of work.

J. Place extra materials of value remaining after completion of associated work have become Owner's property as directed by Owner or Architect.

K. Construction Waste Management And Disposal:
   1. Remove waste materials and rubbish caused by employees, Subcontractors, and contractors under separate contract with Owner and dispose of legally. Remove unsuitable or damaged materials and debris from building and from property.
      a. Provide adequate waste receptacles and dispose of materials when full.
      b. Properly store volatile waste and remove daily.
      c. Do not deposit waste into storm drains, sanitary sewers, streams, or waterways. Do not discharge volatile, harmful, or dangerous materials into drainage systems.
   2. Do not burn waste materials or build fires on site. Do not bury debris or excess materials on Owner's property.

3.2 FINAL CLEANING

A. Immediately before Substantial Completion, thoroughly clean building and area where The Work was performed. Remove all rubbish from under and about building, landscaped areas and parking lot and leave building and Project Site ready for occupancy by Owner.

B. Comply with individual manufacturer's cleaning instructions.

C. Clean each surface or unit to condition expected in normal, commercial building cleaning and maintenance program, including but not limited to:
   1. Exterior Cleaning:
      a. Remove marks, stains, and dirt from exterior surfaces.
      b. Remove temporary protection systems.
      c. Clean dirt, mud, and other foreign material from paving, sidewalks, and gutters.
      d. Remove trash, debris, and foreign material from landscaped areas.
      e. Magnetic sweep landscape around perimeter of roof to remove all roofing debris.

END OF SECTION

SECTION 01 7700

CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements for Closeout Procedures.

1.2 GENERAL

A. Closeout process consists of three specific project closeout inspections. Contractor shall plan sufficient time in construction schedule to allow for required inspections before expiration of Contract Time.

B. Contractor shall conduct his own inspections of The Work and shall not request closeout inspections until The Work of the contract is reasonably complete and correction of obvious defects or omissions are complete or imminent.

C. Date of Substantial Completion shall not occur until completion of construction work, unless agreed to by Architect and included on Certificate of Substantial Completion.

1.3 PRELIMINARY CLOSEOUT REVIEW

A. When Architect, Owner and Contractor agree that project is ready for closeout, Pre-Substantial Inspection shall be scheduled. Preparation of floor substrate to receive carpeting and any work which could conceivably damage or stain carpet must be completed, as carpet installation will be scheduled immediately following this inspection.

B. Prior to this inspection, completed test and evaluation reports for HVAC system where one occurs, are to be provided to Project Manager, Architect, and applicable consultants.

C. Architect and his appropriate consultants, together with Contractor and mechanical, plumbing, and electrical sub-contractors shall conduct a space by space and exterior inspection to review materials and workmanship and to demonstrate that systems and equipment are operational.
   1. Punch list of items requiring completion and correction will be created.
   2. Time frame for completion of punch list items will be established, and date for Substantial Completion Inspection shall be set.

1.4 SUBSTANTIAL COMPLETION INSPECTION

A. When Architect, Owner and Contractor agree that project is ready for Substantial Completion, an inspection is held. Punch list created at Pre-Substantial Inspection is to be substantially complete.

B. Prior to this inspection, Contractor shall discontinue or change over and remove temporary facilities from the site, along with construction tools, mock-ups and similar elements.

C. Architect, Owner and Contractor review completion of punch list items. When Owner and Architect confirm that Contractor has achieved Substantial Completion of The Work, Owner, Architect and Contractor will execute Certificate of Substantial Completion that contains:
   1. Date of Substantial Completion.
   2. Punch List Work not yet completed, including seasonal and long lead items.

3. Amount to be withheld for completion of Punch List Work.
4. Time period for completion of Punch List Work.
5. Amount of liquidated damages set forth in Supplementary Conditions to be assessed if Contractor fails to complete Punch List Work within time set forth in Certificate.

D. Contractor shall present Closeout Submittals to Architect and place tools, spare parts, extra stock, and similar items required by Contract Documents in locations as directed by Facilities Manager.

1.5 FINAL ACCEPTANCE MEETING

A. When punch list items except for any seasonal items or long lead items which will not prohibit occupancy are completed, Final Acceptance Meeting is held.

B. Owner, Architect and Contractor execute Owner's Project Closeout - Final Acceptance form, and verify:
   1. All seasonal and long lead items not prohibiting occupancy, if any, are identified, with committed to completion date and amount to be withheld until completion.
   2. Owner's maintenance personnel have been instructed on all system operation and maintenance as required by the Contract Documents.
   3. Final cleaning requirements have been completed.

C. If applicable, once any seasonal and long lead items are completed, Closeout Inspection is held where Owner and Architect verify that The Work has been satisfactorily completed, and Owner, Architect and Contractor execute Closeout portion of the Project Closeout - Final Acceptance form.

D. When Owner and Architect confirm that The Work is satisfactorily completed, Architect will authorize final payment.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 7800

CLOSEOUT SUBMITTALS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes But is Not Limited To:
   1. Administrative and procedural requirements for Closeout Submittals.

B. Related Requirements:
   1. Section 01 3300: 'Submittal Procedures' for administrative and procedural requirements for submittal procedures.

1.2 ADMINISTRATIVE REQUIREMENTS

A. Project Record Documents:
   1. Do not use record documents for construction purposes:
      a. Protect from deterioration and loss in secure, fire-resistive location.
      b. Provide access to record documents for Architect's reference during normal working hours.
   2. Maintain clean, undamaged set of Drawings:
      a. Mark set to show actual installation where installation varies from the Work as originally shown.
      b. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
      c. Mark record sets with red erasable pencil. Use other colors to distinguish between variations in separate categories of the Work.
      d. Mark new information that is important to Owner, but was not shown on Drawings.
      e. Note related Change Order numbers where applicable.

B. As Built Record Drawings:
   1. As required in agreement with the Owner:
      a. Architect will provide two full-size sets of prints of the As Built Record Drawings to the Facilities Management Office, printed from the updated AutoCAD drawing files, as specified by Owner, that have been modified to show actual dimensions and location of equipment, material, utility lines, and other work as actually constructed, based upon information provided by Contractor. Architect will submit updated As Built Record Drawings in PDF (ISO32000 format) to Owner.
      b. Architect will submit following:
         1) Updated AutoCAD as built record drawing files with associated plot style tables as specified by Owner.

1.3 CLOSEOUT SUBMITTALS

A. Operations And Maintenance Manual:
   1. General:
      a. Include closeout submittal documentation as required by Contract Documentation.
      b. Include workmanship bonds, final certifications, equipment check-out sheets, and similar documents.
      c. Releases enabling Owner unrestricted use of The Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
      d. Include Project photographs, damage or settlement survey, and similar record information required by Contract Documents.
      e. Submittal Format:

1) Digital copies unless otherwise noted, required for each individual specification section that include 'Closeout Submittals'.
2) Include only closeout submittals as defined in individual specification section as required in Contract Documents.

2. Project Manual:
   a. Copy of complete Project Manual including Addenda, Modifications as defined in General Conditions, and other interpretations issued during construction:
      1) Mark these documents to show variations in actual Work performed in comparison with text of specifications and Modifications.
      2) Show substitutions, selection of options, and similar information, particularly on elements that are concealed or cannot otherwise be readily discerned later by direct observation.
3. Operations and Maintenance Data:
   a. Digital format only:
      1) Cleaning instructions.
      2) Maintenance instructions.
      3) Operations instructions.
      4) Equipment list.
      5) Parts list.
4. Warranty Documentation:
   a. Digital format of final, executed warranties.
5. Record Documentation:
   a. Digital format only.
      1) Certifications.
      2) Color and pattern selections.
      3) Design Data.
      4) Manufacture Reports.
      5) Manufacturer's literature or cut sheets.
      6) Shop Drawings.
      7) Testing and Inspection Reports.

1.4 MAINTENANCE MATERIAL SUBMITTALS

A. Submit item(s) required by Section 01 3300 'Submittal Procedures' and as defined in individual specification section if required in Contract Documents. Items may be provided at completion of Work or with Closeout Submittals.

1.5 WARRANTIES

A. When written guarantees beyond one (1) year after substantial completion are required by Contract Documents, secure such guarantees and warranties properly addressed and signed in favor of Owner. Include these documents in Operations & Maintenance Manual(s) specified above.

B. Delivery of guarantees and warranties will not relieve Contractor from obligations assumed under other provisions of Contract Documents.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

DIVISION 02: EXISTING CONDITIONS

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SECTION 02 4119

SELECTIVE STRUCTURE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Demolition and removal of selected portions of building or structure.
   2. Salvage of existing items to be reused or recycled.

1.2 REFERENCES

A. Reference Standards:
   1. National Fire Protection Association / American National Standards Institute:
      a. NFPA 241, 'Standard for Safeguarding Construction, Alteration, and Demolition Operations', 2013 Edition.
   2. American Society of Safety Engineers:
      a. ASSE A10.6-2006, 'Safety Requirements for Demolition Operations'.

1.3 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Storage or sale of removed items or materials will not be permitted on-site.

B. Pre-Installation Conference:
   1. Before beginning Selective Demolition work, in addition to requirements of Section 01 3100, meet on site to confirm work to be demolished, items to be salvaged or reused, and coordination with Owner.

C. Scheduling:
   1. Indicate detailed sequence of selective demolition and removal work, with starting and ending dates for each activity, on Schedule specified in Section 01 3200.

1.4 QUALITY ASSURANCE

A. Regulatory Agency Sustainability Approvals:
   1. Comply with governing EPA notification regulations before beginning selective demolition.
   2. Comply with hauling and disposal regulations of authorities having jurisdiction.
   3. Standards: Comply with ANSI A10.6 and NFPA 241.

1.5 FIELD CONDITIONS

A. Existing Conditions:
   1. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

PART 2 - PRODUCTS: Not Used

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification Of Conditions:
   1. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
      a. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

B. Evaluation And Assessment:
   1. Hazardous Materials:
      a. It is not expected that hazardous materials will be encountered in the Work. Identified hazardous materials will be removed by Owner before start of the Work.
      b. If materials suspected of containing hazardous materials are encountered, do not disturb and immediately notify Architect.
   2. Inventory and record condition of items to be removed and reinstalled and items to be removed and salvaged.
   3. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure nature and extent of conflict. Promptly submit written report to Architect.
   4. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.2 PREPARATION

A. Temporary Facilities:
   1. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
   2. Maintain fire-protection facilities in service during selective demolition operations.

B. Temporary Shoring:
   1. 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.
   2. Strengthen or add new supports when required during progress of selective demolition.

C. Utility Services:
   1. Existing Services/Systems: Maintain services/systems indicated to remain and protect them against damage during selective demolition operations.
   2. Service/System Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
      a. Arrange to shut off indicated utilities with utility companies.
      b. If services/systems are required to be removed, relocated, or abandoned, before proceeding with selective demolition, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.

3.3 SELECTIVE DEMOLITION

A. General:
   1. Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

2. Demolish and remove existing construction only to extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
    a. 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, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
    b. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
    c. 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 fire watch and portable fire-suppression devices during flame-cutting operations.
    d. Maintain adequate ventilation when using cutting torches.
    e. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
    f. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
    g. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
    h. Dispose of demolished items and materials promptly.

B. Selective Demolition Procedures For Specific Materials:
    1. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals, using power-driven saw, then remove concrete between saw cuts.

C. Removed and Salvaged Items:
    1. Relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to Owner that may be encountered during selective demolition remain Owner's property. Carefully remove and salvage each item or object in a manner to prevent damage and deliver promptly to Owner.
        a. Clean salvaged items as directed by Owner.
        b. Pack or crate items after cleaning. Identify contents of containers.
        c. Store items in a secure area until delivery to Owner.
        d. Transport items to Owner's storage area designated by Owner.
        e. Protect items from damage during transport and storage.

D. Removed and Reinstalled Items:
    1. Clean and repair items to functional condition adequate for intended reuse.
    2. Pack or crate items after cleaning and repairing. Identify contents of containers.
    3. Protect items from damage during transport and storage.
    4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

E. Existing Items to Remain:
    1. Protect construction indicated to remain against damage and soiling during selective demolition.
    2. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.4 CLEANING

A. General:
    1. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations.
    2. Return adjacent areas to condition existing before selective demolition operations began.

B. Waste Management:
   1. Disposal of Demolished Materials:
      a. Remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill. Do not burn demolished materials.
         1) Do not allow demolished materials to accumulate on-site.
         2) Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
         3) Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

END OF SECTION

DIVISION 06: WOOD, PLASTICS, AND COMPOSITES

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SECTION 06 1636

WOOD PANEL PRODUCT SHEATHING

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Furnish and install wood panel product sheathing required for roof sheathing replacement or roof to wall transition as described in Contract Documents.
   2. See details for G1S designation.

1.2 REFERENCES

A. Reference Standards:
   1. CSA Group:
      a. CSA O121-08 (R2013), ‘Douglas Fir Plywood'.
      b. CSA O151-09 (R2014), ‘Canadian Softwood Plywood'.

1.3 DELIVERY, STORAGE, AND HANDLING

A. Delivery And Acceptance Requirements:
   1. Do not deliver material unduly long before it is required.
   2. Protect sheathing and keep under cover in transit and at job site.

B. Storage And Handling Requirements:
   1. Store sheathing on level racks and keep free of ground.
   2. Stack to insure proper ventilation and drainage.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Performance:
   1. Design Criteria:
      a. Unless specified otherwise in details, conform to CSA O151, standard grade exterior.
      b. Sheathing shall be COFI or Canadian Lumbermen's Association standard and grade marked accordingly.

B. Sheathing:
   1. Sheathing shall not exceed 18 percent moisture content when fabricated nor more than 19 percent when installed in Project.
   2. Sheathing used for same purpose shall be of same thickness. In all cases, thickness specified is minimum required regardless of span rating.
   3. Minimum span ratings for given thicknesses shall be as follows:

Thickness	Span Rating
9.5 mm	24 / 0
11 mm nominal	24 / 16
11.9 mm actual	32 / 16
12.5 mm nominal	32 / 16
15.1 mm actual	40 / 20

15.9 mm nominal	40 / 20
18.3 mm actual	48 / 24
19 mm nominal	48 / 24

2.2 ACCESSORIES

A. Nails:
   1. As indicated on Contract Drawings.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General:
   1. Top of nail heads shall be flush with sheathing surface.

B. Wall Sheathing:
   1. Spacing:
      a. Provide 1/8 inch (3 mm) space between sheets at end and edge joints.
   2. Edge Bearing And Blocking:
      a. Panel edges shall bear on framing members and butt along their center lines.
      b. Back block panel edges, which do not bear on framing members, with 2 inch nominal (45 mm) framing.
   3. Nail Spacing:
      a. 6 inches (152 mm) o.c.
      b. Place nails not less than 3/8 inch (9.5 mm) in from edge.
   4. Thickness:
      a. As indicated on Contract Drawings.

C. Roof Sheathing:
   1. Placing:
      a. Lay face grain at right angles to supports. Provide blocking for support if framing turns at roof overhang.
      b. Provide 1/8 inch (3 mm) space between sheets at end and side joints.
      c. Stagger panel end joints.
      d. Sheathing shall be continuous of two spans minimum.
   2. Edge Bearing and Blocking:
      a. Panel edges shall bear on framing members and butt along their center lines
      b. Back block panel edges, which do not bear on framing members, with 2 inch nominal (45 mm) framing.
   3. Nail Spacing:
      a. 6 inches (152 mm) o.c.
      b. Place nails at least 3/8 inch (9.5 mm) in from edge.
   4. Thickness:
      a. As indicated on Contract Drawings.
   5. Do not install any piece of roof sheathing with shortest dimension of less than 24 inches (600 mm) unless support is provided under all edges.

3.2 PROTECTION

A. Protect roof sheathing from moisture until roofing is installed.

END OF SECTION

DIVISION 07: THERMAL AND MOISTURE PROTECTION

END OF TABLE OF CONTENTS

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SECTION 07 3113

ASPHALT SHINGLES

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Furnish and install Asphalt Shingle Roofing System as described in Contract Documents.
   2. Coordinate system tie in from sloped shingle roof to flat roof with sub-trade to ensure compatibility of systems and positive watershed.

B. Products Installed But Not Furnished Under This Section:
   1. Miscellaneous flashing and sheet metal.
      a. Drip and rake metal, Valley flashing, Wall flashings, Step flashing
   2. Pipe jacks.

C. Related Requirements:
   1. Section 07 6210: ‘Galvanized Steel Flashing And Trim’
   2. Section 07 6310: ‘Steep Slope Roof Flashing: Asphalt Shingles' for furnishing of roof flashing, pipe jacks, drip / rake edge and miscellaneous flashing and sheet metal.

1.2 REFERENCES

A. Definitions:
   1. Flame Spread Classification: Categories as per ASTM E84/UL 723 or ULC 102:
      a. Class A: Highest fire-resistance rating for roofing as per ASTM E108. Indicated roofing is able to withstand severe exposure to fire exposure to fire originating from sources outside building.
      b. Class B: Fire-resistance rating indicating roofing materials are able to withstand moderate exposure to fire originating from sources outside of building.
      c. Class C: Fire-resistance rating indicating roofing materials are able to withstand light exposure to fire originating from sources outside of building.
   2. Life Safety Code Classes (NFPA 101):
      a. Class A: rating 0-25.
      b. Class B: rating 26-75.
      c. Class C: rating 76-200.
      d. Class D: rating 201-500.
      e. Class E: rating over 500.
   3. Shiner: Incorrectly placed nail which isn't covered by subsequent course of shingles.
   4. Wind Uplift: Wind-induced forces on roof system or components in roof system. Wind uplift generally includes negative pressure component caused by wind being deflected around and across surfaces of building and positive pressure component from air flow beneath roof deck.

B. Reference Standards:
   1. ASTM International:
      a. ASTM D226-09/D226M-09, ‘Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing'.
      b. ASTM D228/D228M-15, ‘Standard Test Methods for Sampling, Testing, and Analysis of Asphalt Roll Roofing, Cap Sheets, and Shingles Used in Roofing and Waterproofing’.
      c. ASTM D1970/D1970M-15a, ‘Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection'.
      d. ASTM D2626-04(2012), ‘Standard Specification for Asphalt-Saturated and Coated Organic Felt Base Sheet Used in Roofing’.

e. ASTM D3018/D3018M-11, ‘Standard Specification for Class A Asphalt Shingles Surfaced with Mineral Granules'.
f. ASTM D3019-08, ‘Standard Specification for Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos-Fibered, and Non-Asbestos-Fibered’.
g. ASTM D3161/D3161M-16, ‘Standard Test Method for Wind-Resistance of Asphalt Shingles (Fan-Induced Method)'.
h. ASTM D3462/D3462M-16, ‘Standard Specification for Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules'.
i. ASTM D4869/D4869M-16a, ‘Standard Specification for Asphalt-Saturated Organic Felt Underlayment Used in Steep Slope Roofing'.
j. ASTM D6757-16a, 'Standard Specification for Underlayment Felt Containing Inorganic Fibers Used in Steep-Slope Roofing'.
k. ASTM D7158/D7158M-16, ‘Standard Test Method for Wind Resistance of Asphalt Shingles (Uplift Force/Uplift Resistance Method)'.
l. ASTM E84-16, ‘Standard Test Method for Surface Burning Characteristics of Building Materials’.
m. ASTM E108-11, ‘Standard Test Methods for Fire Tests of Roof Coverings’.
n. ASTM F1667-15, ‘Standard Specification for Driven Fasteners: Nails, Spikes, and Staples’.

2. Canadian Standards Association (CSA Group):
   a. CSA A123.1-05/A123.5-05 (R2015), 'Asphalt Shingles Made from Organic Felt and Surfaced with Mineral Granules / Asphalt Shingles Made From Glass Felt and Surfaced With Mineral Granules'.
   b. CSA A123.21-14, 'Standard Test Method for the Dynamic Wind Uplift Resistance of Membrane-Roofing Systems'.
   c. CSA A123.22-08 (R2013), 'Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection'.
3. International Building Code (IBC):
   a. Chapter 15, 'Roof Assemblies And Rooftop Structures':
      1) Section 1507, 'Requirements for Roof Coverings':
         a) 1507.2, ‘Asphalt Shingles’.
4. National Fire Protection Association:
   a. NFPA 101: ‘Life Safety Code’ (2015 Edition or most recent edition adopted by AHJ).
5. Underwriters Laboratories (UL):
   a. UL 580: 'Tests for Uplift Resistance of Roof Assemblies' (5th Edition).
6. Underwriters Laboratories of Canada:
   a. ULC 102: ‘Method of Test for Surface Burning Characteristics of Building Materials and Assemblies' (CAN/ULC S102) (7th Edition).
   b. ULC 107: ‘Methods of Fire Tests of Roof Coverings' (CAN/ULC S107-10) (3rd Edition).

1.3 ADMINISTRATIVE REQUIREMENTS

A. Pre-Installation Conference:
   1. Participate in mandatory pre-installation conference:
      a. Roofing Installer’s Foreman and those responsible for installation of roofing to be in attendance. Include Shingle Manufacturer’s Representative if available.
   2. Schedule pre-installation conference at project site after removal of existing roofing but before installation of any roofing system component.
   3. In addition to agenda items specified in Section 01 3100, review following:
      a. Review if Project is in high wind area.
      b. Review if Project could have ice dam problems.
      c. Review if Project could have fungus-algae resistance problems.
      d. Review Shingle Manufacturer’s ventilation requirements.
      e. Review Shingle Manufacturer’s Ambient Conditions requirements.
      f. Review existing roof conditions including moisture on deck, protruding deck fasteners, specified gaps between sheathing, and other items affecting issuance of roofing warranty.
      g. Review proper valley, flashing, penetrations, secondary underlayment, sealants, and nailing requirements.
      h. Review racking installation method is not permitted.
      i. Review Cleaning and Disposal requirements.

j. Review Special Procedure Submittal for Warranty Information to be given to Manufacturer before Manufacture will issue Roof Warranty by Installer.
k. Review safety issues.

B. Sequencing:
1. Sequence of Roofing Materials (see valley flashing detail 2/A-2 in Contract Drawings):
a. Metal drip and rake edge.
b. Secondary underlayment (three (3) 36 inch (900 mm) wide strips around perimeter).
c. Secondary underlayment along roof to wall locations, and around penetrations.
d. Apply three (3) continuous 36 inch (900 mm) wide sheets of secondary underlayment in valley.
e. Install one (1) continuous 36 inch (300 mm) wide strip of primary underlayment atop secondary underlayment and centered over valley.
f. Install formed valley metal over strip of primary underlayment.
g. Apply 12 inches (300 mm) wide strips of secondary underlayment lapping nailed edge of formed valley metal 3 inches (75 mm).
h. Primary underlayment over entire roof.
i. Secondary underlayment 12 inches (300mm) wide strips along ridge line for vent securement – see detail 7/A-2 in Contract Drawings.
j. Asphalt shingles, Roof flashings, Attic and Ridge vents.
2. Coordinate sequencing of Attic and Ridge vents, HVAC and plumbing vents, and all roof related flashings.

1.4 SUBMITTALS

A. Action Submittals:
1. Product Data:
a. Confirm color and style selection prior to ordering.
2. Samples:
a. Full size shingle.

B. Informational Submittals:
1. Certificates:
a. Installers:
1) Provide current Certification for completion of certified training from Shingle Manufacturer.
2) Installer's signed certificate stating roofing system complies with Contract Documents performance requirements and work only performed by trained and authorized personnel in those procedures.
2. Tests And Evaluation Reports:
a. Manufacturer's test reports.
b. ICC-ESR evaluation report.
c. Wind speed coverage for warranted wind speed.
3. Manufacturers' Instructions:
a. Shingle Manufacturer's installation instructions and details for installation of secondary underlayment at penetrations, dormers, eaves, rakes, etc, to fit environmental conditions at Project.
4. Special Procedure Submittals:
a. Contact Owner's Representative (FM Group or Project Manager) for following information:
1) Installer to include following mandatory information to be added to 'Roofing Manufacturer System Warranty' submitted with Closing Documents.
a) Name of Owner (name of FM Group) Edmonton East Facilities Management Group
b) Mailing Address (FM office address) 3002 47 Avenue, Red Deer, AB, T4N 3P1
c) Building Property ID (unique 7 digit identifier) 515-5037
d) Project site address: 6211 – 60 Street, Rocky Mountain House, AB
e) Roof Completion Date _____
f) Any addition data required from Manufacturer.

2) Installer to include following mandatory information to be added to 'Roof Installer Workmanship Warranty' submitted with Closing Documents:
   a) Name of Owner (name of FM Group) Edmonton East Facilities Management Group
   b) Mailing Address (FM office address) 3002 47 Avenue, Red Deer, AB, T4N 3P1
   c) Building Property ID (unique 7 digit identifier) 515-5037
   d) Project site address: 6211 – 60 Street, Rocky Mountain House, AB
   e) Roof Completion Date _____
   f) Any addition data required from Manufacturer.

5. Qualification Statement:
   a. Installer:
      1) Asphalt Shingles:
         a) Provide Qualification documentation.

C. Closeout Submittals:
1. Include following in Operations And Maintenance Manual specified in Section 01 7800:
   a. Warranty Documentation:
      1) Asphalt Shingles:
         a) Final, executed copy of 'Roofing Manufacturer System Warranty' including wind speed coverage and required Owner mandatory information.
         b) Final, executed copy of 'Roof Installer Workmanship Warranty' including required Owner mandatory information.
      2) Verify mandatory information as specified in Special Procedure Submittal has been included in Final Warranty.
   b. Record Documentation:
      1) Manufacturers Documentation:
         a) Manufacturer's literature.
         b) Color selections.
         c) Test and evaluation reports.
      2) Roofing Inspection Documentation:
         a) Include copy of roof inspection report.
      3) Certificate: Installer statement of compliance for performance requirements.
      4) Certificate: Installer completion of certified training.
      5) Test And Evaluation Report: UL fire-resistance rating test report.
      6) Test And Evaluation Report: NFPA 101 Class A approval.
      7) Test And Evaluation Report: Wind resistance requirements required.

D. Maintenance Material Submittals:
1. Extra Stock Materials:
   a. Provide one (1) square minimum of bundled shingles.

1.5 QUALITY ASSURANCE

A. Regulatory Agency Sustainability Approvals:
1. Building Codes:
   a. Meet requirements for NFPA 101 Class A roof assembly.
   b. Roof system will meet requirements of all federal, provincial, and local codes having jurisdiction.
2. Fall Protection: Meet requirement of fall protection as required by federal, provincial, and local codes having jurisdiction.
3. Fire Characteristics:
   a. Provide shingles and related roofing materials with fire-test-response characteristics indicated, as determined by testing identical products per test method indicated below by UL / ULC or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency:
      1) Exterior Fire-Test Exposure: Class A, ULC 102 or ASTM E108, for application and roof slopes indicated.
         a) Materials shall be identified with appropriate markings of applicable testing agency.
4. Impact Resistance:

a. Meet UL 2218 impact resistant testing.
b. Meet UL 2218 Class 4 impact resistant rating for hail.

5. Wind Resistance:
   a. Meet ASTM D3161/D3161M for wind resistance.
      1) Installation shall comply with IBC Table 1507.2.7, 'Attachment'.
6. Wind Speed:
   a. As required to meet local codes having jurisdiction.
7. Wind Uplift Resistance:
   a. Meet UL 580 wind uplift of roof assemblies.
   b. Meet UL 1897 uplift test for roof covering systems.
   c. Meet ASTM D7158/D7158M for wind resistance for uplift force/uplift resistance.

B. Qualifications:
1. Manufacturer:
   a. Asphalt Shingles:
      1) Asphalt shingles are required to be produced under quality control program administered by inspection agency currently accredited by ICBO ES or recognized by National Evaluation Service, Inc. Quality control manual developed in consultation with approved agency, and complying with ICBO ES Acceptance Criteria for Quality Control Manuals (AC10), must be submitted.
   b. Underlayment:
      1) Underlayment is required to be manufactured under approved quality control program with inspections by inspection agency accredited by International Accreditation Service (IAS) or otherwise acceptable to ICC-ES.
      2) Quality documentation complying with ICC-ES Acceptance Criteria for Quality Documentation (AC10) shall be submitted for roof underlayment.
2. Roof Installer Foreman Qualifications:
   a. Requirements of Section 01 4301 applies but not limited to the following:
      1) Provide documentation if requested by Architect.
         a) Approved and authorized by Roofing Manufacturer to install Manufacturer’s product and eligible to receive Manufacturer’s warranty before bid.
         b) Completed Shingle Manufacturer’s certified trained.
         c) Have thorough knowledge of installing asphalt shingle roofing and have minimum of five (5) years roofing experience.
         d) Current license for the city, county, and province where project is located and license for specific type of roofing work to be performed.
         e) Roofing Installer’s foreman shall be skilled in his trade and qualified to lay out and supervise the Work.
         f) Flashing installation shall be performed by personnel trained and authorized by Roofing Manufacturer.
3. Roof Installer:
   a. Provide 'Roof Installer Workmanship Warranty' as specified in Warranty in Part 1 of this specification.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Delivery And Acceptance Requirements:
1. Make no deliveries to job site until installation is about to commence, or until approved storage area is provided.
2. Deliver products job site in Manufacturer's original unopened containers or wrappings with labels intact and legible bearing all seals and approvals.
3. Deliver materials in sufficient quantities to allow continuity of work.
4. Remove any material not approved from job site.

B. Storage And Handling Requirements:
1. Storage Requirements:
   a. Follow Manufacturer’s instructions and precautions for storage and protection of materials.
   b. Protect roof materials from physical damage, moisture, soiling, and other sources in a clean, dry, protected location.

c. Stacking:
1) Shingles: Bundles should be stacked flat.
2) Underlayment:
a) Do not double-stack pallets.
b) Stack rolls upright until installation.
d. Temperature:
1) Shingles:
a) Store in covered ventilated area at maximum temperature of 110 deg F (43 deg C).
b) Use extra care in handling shingles when temperature is below 40 deg F (4.4 deg C).
2) Underlayment: Store in area with temperature between 40 deg F and 100 deg F (4.4 deg C and 38 deg C).
e. Unacceptable Material:
1) Remove from job site materials that are determined to be damaged by Architect or by Roofing Manufacturer and replace at no additional cost to Owner.
2. Handling Requirements:
a. Handle rolled goods so as to prevent damage to edge or ends.
3. Roof Top Loading:
a. Lay shingle bundles flat.
b. Do not bend over ridge.

1.7 FIELD CONDITIONS

A. Ambient Conditions:
1. General:
a. Proceed with installation only when existing and forecasted weather conditions permit roofing to be performed according to manufacturer's written instructions and warranty requirements.
2. Shingles:
a. Do not install shingles at lower temperatures than allowed by Shingle Manufacturer for application.
3. Underlayment:
a. Install self-adhering sheet underlayment within range of ambient and substrate temperatures recommended by manufacturer.

1.8 WARRANTY

A. Special Warranty:
1. Shingle Manufacturer's special forty (40) year minimum labor and material warranty written for VMR program, including but not limited to:
a. CertainTeed:
1) First ten (10) years minimum of warranty will provide for full replacement cost, including tear-off and disposal, for any failure, including material defects and workmanship. Remaining thirty (30) years of warranty will provide for pro-rated replacement cost.
b. GAF:
1) First ten (10) years minimum of warranty will provide for full replacement cost, including tear-off and disposal, for any failure, including material defects and workmanship. Remaining thirty (30) years of warranty will provide for pro-rated replacement cost.
2. Roofing system will resist blow-offs in winds up to 110 mph (177 kph) for ten (10) years when installed as specified below.
a. Meet requirements of ASTM D3161/D3161M UL Class D.
3. Roof Installer Workmanship Warranty:
a. Provide ten (10) year workmanship warranty on roofing system and related components, including flashings, and responsible for all repairs to roofing system and related components due to roof installer’s own negligence or faulty workmanship:
1) In the event that, during ten (10) year period following installation, Roof Installer defaults or fails to fulfill its obligation in relation to workmanship warranty as specified in Manufacturer’s Agreement, Manufacturer will assume that obligation for remainder of

ten (10) year period following original installation and Owner shall have no obligation to make or pay for repairs to or materials for roofing system that are necessary due to Roof Installer's negligence or faulty installation during that period.

PART 2 - PRODUCTS

2.1 SYSTEM

A. Manufacturers:
1. Manufacturer Contact List:
a. CertainTeed Roofing Products, Valley Forge, PA www.certainteed.com.
1) Contact Information: Wendy Fox, (800) 404-9880 wfox@dataworksintl.com.
b. GAF Materials Corp., Wayne, NJ www.gaf.com.
1) Contact Information: John Arellano (office) (210) 896-1041 (fax) (210) 259-8050

B. Components:
1. Shingles And Underlayment:
a. Fiberglass mat shingles meeting or exceeding requirements of:
1) UL Class A Fire Resistance.
2) ASTM D3161/D3161M UL Class D.
3) ASTM E108 Class A.
4) CSA A123.1/A123.5 (Canadian standard).
5) ASTM D3462/D3462M where required by local codes.
6) Impact Resistant Shingles: Meet requirements of UL 2218 Class 4 Impact, ASTM E108 Class A Fire Resistance, ASTM D3161/D3161M Class F Wind, ASTM D7158/D7158M Class H Wind, ASTM D3018/D3018M Type 1, ASTM D3462/D3462M, and UL 790 Class A Fire Resistance.
7) Primary Underlayment: Meet requirements of ASTM D226/D226M and ASTM D4869/D4869M.
8) Secondary Underlayment: Meet requirements of ASTM D1970/D1970M and UL 790 Class A Fire Resistance.
9) Synthetic Underlayment: Meet requirements of ASTM D226/D226M and ASTM D4869/D4869M (physical properties only) or ASTM D1970/D1970M and ASTM E108 Class A Fire.
10) Color to match GAF Timberline Ultra HD "Barkwood".
b. Category One VMR Products And Manufacturers. See Section 01 6200 for definitions of Categories:
1) CertainTeed:
a) Shingles:
(1) Standard Wind: Landmark Premium.
(2) Hip And Ridge Shingles: Shadow Ridge or Laminate Accessory for shingle used.
b) Primary Underlayment Under Shingles:
(1) Synthetic Underlayment: Diamond Deck.
c) Secondary Underlayment Under Shingles:
(1) WinterGuard Granular.
or
(2) WinterGuard Sand.
or
(3) WinterGuard High Tack/High Temperature.
2) GAF:
a) Shingles:
(1) Standard Wind: Timberline Ultra HD.
(2) Hip And Ridge Shingles: TimberTex or Ridglass.
b) Primary Underlayment Under Shingles:
(1) Synthetic Underlayment: Tiger Paw or Deck Armour.
c) Secondary Underlayment Under Shingles:
(1) Weatherwatch.

or
(2) StormGuard.

2.2 ACCESSORIES

A. Fasteners:
1. Primary Underlayment:
a. Corrosion resistant roofing nails with one inch (25 mm) diameter head and 3/4 inch (19 mm) long shank minimum.
1) If shingles applied as underlayment is laid, use metal or plastic head Simplex roofing nails.
2) If shingles not applied as underlayment is laid, use plastic head only.
b. Staples not permitted.
2. Shingles:
a. Design Criteria:
1) Meet following requirements for nails:
a) Comply with ASTM F1667, Type I, Style 20-Roofing Nails.
b) Eleven gauge galvanized steel or equivalent corrosion-resistant roofing nail.
c) Nail head sizes: 3/8 inch (9.5 mm) nominal diameter.
d) Sufficient length to penetrate through roof sheathing 1/4 inch (6 mm) or 3/4 inch (19 mm) minimum into solid wood decking.
e) Hot-dipped galvanized or electroplated fasteners comply with requirements of ASTM A153, Class D.
f) Stainless-steel fasteners meet requirements of Type 304 (UNS S30400) or Type 316 (UNS S31600).
b. General:
1) Hot-dipped galvanized, electroplated non-corrosive gun-driver nails, or stainless steel fasteners may be used.
2) Fasteners within 15 miles (24.1 km) of coastal areas (oceanside) applications must use hot-dipped galvanized or stainless steel.
3) All exposed fasteners (including ridge shingles) must use hot-dipped galvanized or stainless steel.
4) Staples not permitted.

B. Elastomeric Roofing Sealant:
1. Design Criteria:
a. Meet requirements of ASTM D3019.
b. Non asphalt roofing cement (not permitted).
c. Elastomeric.
d. Cold temperature pliability.
e. Compatible with roof penetration boots.
2. Category Four Products And Manufacturers. See Section 01 6200 for definitions of Categories:
a. Flintbond SBS Modified Bitumen Caulk by CertainTeed.

C. Attic Vents:
1. Design Criteria:
a. Meet Manufacturer standards and locate new vents as shown on Drawings
b. Quality standard GAF RT65.
c. 60 in2 of NFA per vent.
d. Dark Brown.

PART 3 - EXECUTION

3.1 INSTALLERS

A. VMR Manufacture’s Approved Roofing Installers: See Section 01 4301.

1. Central Alberta:
   a. CertainTeed:
      1) Ardent Roof Systems, Stacey Disotell, (780) 488 4900, Edmonton.
      2) Dwight's Roofing, Demi Andropolous, (780) 717 4721, Edmonton.
      3) South Peak Roofing, Ken Reid, (403) 446 4179, Calgary.
      4) West Quality Construction, Francois Beaugard, (403) 719 4271, Calgary.
      5) Cooper Roofing, Chad Cooper, (403) 343 0393, Red Deer.
      6) RemStar Roofing, Jason Frank, (403) 896 4701, Red Deer.
      7) Primo Roofing, Allan Chapman, (403) 846 7201, Rocky Mountain House
   b. GAF:
      1) Goodmen Roofing, John Hall, (403) 588 0328, Red Deer
      2) Primo Roofing, Allan Chapman, (403) 844 9737, Red Deer

3.2 EXAMINATION

A. Verification Of Conditions:
   1. Examine deck to determine if it is satisfactory for installation of roofing system. Conditions include, but are not limited to, moisture on deck, protruding deck fasteners, specified gaps between sheathing, and other items affecting issuance of roofing warranty.
      a. Report unsatisfactory conditions in writing to Architect.
      b. Commencement of Work by installer is considered acceptance of substrate.
      c. See Drawings for (10) ten sheet and (1) sheet of plywood replacement allowance.
   2. Verify proposed soffit and ridge vents meet ventilation code requirements.
      a. Report inadequate ventilation conditions with recommendations in writing to Architect.

3.3 PREPARATION

A. Protection Of In-Place Conditions:
   1. Install only as much roofing as can be made weathertight each day, including flashing and detail work.

B. Surface Preparation:
   1. Clean roof deck:
      a. Remove dirt, protruding nails, shingle nails, and debris, before installation of underlayment.
   2. Roof deck must be dry to help prevent buckling of deck, which can result in deck movement and damage to primary underlayment.
   3. Following Manufacturer's recommendations for placing materials on roof.
      a. Prevent material from sliding off roof.

3.4 INSTALLATION

A. General:
   1. Schedule and execute work without exposing interior building areas to effects of inclement weather. Protect existing building and its contents against all risks.

B. Sequence of Roofing Materials as shown and noted on detail 2/A-2 in Contract Drawings:
   a. Metal drip and rake edge.
   b. Secondary underlayment (three (3) 36 inch (900 mm) wide strips around perimeter).
   c. Secondary underlayment along roof to wall locations, and around penetrations.
   d. Apply three (3) continuous 36 inch (900 mm) wide sheets of secondary underlayment in valley to ensure minimum 8' - 6" (2.62 m) wide strip in valleys.
   e. Install one (1) continuous 36 inch (300 mm) wide strip of primary underlayment atop secondary underlayment and centered over valley.
   f. Install formed valley metal over strip of primary underlayment. Valley Metal (24 inch (610 mm) wide valley metal 10 ft (3.05 m) lengths).

g. Apply 12 inches (300 mm) wide strips of secondary underlayment lapping nailed edge of formed valley metal 3 inches (75 mm).
h. Primary underlayment over entire roof.
i. Secondary underlayment 12 inches (300mm) wide strips along ridge line for vent securement – see detail 7/A-2 in Contract Drawings.
j. Asphalt shingles, Roof flashings, Attic and Ridge vents.

C. Underlayment:
1. General:
a. Temporary Roof:
1) Do not use permanent underlayment installation as temporary roof.
2) If temporary roof is used, remove completely before installation of permanent underlayment.
b. Follow Shingle Manufacturer's recommendations for installation of primary and secondary underlayment, particularly at eaves, rakes, and penetrations, unless specified installation procedures and Contract Drawing details are more stringent. See Drawings for low slope application.
c. Avoid scuffing underlayment that can compromise surface and cause leaking. If scuffing occurs, following Manufacturer's recommendation for repair.
d. Staples are not permitted.
e. Weather conditions:
1) Do not leave underlayment exposed to weather more than thirty (30) days after beginning of underlayment installation even if Manufacture allows longer period of time.
2) If underlayment is exposed for more than thirty (30) days after beginning of underlayment installation, treat as temporary roof under first paragraph above.
3) If moisture is deposited on exposed underlayment, obtain written approval from Shingle Manufacturer's Representative before installing shingles.
f. Install valley secondary underlayment, valley primary underlayment, and valley metal after installation of general secondary underlayment, but before installation of general primary underlayment.
2. Primary Underlayment:
a. Apply 48 inch (1 200 mm) wide courses over complete deck, including areas covered with secondary underlayment.
1) Overlap underlayment before fastening.
2) Maintain end laps of 6 inch (150 mm) and side laps of 3 inch (76 mm).
3) Stop primary underlayment between 3 and 6 inches (75 and 150 mm) of inside edge of strip of secondary underlayment installed over edge of formed valley metal.
b. Nailing Synthetic Underlayment:
1) Use low-profile plastic or steel cap corrosion resistant nails with 1 inch (25 mm) diameter heads to fasten underlayment in place. (Fastening underlayment without caps is not permitted).
2) Nails must be driven properly. Improperly driven fasteners such as over-driving, under-driving and nails driven at an angle are not permitted.
3) Fasteners should be long enough to penetrate at least 3/4 inch (19 mm) into roof sheathing. Fasteners must be lie flush to roof deck at 90 degree angle to roof deck and tight with underlayment.
4) Do not nail through metal flashing, except drip and rake edge, when installing primary underlayment.
5) Follow Shingle Manufacturer's installation instructions for following:
a) Securing underlayment to roof deck adjusting for roof slope nailing requirements.
b) Side lap, end lap, and overlapping nailing requirements.
c) Rake and eave nailing requirements.
d) High wind condition nailing requirements.
e) Sealants recommendations.
3. Secondary Underlayment:
a. Under Shingles:
1) Lap end joints 6 inches (150 mm) and side joints 3 inch (76 mm) minimum.
2) Apply continuous 12 inches (300 mm) x 12 inches (300 mm) high vertical strip at roof to wall locations. Apply 12 inches (300mm) wide strips along ridge for vent securement as noted in Contract Drawings.

3) Apply three (3) 36 inch (900 mm) wide courses along eaves and rakes as described in Contract Documents with first course overlapping metal drip edge.

4. Valley Underlayment:
   a. Apply three (3) continuous 36 inch (900 mm) wide sheets of secondary underlayment in valley lapped so as to provide 102 inch (2 590 mm) wide covered area centered over valley.
   b. Apply one (1) continuous 36 inch (300 mm) wide strip of primary underlayment atop secondary underlayment and centered over valley.
   c. Install formed valley metal over strip of primary underlayment.
      1) Nail top of each section and lap 8 inches (200 mm) in direction of flow.
      2) Seal laps with continuous bead of elastomeric roofing sealant.
      3) Secure edges of valley metal with fasteners spaced at 12 inches (300 mm) maximum on center and approximately 1/2 inch (13 mm) in from edge of metal.
   d. Install 12 inches (300 mm) wide strips of secondary underlayment lapping nailed edge of formed valley metal 3 inches (75 mm).

D. Shingles:
1. Before installing shingles, inspect underlayment and metal installation with Architect and Owner. Correct improperly installed and damaged material before beginning shingle installation.
2. Racking installation method is not permitted by Owner and will be considered non-conforming work.
3. Starter shingles:
   a. Manufacturer’s starter shingles are required for Warranty.
   b. Install shingles at eave, rakes, and framed ridges in accordance with Shingle Manufacturer’s instructions.
   c. Cut shingles in accordance with Shingle Manufacturer's instructions or use approved starter course.
   d. Nail to eave granule side up in continuous mastic bed with cut edge down-slope and edge overhanging eave 3/8 inch (9 mm) so sealing tabs are at edge of eave.
   e. Install shingles with maximum exposure recommended by Shingle Manufacturer.
   f. Lay first course directly over starter strip with ends flush with starter strip at eaves and so joints in starter strip are offset 4 inches (100 mm) minimum from joints in first course.
4. Lay shingles so end joints are offset in accordance with Shingle Manufacturer's installation procedures.
5. Insure alignment by snapping chalk line at least each fifth course to control horizontal and vertical alignment.
6. Run courses true to line with end joints properly placed. Leave shingles flat without wave and properly placed.
7. Hip and ridge shingles:
   a. Manufacturer’s hip and ridge shingles are required for Warranty.
   b. Install specified hip and ridge shingles in accordance with Shingle Manufacturer's instructions.
   c. Run ridge and hip shingles ship lapped to prevailing wind direction.
8. Nailing:
   a. General:
      1) Six (6) Nail Pattern as recommended by Shingle Manufacturer in each shingle.
      2) Place in relation to top edge of shingle as required by Shingle Manufacturer.
      3) Place nails one inch (25 mm) from each end of shingle and remainder evenly spaced between.
      4) Should any nail fail to penetrate sheathing by 1/4 inch (6 mm) minimum, drive additional nail nearby.
   b. Nailing guns:
      1) Nails must be driven properly. Improperly driven fasteners such as over-driving, under-driving and nails driven at an angle are not permitted.
      2) Adjust nail gun pressure for nailing flush and tight to deck without cutting shingle surface.
      3) Drive nails perpendicular to shingle surface so nail head is flat against shingle.
      4) Should any nail fail to penetrate sheathing by 1/4 inch (6 mm) minimum, drive additional nail nearby.
9. Hand-Sealing:

a. If ambient temperature or exposure to sun will not be sufficient to secure adhesive strip to under-lying shingle within one week, hand seal shingles with elastomeric roofing sealant.

10. Over valley metal:
    a. Do not drive nails through valley metal.
    b. Run chalk line so valley metal will be exposed 6 inches (150 mm) wide at top and diverge 3/32 inch (one mm) per ft (300 mm) down to eaves.
    c. Neatly trim shingles to this line.
    d. Seal trimmed shingle edges to valley metal with continuous bead of elastomeric roofing sealant applied within one inch (25 mm) of shingle edge.
11. Vent pipe sleeve flange:
    a. Vent pipe sleeve flange as specified in Section 07 6310.
    b. Fit shingles under lower edge and over sides and upper edge.
    c. Set vent pipe flange in elastomeric roofing sealant.
    d. Embed shingles in elastomeric roofing sealant where they overlap flange.
    e. Apply bead of elastomeric roofing sealant at junction of vent pipe and vent flashing.
    f. See detail 1/A-2 in Contract Drawings.

3.5 FIELD QUALITY CONTROL

A. Non-Conforming Work:
1. Correct any work found defective or not complying with Contract Document requirements at no additional cost to the Owner.
2. Racking installation method is not permitted by Owner and will be considered to be not complying with Contract Document requirements and must be corrected at no additional cost to Owner.

3.6 CLEANING

A. General:
1. All tools and unused materials must be collected at end of each workday and stored properly off finished roof surface and protected from exposure to elements.
2. Leave metals clean and free of defects, stains, and damaged finish.
    a. Replace fascia metal that is damaged / scratched through finish to base metal.
3. Properly clean finished roof surface after completion.
4. Verify drains and gutters are not clogged.
5. Clean shingles and building of soiling caused by this installation.
6. Clean and restore all damaged surfaces to their original condition.

B. Waste Management:
1. Disposal:
    a. All work areas are to be kept clean, clear and free of debris at all times.
    b. Do not allow trash, waste, or debris to collect on roof. These items shall be removed from roof on a daily basis.
    c. Remove debris resulting from work of this Section from roof and site. Dispose of or recycle all trash and excess material in manner conforming to current EPA regulations and local laws.

3.7 PROTECTION

A. Do not permit traffic over finished roof surface.

B. Provide ladder protection at interface with new fascia / eavestrough to prevent damages.

END OF SECTION

SECTION 07 5423

THERMOPLASTIC POLYOLIFIN ROOFING (TPO)

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Furnish and install roofing membrane with flashings and other components to comprise total roofing system as described in Contract Documents including:
      a. Single-ply membrane.
   2. Coordinate system tie in from flat roof to sloped shingle roof with sub-trade to ensure compatibility of systems and positive watershed.

B. Related Requirements:
   1. Section 07 6210: 'Galvanized Steel Flashing And Trim' for metal work installation and requirements.

C. Products Installed But Not Furnished Under This Section:
   1. Sheet metal work including caps and reglets.

1.2 REFERENCES

A. Association Publications:
   1. American National Standards Institute / Single Ply Roofing Industry:
      a. ANSI/SPRI ES-1 2003, 'Wind Design Standard for Edge Systems Used with Low Slope Roofing Systems'.
      b. ANSI/SPRI WD-1 'Wind Design Standard for Roofing Assemblies'.
   2. FM Global Resource Catalogue by FM Global, Norwood, MA www.fmglobal.com.
      a. Approval Guide:
         1) Factory Mutual Standard 4470 - Approval Standard for Class 1 Roof Covers.
      b. Property Loss Prevention Data Sheet 1-28, ‘Wind Design’ (latest edition).
      c. Property Loss Prevention Data Sheet 1-29, ‘Roof Deck Securement and Above-Deck Components’ (latest edition).
      d. Property Loss Prevention Data Sheet 1-49, ‘Perimeter Flashing’ (latest edition).

B. Definitions:
   1. Flame Spread Classification: Categories as per ASTM E84/UL 723 or ULC S102:
      a. Class A: Highest fire-resistance rating for roofing as per ASTM E108. Indicated roofing can withstand severe exposure to fire exposure to fire originating from sources outside building.
      b. Class B: Fire-resistance rating indicating roofing materials can withstand moderate exposure to fire originating from sources outside of building.
      c. Class C: Fire-resistance rating indicating roofing materials can withstand light exposure to fire originating from sources outside of building.

C. Reference Standards:
   1. ASTM International:
      a. ASTM C208-12(2017), ‘Specification for Cellulosic Fiber Insulating Board’.
      b. ASTM C564-14, ‘Standard Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings’.
      c. ASTM C920-18, ‘Standard Specification for Elastomeric Joint Sealants'.
      d. ASTM C1289-18a, ‘Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board'.
      e. ASTM C1303/C1303M-15, ‘Standard Test Method for Predicting Long-Term Thermal Resistance of Closed-Cell Foam Insulation’.

f. ASTM D6878/D6878M-17, ‘Standard Specification for Thermoplastic Polyolefin Based Sheet Roofing’.
g. ASTM E84-18b, ‘Standard Test Method for Surface Burning Characteristics of Building Materials’.
h. ASTM E108-17, ‘Standard Test Methods for Fire Tests of Roof Coverings’.
i. .

2. International Building Code (IBC) (2018 edition or latest edition adopted by AHJ):
   a. Chapter 15, 'Roof Assemblies And Rooftop Structures':
      1) Section 1507, 'Requirements for Roof Coverings':
         a) 1507.13, ‘Thermoplastic Single-ply Roofing’.
3. National Fire Protection Association:
   a. NFPA 101: ‘Life Safety Code’ (2018 or most recent edition adopted by AHJ).
4. Underwriters Laboratories of Canada (ULC):
   a. ULC 102.2-18: ‘Method of Test for Surface Burning Characteristics of Flooring, Floor Coverings, and Miscellaneous Materials and Assemblies' (ULC S102.2).
   b. ULC 107-10, ‘Methods of Fire Tests of Roof Coverings' (CAN/ULC-S107-10).
   c. ULC 770-15, ‘Standard Test Method for Determination of Long-term Thermal Resistance of Closed-Cell Thermal Insulating Foams' (CAN/ULC-S770-15).

1.3 ADMINISTRATIVE REQUIREMENTS

A. Pre-Installation Conferences:
   1. Participate in MANDATORY pre-installation conference.
      a. Roofing Membrane Manufacturer and Roofing Installer’s foreman and those responsible for installation of roofing to be in attendance.
   2. Schedule meeting after installation of roof substrate but before installation of any roofing system component.
   3. In addition to agenda items specified in Section 01 3100, review following:
      a. Review Manufacturer’s written instructions.
      b. Review if Project is in high wind area.
      c. Review delivery, storage, and handling requirements.
      d. Review ambient conditions requirements.
      e. Review roofing installation requirements including flashing and penetrations.
      f. Review roofing drainage requirements.
      g. Review temporary protections for roofing system.
      h. Review cleaning and disposal requirements.
      i. Review Special Procedure Submittal for Warranty Information to be given to Manufacturer before Manufacture will issue Roof Warranty by Installer.
      j. Review safety issues.
      k. Review field inspections and non-conforming work requirements.
      l. Review protection of membrane by other trades after installation of membrane.

1.4 SUBMITALS

A. Action Submittals:
   1. Product Data:
      a. Manufacturer's literature or cut sheet for each element of system.
      b. Manufacturer’s preparation and installation instructions and recommendations.
   2. Shop Drawings:
      a. Prepared by Roofing Installer and approved by Roofing Membrane Manufacturer and include following:
         1) Base flashings.
         2) Location and type of penetrations.
         3) Membrane terminations.
         4) Outline of roof and roof size.
         5) Perimeter and penetration details.
         6) Roof insulation:
            a) Insulation fastening patterns for corner, perimeter, and field-of-roof locations.

b) Taper insulation, including slopes.
7) Special details and materials.
b. Confirm that specified FM Class and UL Class assembly is appropriate for Project location.
3. Samples:
a. Manufacturer's 4 inch (100 mm) square minimum sample representing actual color, membrane and thickness.

B. Informational Submittals:
1. Certificates:
a. Installer's signed certificate stating roofing system complies with Contract Documents performance requirements and work only performed by trained and authorized personnel in those procedures.
b. Manufacturer signed certificate that roof system has been inspected by Technical Service Representative and stating no deviation from system specified or approved shop drawings without written approval by Owner Representative and Manufacture.
2. Test And Evaluation Reports: Submit evidence that roof system has been tested and approved or listed as follows:
a. Submit evidence that roof system has been tested and approved or listed to meet Factory Mutual Research Corporation (FM) Classification required for this Project.
b. Submit evidence that roof system has been tested to meet UL Class requirement required for fire-resistance rating for this Project.
3. Manufacturer Instructions:
a. Two (2) copies of Roofing Manufacturer's published instructions for Architect and maintain one (1) at job-site.
4. Qualification Statement:
a. Roofing Membrane Manufacturer's certification of Installer.

C. Closeout Submittals:
1. Include following in Operations And Maintenance Manual specified in Section 01 7800:
a. Warranty Documentation:
1) Final, executed copy of 'Roofing Manufacturer System Warranty' including wind speed coverage and required Owner mandatory information.
2) Final, executed copy of 'Roof Installer Workmanship Warranty' including required Owner mandatory information.
b. Record Documentation:
1) Manufacturers Documentation:
a) Record Shop Drawings if requested. Record shop drawings shall be given shop drawing number by Roofing Manufacturer.
b) Certificate: Manufacturer Inspection report by Technical Service Representative.
c) Certificate: Installer statement of compliance for performance requirements.
d) Test And Evaluation Report: UL fire-resistance rating test report.
e) Test And Evaluation Report: Factory Mutual Research Classification approval.

1.5 QUALITY ASSURANCE

A. Regulatory Agency Sustainability Requirements:
1. Roof system will meet requirements of all federal, provincial, and local codes having jurisdiction (AHJ).
2. Fire Characteristics Performance Requirement:
3. Roof system will achieve UL Class A rating when tested in accordance with ASTM E108 or UL-790:
a. Materials shall be identified with appropriate markings of applicable testing agency.
4. Thermal Performance Requirement:
a. Roof system will achieve minimum average R value not less than 32.
5. Wind Criteria as per Alberta Building Code 2014 Appendix C.

B. Qualifications:
1. Requirements of Section 01 4301 applies but not limited to the following:
a. Installers Qualifications:

1) Provide documentation if requested by Architect:
   a) Roofing Installer shall be approved and authorized by Roofing System Manufacturer to install Manufacturer's product and eligible to receive Manufacturer's special warranty.
   b) Roofing Installer shall be able to document roofing membrane installation for five (5) year minimum.
   c) Roofing Installer must have current license for the city and province where project is located.
   d) Roofing Installer must have license for specific type of roofing work to be performed.
   e) Roofing Installer's foreman shall be skilled in his trade and qualified to lay out and supervise the Work.
   f) Membrane and flashing installation shall be performed by personnel trained and authorized by Roofing Manufacturer.
   g) Welding equipment shall be provided by or approved by Roofing Manufacturer. Mechanics intending to use equipment shall have successfully completed training course provided by Manufacturer's Technical Representative before welding.

b. Manufacturer Qualifications:
   1) Manufacturer that is UL listed for membrane roofing system used for this Project.
   2) Manufacturer shall manufacture membrane material for five (5) consecutive years. (Manufacturing is defined as owning the means of production, controlling, and monitoring the daily production of the membrane).
      a) No product with documented failure will be allowed.
   3) Source Limitations:
      a) Provide roof components including roof insulation and fasteners for roofing system from same Manufacturer as membrane roofing or approved by Roofing Membrane Manufacturer.

1.6 DELIVERY, STORAGE AND HANDLING

A. Delivery And Acceptance Requirements:
   1. Make no deliveries to Project until installation is about to commence, or until approved storage area is provided.
   2. Deliver and maintain materials in Manufacturer's original, unopened containers or rolls, with labels intact and legible.
   3. Deliver materials in sufficient quantities to allow continuity of work.
   4. Remove any material not approved from job site.

B. Storage And Handling Requirements:
   1. General:
      a. Follow Manufacturer's instructions and precautions for storage of materials.
      b. Handle and store roofing materials and place equipment in manner to avoid permanent deflection of roof decking.
      c. Material Safety Data Sheets (MSDS) must be on location always during transportation, storage and application of materials.
   2. Storage Requirements:
      a. Protection:
         1) Protect roof materials from physical damage, moisture, soiling, and other sources in a clean, dry, protected location and with temperature range required by Manufacturer. Protect from direct sunlight.
         2) Provide continuous protection of materials against moisture absorption (Manufacturer's/Supplier's shrink wrap is not accepted waterproofing).
      b. Roof Insulation:
         1) Comply with insulation Manufacturer's written instructions for handling, storing, and protection during installation.
      c. Safety:
         1) Liquid materials such as solvents and adhesives shall be stored off site and installed away from open flames, sparks, and excessive heat.

2) Site storage is acceptable if liquid materials are placed in a locked, sealed storage container.
3) Situate equipment and materials to preclude danger, disturbance, or interference to public safety and traffic, and to not constitute fire hazard.

d. Temperature:
1) Store Materials, except membranes, in dry place with temperatures between 60 deg F (15.5 deg C) and 80 deg F (26.6 deg C).
2) Restore materials which can become colder than specified temperature to proper temperature before using.

e. Unacceptable Material:
1) Remove from job site materials that are determined to be damaged by Architect or by Roofing Manufacturer and replace at no additional cost to Owner.
2) Remove all wet and damaged materials from site.
3) Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.

3. Handling Requirements:
a. Select and Handle operating equipment so as not to damage existing construction or new roofing system, or to overload structural system.
b. Handle rolled goods so as to prevent damage to edge or ends.

1.7 FIELD CONDITIONS

A. Ambient Conditions:
1. Temperature ranges shall be within tolerances allowed for material being used.
a. Roof surface shall be free of ponding water, ice, and snow.
b. Cold temperature:
1) Follow Manufacturer's written instructions for cold temperature requirements before applying membrane adhesive:
a) Follow specified precautions.
b) Expose only enough adhesive to be used as directed by membrane manufacturer:
c) Low VOC restrictions (if required by local AHJ): Temperatures to be 40 deg F (4 deg C) and rising before applying.
c. Hot temperature:
1) Do not expose membrane and accessories to constant temperature more than 180 deg F (82 deg C).
2. Proceed with roofing work when existing and forecasted weather conditions permit.

1.8 WARRANTY

A. Manufacturer Warranty:
1. Roofing Membrane Manufacturer’s Special Warranty for:
a. Thirty (30) year no dollar limit (NDL) material and labor covering roofing system, including insulation, components of membrane roofing system, membrane degradation, and workmanship.
b. Accidental Puncture Warranty:
1) Membrane Manufacturer's written Accidental Puncture Warranty for up to sixteen (16) hours of Labor to repair punctures after final inspection.
c. Warranty shall include wind speed coverage to 90 mph (145 kph).

B. Roof Installer Workmanship Warranty:
1. Written five (5) year guarantee covering workmanship and repairs or replacement of work without cost to Owner, counter-signed by Installer and Contractor from date of installation.
a. Roof Installer Workmanship Warranty must include information required in Attachment 'Warranty Information'.

PART 2 - PRODUCTS

2.1 ASSEMBLIES

A. Manufacturer:
1. Category Three Approved Manufacturers: See Section 01 6200 for definitions of Categories:
   a. Carlisle SynTec Incorporated, Carlisle PA www.carlisle-syntec.com. (717) 245-7000:
      1) Contact Information (USA, Canada and Global):
         a) Primary Contact: Greg Petschke (Manager Strategic Accounts), office (800) 479-6832 cell (717) 215-2681 greg.petschke@carlislesyntec.com.
   b. Firestone Building Products Co., Indianapolis, IN www.firestonebpco.com.
      1) Contact Information (USA and Canada):
         a) Primary Contact: Curt Friedholdt - Account Manager, North-West Region, office (317) 918-5772 FriedholdtCurt@firestonebp.com

B. Design Criteria:
1. General:
   a. Installed membrane roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction.
   b. Membrane roofing and base flashings shall remain watertight.
2. Drainage Requirement:
   a. Roof system to provide positive drainage where all standing water dissipates within forty-eight (48) hours after precipitation ends.
3. Material Compatibility:
   a. Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by membrane Roofing Membrane Manufacturer based on testing and field experience.
4. Metal details, fabrication practices, and installation methods shall conform to applicable requirements of following:
   a. Corner, perimeter, and field-of-roof uplift pressure.
   b. Factory Mutual Loss Prevention Data Sheet 1-49, 'Perimeter Flashing'.
   c. Sheet Metal and Air Conditioning Contractors National Association Inc, 5th edition.

C. Components:
1. Membrane:
   a. Description:
      1) Thermoplastic Polyolefin Sheet (TPO) meeting requirements of ASTM D6878/D6878M, internally fabric or scrim reinforced, uniform, and flexible.
      2) Fully Adhered.
   b. Thickness: 80 mil (2.03 mm) minimum thickness by optimum width and length determined by job conditions.
   c. Exposed Face Color: Tan.
2. Insulation:
   a. FM or ULC approved.
   b. Polyisocyanurate Foam Insulation Board:
      1) Meet requirements of ASTM C1289, Type II, Class 1, Grade 2, felt or glass-fiber mat facer on both major surfaces.
      2) Insulation boards shall be Factory Mutual Class I-90 approved.
      3) Insulation panels directly under roofing membrane and roof system cover board shall not exceed 48 inches by 48 inches (1 200 mm by 1 200 mm).
      4) Insulation shall have minimum average 'R' value of 32.
      5) Tapered Insulation:
         a) Provide factory-tapered insulation boards.
         b) Tapered layer shall slope at 1/4 in per ft (20 mm per meter) minimum.
      6) Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening roof insulation to substrate, and acceptable to roofing system Manufacturer.

7) Provide screw design to maximize pull out resistance in existing plywood deck. Achieve minimum of 425# pullout per screw or increase the number of screws to meet Roofing Manufacturer system requirements.

3. Roof System Cover Board (Recovery/Hard Board) Over Insulation:
   a. Fire Rating:
      1) Protection Board:
         a) Category Four Approved Products. See Section 01 6200 for definitions of Categories:
            (1) 5/8 inch (16 mm) thick minimum Dens-Deck Prime by G-P Gypsum.
4. Vapour Retarder / Air Barrier:
   a. Self-adhered membrane as supplied by roofing Manufacturer to serve as a vapour barrier and temporary roof. Provide primers as necessary over existing roof deck condition.
      1) Carlisle: 725 TR
      2) Firestone: V-Force

2.2 ACCESSORIES

A. Adhesives, Sealants and Sealer:
   1. General:
      a. Supplied by Roofing Membrane Manufacture Meet uplift and VOC requirements required for Project for specific application method and in compliance with all local codes and restrictions provided by Roofing Membrane Manufacture.
      b. As accepted by Roofing Manufacturer under specified warranty.
      c. Application spacing of 4 inches (100mm) o.c. ribbons of adhesive.
   2. Bonding Adhesive:
      a. Approved by Roofing Membrane Manufacturer for specified roof system.
   3. Cut Edge Sealant:
      a. TPO Based squeeze tube consistency by Roofing Membrane Manufacturer.
   4. Nite Seal:
      a. Compatible with materials with which it is used.
      b. Furnished by Roofing Membrane Manufacturer.
   5. Pourable Sealer:
      a. Approved by Roofing Membrane Manufacturer for specified roof system.

B. Auxiliary Materials:
   1. Furnish and install all auxiliary materials as recommended by Roofing Membrane Manufacturer for intended use and compatible with membrane roofing materials and specified warranty.

C. Flashing:
   1. Thermoplastic Polyolefin Unreinforced TPO, 0.060 inch (1.52 mm) thick, of same color as sheet membrane.
   2. Preformed Inside and Outside sheet flashings.

D. Surface Cleaner/ Primer:
   1. Approved by Roofing Membrane Manufacturer for specified roof system.

E. Termination Bars:
   1. Flat extruded aluminum bar with spaced holes for termination attachment furnished by Membrane Manufacture.
   2. Extruded aluminum bar with sealant track with spaced holes for termination attachment furnished by Roofing Membrane Manufacturer.

F. Termination Bar Fasteners:
   1. Threaded fasteners with expansion sleeve that provide easy future removal and reuse, furnished by Roofing Membrane Manufacturer.

G. Water Cut Off Mastic:
   1. Approved by Roofing Membrane Manufacturer for specified roof system.

H. PVC Pipe:
1. Pipe And Fittings: Existing roof drainage pipe to remain. Coordinate new roof drain installation with existing pipe.

I. Roof Drains:
1. Existing Roof Drain (1) to remain:
a. Remove top section as required for SBS removal and adjust to suit new sloped polyiso insulation depth. Flash new TPO membrane into existing and re-secure top of Roof Drain – see detail 5/A-3 in Contract Drawings. If existing Roof Drain can't be adjusted to suit new roofing, then provide an insert drain as recommended by Roofing Manufacturer.

PART 3 - EXECUTION

3.1 INSTALLERS

A. Category Three Manufacture's Approved Roofing Installers: See Section 01 4301:
1. Carlisle SynTec:
a. Goodmen Roofing, Marco Gilbert, 403 588 4554, marco@goodmenroofing.ca
b. RemStar Roofing, Jan Ledoux, 403 307 0370, jan@remstarroofing.com
c. United Roofing, Patrick Geneste, 403 805 2753, patrick@unitedroofing.ca
2. Firestone:
a. West Quality Construction, Francois Beaugard, 403 719 4271, Calgary.

3.2 EXAMINATION

A. Verification Of Conditions (for reroofing over existing building):
1. Examine substrate and conditions. Verify substrate is suitable for installation of roofing system membrane before starting work of this Section.
2. See Drawings for (10) ten sheet and (1) one sheet plywood replacement allowance.
3. Verify that roof drain lines are functioning correctly before starting work of this Section:
a. Report such blockages in writing to Owner's representative, with copy to Roofing Membrane Manufacturer, for corrective action before beginning work of this Section.
4. Inspect for defects such as excessive surface roughness, contamination, structural inadequacy, or any other condition that will adversely affect quality of work.
5. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and nailers match thicknesses of insulation to be installed.
6. Remove existing roofing, base flashing, deteriorated wood blocking and metal flashings:
a. Remove only that amount of existing roofing and flashing that can be made watertight with new materials during a one-day period or onset of inclement weather.
7. Notify Architect of unsuitable conditions in writing:
a. Commencement of Work by installer is considered acceptance of substrate.
b. Stop work immediately if any unusual or concealed condition is discovered and immediately notify Architect in writing, with letter copy to Roofing Manufacturer.
c. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 PREPARATION

A. Removal of Existing Roofing:
1. Remove existing areas of SBS Roofing systems as noted in Drawings to expose existing plywood roof deck.
2. See Drawings for (10) ten sheet and (1) one sheet plywood replacement allowance. Replace deteriorated plywood as described in Contract Documents.
3. Install vapour barrier / temporary roof as soon as possible.

B. General Requirements:

1. Remove existing roofing, base flashing, deteriorated wood blocking and metal flashings. Recycle materials that can be recycled.
2. Remove only that amount of existing roofing and flashing that can be made watertight with new materials during a one-day period or onset of inclement weather.
3. Inspect for defects such as excessive surface roughness, contamination, structural inadequacy, or any other condition that will adversely affect quality of work.
    a. Wood Deck:
        1) Ensure decking is sound and able to provide support and attachment of new roofing assembly.
        2) Deteriorated or unsound decking that can not comply with this requirement shall be brought to attention of Architect/Owner's Representative.
        3) As directed by Architect/Owner's Representative, remove and replace sections of decking with like materials and in compliance with local code requirements.
4. Prevent interior leakage, materials falling into interior, and other such Occurrences.
5. Install temporary water cut-offs at completion of each day's work and completely remove upon resumption of work.
    a. Waterstops shall not emit dangerous or unsafe fumes and shall not remain in contact with finished roof as installation progresses.
    b. Replace contaminated membrane at no additional cost to Owner.
6. Provide temporary walkways and work platforms as necessary to complete work under this section with no damage to existing surfaces, surfaces exposed during work, and to new materials applied.
7. Coordinate application of membrane to provide protection of underlying materials from wetting or other damage by the elements on a continuous basis.
8. Sheet metal caps shall be completely installed daily.

C. Surface Preparation:
1. Surfaces to receive new materials shall be free of dirt, debris, loose material, and free of moisture. Mechanically scrape exposed surfaces, if necessary to remove projections.
2. Verify that surfaces receiving new materials have no defects or errors which would result in poor application or cause latent defects in workmanship.
3. Inspect anchoring of wood members for conformance to specified requirements. Upgrade nonconforming fasteners to meet specified requirements.
4. Reset or replace fasteners that are loose, deformed, damaged, or corroded.
5. Fit joints of insulation tightly together.
6. Prevent interior leakage, materials falling into interior, and other such Occurrences.
7. Install temporary water cut-offs at completion of each day's work and completely remove upon resumption of work.
    a. Waterstops shall not emit dangerous or unsafe fumes and shall not remain in contact with finished roof as installation progresses.
    b. Replace contaminated membrane at no additional cost to Owner.
8. Provide temporary walkways and work platforms as necessary to complete work under this section with no damage to existing surfaces exposed during work, and to new materials applied.
9. Coordinate application of membrane to provide protection of underlying materials from wetting or other damage by the elements on a continuous basis.
10. Sheet metal caps shall be completely installed daily.
11. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.
12. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast.
13. Remove and discard temporary seals before beginning work on adjoining roofing.

3.4 INSTALLATION

A. Interface With Other Work:
1. Coordinate with Installers whose work penetrates roof deck or requires men and equipment to traverse roof deck.

B. General:
   1. Installation shall be in conformance with latest edition of manufacturer's specification except where Contract Documents are more restrictive.
   2. Roof surfaces shall be free of water, ice and snow. Surfaces to receive new insulation, membrane, or flashings shall be dry. Should surface moisture occur, provide equipment necessary to dry surface before application.
   3. Secure new and temporary construction, including equipment and accessories, to preclude wind blow-off and subsequent roof or equipment damage.
   4. Install only as much roofing as can be made weathertight each day, including flashing and detail work. Clean seams and heat-weld before leaving jobsite.
   5. Schedule and execute work without exposing interior building areas to effects of inclement weather. Protect existing building and its contents against all risks.
   6. Install uninterrupted waterstops at end of each day's work and completely remove before proceeding with next day's work. Waterstops shall not emit dangerous or unsafe fumes and shall not remain in contact with finished roof as installation progresses. Replace contaminated membrane at no additional cost to Owner.
   7. Avoid use of newly constructed roofing as walking surface or for equipment movement and storage. Where such access is required, provide necessary protection and barriers to segregate work area and to prevent damage to adjacent areas. Provide protection layer consisting of plywood over insulation board and roofing membrane for new and existing roof areas which receive rooftop traffic during construction.
   8. Before and during application, remove dirt, debris, and dust from surfaces either by vacuuming, sweeping, blowing with compressed air, or similar methods.
   9. Report rooftop contamination that is anticipated or that is occurring to Roofing Manufacturer to determine corrective steps to be taken.

C. Vapor Retarder / Air Barrier:
   1. Install vapour barrier on existing plywood roof deck to provide temporary protection against inclement weather. Follow Roof System Manufacturer installation instructions.

D. Insulation:
   1. Position first layer of insulation board with tight joints and staggered edges.
      a. Install additional layers of board insulation in offset pattern and as directed by Roofing Membrane Manufacturer.
      b. Lay out tapered board to provide positive flow to roof drain as shown on Contract Drawings.
      c. Fasten roof insulation assembly in pattern as directed by Roofing Membrane Manufacturer.
      d. Mechanically attach first layer of insulation board to deck as directed by Roofing Membrane Manufacturer.
      e. Moisture content of insulation shall not exceed 4 percent.
   2. Over dry polyisocyanurate insulation, install roof system cover board.

E. Roof System Cover Board:
   1. Offset roof system cover board joints 24 inches (610 mm) minimum from joints in underlying substrate or insulation.
   2. On wood deck, secure roof system cover board using low profile attachment plates and fasteners spaced as required by Roofing Membrane Manufacturer's warranty requirements.

F. Membrane:
   1. Inspection:
      a. Inspect surface of insulation or substrate before installation of roof membrane.
      b. Substrate shall be clean, dry and smooth with no excessive surface roughness, contaminated surfaces or unsound surfaces such as broken, delaminated, or damaged insulation boards.
      c. All sharp projections shall be removed by sweeping, blowing or vacuum cleaning.
   2. Adhesive:
      a. Follow ambient conditions as specified in Part 1 of this specification.
   3. Placement and attachment:
      a. Install accordingly to Manufacturer's written instructions.
      b. Start installation of roofing membrane in presence of Roofing Membrane Manufacturer's technical personnel.

c. Accurately align roofing membrane and maintain uniform side and end laps of minimum dimensions required by Manufacturer. Stagger end laps.
d. Fold roofing membrane sheet back lengthwise (onto itself) so half underside of membrane is exposed.
e. Apply Bonding Adhesive as recommended by Manufacturer's written instructions, to exposed underside of roofing membrane and corresponding substrate area. Do not apply Bonding Adhesive along splice edge of roofing membrane to be hot air welded over adjoining sheet. Allow adhesive to dry until it is tacky but will not string or stick to dry finger touch.
   1) Roll coated roofing membrane into coated substrate while avoiding wrinkles. Brush down bonded section of roofing membrane sheet immediately after rolling roofing membrane into adhesive with soft bristle push broom to achieve maximum contact.
   2) Fold back unbonded half of sheet lengthwise and repeat bonding procedures.
f. Position adjoining sheets to allow minimum overlap of 2 inches (50 mm).
g. Hot air weld roofing membrane sheets using Automatic Hot Air Welding Machine or Hot Air Hand Welder as recommended by Manufacturer's hot air welding procedures.
h. Pull roofing membrane back along welded splice so entire underside of roofing membrane is exposed once Hot Air Weld has been completed.
i. Apply Bonding Adhesive to exposed underside of roofing membrane sheet and substrate.
j. Allow adhesive to dry until tacky and roll roofing membrane into substrate and brush down bonded section with bristle broom following procedure noted above.
k. Continue to install adjoining roofing membrane sheets in same manner, overlapping edges minimum of 2 inches (50 mm) and complete bonding previous procedures.

4. Seams:
   a. Clean seam areas, overlap roofing membrane and hot-air weld side and end laps of roofing membrane and sheet flashings according to Manufacturer's written instructions to ensure watertight seam installation.
5. Splicing / hot air welding procedures:
   a. Hot air weld roofing membrane using an Automatic Hot Air Welding Machine or Hot Air Hand Welder as recommended by Manufacturer. At splice intersections, roll seam with a silicone roller prior to roofing membrane seam cooling.
      1) Test lap edges with probe to verify seam weld continuity once hot air welds have thoroughly cooled (approximately 30 minutes). Apply lap sealant to seal cut edges of sheet roofing membrane.
      2) Verify field strength of seams minimum of twice daily and repair seam sample areas.
      3) Repair seam deficiencies same day they are discovered.
      4) Repair tears and voids in roofing that does not comply with requirements.
   b. Apply Cut Edge Sealant on cut edges of roofing membrane (where scrim reinforcement is exposed) after seam probing is complete.
6. Spread sealant bed over deck drain flange at roof drain and securely seal membrane roofing in place with clamping ring.

G. Flashing:
1. Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system Manufacturer's written instructions.
2. Flashing of parapets, curbs, expansion joints and other parts of roof must be performed using reinforced membrane. Non-reinforced membrane can be used for flashing pipe penetrations, Sealant Pockets, scuppers, as well as inside and outside corners when use of pre-fabricated accessories is not feasible.
3. Follow Manufacturer's typical flashing procedures for wall, curb, and penetration flashing including metal edging/coping and roof drain applications.
4. Apply bonding adhesive to substrate and underside of sheet flashing at required rate and allow to partially dry. Do not apply to seam area of flashing.
5. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
6. Clean seam areas, overlap, and firmly roll sheet flashings into the adhesive. Hot-air weld side and end laps to ensure a watertight seam installation.
7. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.
8. Metal Edge Flashing:

a. Install as per requirements of ANSI/SPRI ES-1, 'Wind Design Standard for Edge Systems Used with Low Slope Roofing Systems'.

H. Daily seal:
1. On phased roofing, when completion of flashings and terminations is not achieved by end of work day, daily seal must be performed to temporarily close roofing membrane to prevent water infiltration.
2. Complete acceptable roofing membrane seal in accordance with Manufacturer's requirements.

3.5 FIELD QUALITY CONTROL

A. Field Inspections:
1. Before Manufacturer's inspection for warranty, Installer must perform pre-inspection to review work and to verify flashing has been completed as well as application of caulking.
2. Final Roof Inspection:
a. Arrange for Roofing Membrane Manufacturer's technical personnel to inspect roofing installation on completion.
3. Upon completion of roof inspection, provide certification that installation has been performed in accordance with Contract Document and Roofing Manufacturer requirements.

B. Non-Conforming Work:
1. Correct all work not in compliance to Contract Documents at no additional cost to Owner.
a. Repair or remove and replace components of membrane roofing system where inspections indicate that they do not comply with specified requirements.
b. Replace contaminated membrane.
2. Additional inspections will be performed to determine compliance of replaced or additional work with specified requirements at no additional cost to Owner.
3. Repair landscaped areas damaged by construction activities at no additional cost to Owner.

3.6 CLEANING

A. Waste Management:
1. Perform daily clean-up to collect wrappings, empty containers, paper, and other debris from project site.
2. Upon completion, roofing waste materials must be disposed from site to dumping area legally authorized to receive such materials.
3. Complete site cleanup, including both interior and exterior building areas that have been affected by construction, to Owner's satisfaction.

3.7 PROTECTION

A. General Contractor Responsibility:
1. Protection of roofing membrane from damage and wear from other trades from damage after completion of roof membrane.
2. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by Manufacturer of affected construction.

END OF SECTION

ATTACHMENTS

The Following information is for the Roof System Manufacturer / Roof Installer as required information to be included in the Roof Warranty.

PROJECT DESIGN INFORMATION

PROJECT INFORMATION GIVEN TO ROOFING MANUFACTURER

Project Name:	_Rocky Mountain House_____
Project Site Address:	_6211 – 60 Street, Rocky Mountain House, Alberta___
Project Number:	_515-5037-1904-0101___
Roof Deck (Wood, Concrete, Steel)	_5/8" plywood___

ROOFING MANUFACTURER CONTACT INFORMATION

Carlisle SynTec

Primary Contact:	Greg Petschke Strategic Account Manager Cell (717) 215-2681, Office (717) 245-7000 Greg.Petschke@CarlisleSynTec.com

Firestone

Primary Contact:	Curt Friedholdt Account Manager North-West Region Office (317) 918-5772 FriedholdtCurt@firestonebp.com

PROJECT INFORMATION for ROOF WARRANTY

Architect to provide following information to Roof Installer after BID to be included in 'Roof Installer Workmanship Warranty' and 'Manufacturer System Warranty' as part of the Closeout Submittal.

Name of Owner (FM Group):	__Edmonton AB East Facilities Management Group____
Mailing Address (FM Office Address)	__3002 47 Avenue, Red Deer, AB, T4N 3P1___
Property ID (Property No.)	__515-5037___
Site Address (Project Site Address)	__6211 – 60 Street, Rocky Mountain House, AB __

Roof Completion Date (Substantial Completion date available after BID to be included in Roof Warranty)

SECTION 07 6210

GALVANIZED STEEL FLASHING AND TRIM

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Furnish and install miscellaneous flashing, reglet, step, cap, counterflashing, and hold-down clips as described in Contract Documents and not specified to be of other material.

B. Products Furnished But Not Installed Under This Section:
   1. miscellaneous sheet metal specialties not specified to be of other materials.

C. Related Requirements:
   1. Sections under 07 3000 heading: 'Steep Slope Roofing' for installation of miscellaneous roofing related flashing.
   2. Sections under 07 5000 heading: 'Membrane Roofing' for installation of miscellaneous roofing related flashing.
   3. Section 07 9213: 'Elastomeric Joint Sealant'.

1.2 REFERENCES

A. Reference Standards:
   1. ASTM International:
      a. ASTM A653/A653M-15, ‘Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process'.
      b. ASTM A792/A792M-10(2015), ‘Standard Specification for Steel Sheet, 55 % Aluminum-Zinc Alloy-Coated by the Hot-Dip Process'.
   2. Federal Specifications:
      a. TT-S-00230C(2) Sealing Compound, Elastomeric Type, Single Component, (For Caulking, Sealing, and Glazing in Buildings and Other Structures).

PART 2 - PRODUCTS

2.1 SYSTEM

A. Manufacturers:
   1. Type Two Acceptable Manufacturers Of Metal:
      a. CMG – Coated Metals Group, Denver, CO www.cmgmetals.com.
      b. Drexel Metals, LLC, Ivyland, PA www.drexmet.com.
      c. Fabral, Lancaster, PA www.fabral.com.
      d. Firestone Metal Producdts, Anoka, MN www.unaclad.com.
      e. MBCI, Houston, TX www.mbci.com.
      f. Metal Sales Manufacturing Corp, Sellersburg, IN www.mtlsales.com.
      g. O’Neal Flat Rolled Metals (member of O'Neal Industries), Brighton, CO www.ofrmetals.com.
      h. Petersen Aluminum Corp, Elk Grove, IL www.pac-clad.com.
      i. Ryerson, Chicago, IL www.ryerson.com.
      j. Cascadia Metals Ltd.
      k. Equal as approved by Architect before installation. See Section 01 6200.

B. Materials:
   1. Sheet Metal:

a. Galvanized iron or steel meeting requirements of ASTM A653/A653M, G 90 or Galvalume steel meeting requirements of ASTM A792/A792M AZ50, 50 ksi.
   1) 22 ga (0.792 mm) for hold-down clips.
   2) 24 ga (0.635 mm) for all other.

C. Fabrication:
   1. Form accurately to details.
   2. Profiles, bends, and intersections shall be even and true to line.
   3. Fold exposed edges 1/2 inch (12.7 mm) to provide stiffness.

D. Finish:
   1. Exposed to view:
      a. Provide face coating of polyvinyledene Fluoride (PVF_2) Resin-base finish (Kynar 500 or Hylar 5000) containing seventy (70) percent minimum PVF_2 in resin portion of formula. Thermo-cured two coat system consisting of corrosion inhibiting epoxy primer and top coat factory applied over properly pre-treated metal.
      b. Reverse side coating shall be thermo-cured system consisting of corrosion inhibiting epoxy primer applied over properly pre-treated metal.
   2. Reglet and Step Flashing color to match Cascadia Metals “Weathered Copper” – see schedule A-1.
   3. Cap Flashing color to match Cascadia Metals “Regal White” – see schedule A-1.

2.2 ACCESSORIES

A. Sealants: Rubber base type conforming to Fed Spec TT-S-00230C.

B. Fasteners:
   1. Of strength and type consistent with function.
   2. Nails: Hot-dipped galvanized.
   3. Screws, Bolts, And Accessory Fasteners: Galvanized or other acceptable corrosion resistant treatment.
   4. Colour matched to flashing.

C. Step Flashing:
   1. Step flashing required for roof to wall flashing.
      a. 24 ga (0.635 mm) galvanized iron or steel meeting requirements for sheet metal specified in materials above.
      b. Size: 5 inch (125 mm) x 5 inch (125 mm) by 8 inch (200 mm) or 12 inches (300 mm) length.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install with small, watertight seams.

B. Slope to provide positive drainage.

C. Provide sufficient hold down clips to insure true alignment and security against wind.

D. Provide 4 inch (100 mm) minimum overlap.

E. Allow sufficient tolerance for expansion and contraction.

F. Insulate work to prevent electrolytic action.

3.2 CLEANING

A. Leave metals clean and free of defects, stains, and damaged finish.

END OF SECTION

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SECTION 07 6310

STEEP SLOPE ROOF FLASHING: Asphalt Shingles

PART 1 - GENERAL

1.1 SUMMARY

A. Products Furnished But Not Installed Under This Section:
   1. Roof flashing including:
      a. Formed Valley Metal.
      b. Roof jacks.
      c. Miscellaneous flashing, Rake, Drip flashing.

B. Related Requirements:
   1. Section 07 3113: 'Asphalt Shingles' for installation.
   2. Section 07 9213: 'Elastomeric Joint Sealants' for quality of sealants.

1.2 REFERENCES

A. Reference Standards:
   1. ASTM International:
      a. ASTM A653/A653M-15, ‘Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process'.
      b. ASTM A792/A792M-10(2015), ‘Standard Specification for Steel Sheet, 55 % Aluminum-Zinc Alloy-Coated by the Hot-Dip Process'.
   2. ASTM International: (specifically referenced for pipe flashing only):
      a. ASTM B117-16, 'Standard Practice for Operating Salt Spray (Fog) Apparatus'.
      b. ASTM E283-04(2012), ‘Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen’.
      c. ASTM E330/E330M-14, ‘Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference’.
      d. ASTM E331-00(2016), ‘Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference’.
      e. ASTM E2140-01(2017), ‘Standard Practice for Water Penetration of Metal Roof Panel Systems by Static Water Pressure Head’.

1.3 SUBMITTALS

A. Informational Submittals:
   1. Tests And Evaluation Reports:
      a. Manufacturer's test reports:

1.4 WARRANTY

A. Pipe Flashing:
   1. Manufacturer's warranty against defects in materials and workmanship when correctly installed in appropriate application for life of original roofing material from installation or replacement or fifty (50) years whichever is greater.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Manufacturers:
   1. Type Two Acceptable Manufacturers:
      a. CMG – Coated Metals Group, Denver, CO www.cmgmetals.com.
      b. Drexel Metals, LLC, Ivyland, PA www.drexmet.com.
      c. Fabral, Lancaster, PA www.fabral.com.
      d. Firestone Metal Products, Anoka, MN www.unaclad.com.
      e. MBCI, Houston, TX www.mbci.com.
      f. Metal Sales Manufacturing Corp, Sellersburg, IN www.mtlsales.com.
      g. O'Neal Flat Rolled Metals (member of O'Neal Industries), Brighton, CO www.ofrmetals.com.
      h. Petersen Aluminum Corp, Elk Grove, IL www.pac-clad.com.
      i. Ryerson, Chicago, IL www.ryerson.com.
      j. Cascadia Metals Ltd.
      k. Equal as approved by Architect before installation. See Section 01 6200.

B. Formed Valley Metal, Rake And Drip Edge:
   1. Metal:
      a. Steel: Minimum 24 ga (0.635 mm), hot-dipped galvanized to meet requirements of ASTM A653/A653M, 1.25 oz/sq ft. or galvalume meeting requirements of ASTM A792/A792M AZ50, 50 ksi.

C. Fabrication:
   1. Valley-ribbed flashing:
      a. Form accurately to details. Provide formed valley metal in 10 foot (3 meter) lengths with one inch (25 mm) 'V' crimp and break in center to match roof slopes.
   2. Profiles, bends, and intersections shall be even and true to line.
   3. See detail 2/A-2.

D. Finishes:
   1. Face coating polyvinyledene Fluoride (PVF_2) Resin-base finish (Kynar 500 or Hylar 5000) for coil coating components containing seventy (70) percent minimum PVF_2 in resin portion of formula. Thermo-cured two coat system consisting of corrosion inhibiting epoxy primer and top coat factory applied over properly pre-treated metal.
   2. Reverse side coating of steel flashings to be thermo-cured system consisting of corrosion inhibiting epoxy primer applied over properly pre-treated metal.
   3. Rake and Drip edge flashing color to match Cascadia Metals "Regal White" – see schedule A-1.
   4. Valley flashing colour to match Cascadia Metals "Weathered Copper" – see schedule A-1.

2.2 ACCESSORIES

A. Pipe Flashing For Plumbing Vent Lines, and HVAC Air Piping: See detail 1/A-2.
   1. Description:
      a. Ultra-pure high consistency molded one hundred (100) percent silicone rubber pipe boot that prevents cracking and splitting for life of roof.
   2. Design Criteria:
      a. Meet following Tests:
         1) ASTM B117 (Salt Spray Test).
         2) ASTM E283 (Air Leakage).
         3) ASTM E 330 (Uniform Structural Load).
         4) ASTM E331 (Water Penetration).
         5) ASTM E2140 (Water).
      b. Material warranty of product for life of roof.
   3. 24 ga (0.635 mm) coated galvanized steel plate.

4. Minimum 4 inch (100 mm) flashing on each side, 6 inch (150 mm) flashing at top, 3 inch (76 mm) flashing at bottom with nailing slots.
5. UV stable solid molded PVC compression collar.
6. Use Ultimate Pipe Flashing for PVC, ABS and IP.
7. Sizes: 1-1/4 inch (32 mm), 1-1/2 inch (38 mm), 2 inch (50 mm), 3 inch (76 mm), and 4 inch (100 mm).
8. Slope: Flat to 18/12 pitch.
9. Flashing Finish: Face coating polyvinyledene Fluoride (PVF_2) Resin-base finish (Kynar 500) for coil coating components containing seventy (70) percent minimum PVF_2 in resin portion of formula. Thermo-cured two coat system consisting of corrosion inhibiting epoxy primer and top coat factory applied over properly pre-treated metal.
10. Color: Brown (no other color available).
11. Category Four Approved System Manufacturers. See Section 01 6200 for definitions of Categories:
    a. Ultimate Pipe Flashing by Lifetime Tool & Building Products LLC, Winchester, VA www.lifetimetool.com (877) 904-1002.
    b. Or approved equal.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Interface With Other Work:
   1. Coordinate with pipe installers for proper size of roof jacks and pipe flashing.

B. Pipe Flashing:
   1. Follow Manufacturer's installation instructions.

END OF SECTION

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SECTION 07 6312

PERFORATED METAL SOFFIT

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Remove and reinstall existing perforated metal soffit system as described in Contract Documents.
   2. Specification is provided as a quality standard.

1.2 REFERENCES

A. Association Publications:
   1. American Architectural Manufacturers Association:
      a. AAMA 1402-09, ‘Standard Specification for Aluminum Siding Soffit and Fascia'.

B. Reference Standards:
   1. ASTM International:
      a. ASTM A653/A653M-15, ‘Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process'.
      b. ASTM A792/A792M-10(2015), ‘Standard Specification for Steel Sheet, 55 % Aluminum-Zinc Alloy-Coated by the Hot-Dip Process'.
      c. ASTM E84-16, ‘Standard Test Method for Surface Burning Characteristics of Building Materials’.

1.3 QUALITY ASSURANCE

A. Qualifications:
   1. Installer:
      a. Minimum three (3) years experience with installations of comparable quality, scope, similar size, and complexity before bidding.

PART 2 - PRODUCTS

2.1 SYSTEMS

A. Manufacturers
   1. Type One Acceptable Manufacturers:
      a. Alcoa Architectural Products, Eastman, GA www.alcoaarchitecturalproducts.com.
      b. Alside Inc, Cuyahoga Falls, OH www.alside.com.
      c. ATAS Aluminum Products, Allentown, PA www.atas.com.
      d. Gentek Building Products, Akron, OH and Burlington, ON www.gentekinc.com.
      e. Kaycan Ltd, Montreal, QB www.kaycan.com.
      f. Norandex/Reynolds, Macedonia, OH www.norandexreynolds.com.
      g. O’Neal Flat Rolled Metals (member of O'Neal Industries), Brighton, CO www.ofrmetals.com.
      h. Petersen Aluminum Corp, Elk Grove, IL www.pac-clad.com.
      i. System 3-12L by Rollex, Elk Grove Village, IL www.rollex.com.
      j. Equal as approved by Architect before bidding. See Section 01 6200.

B. Performance Requirements:

1. Capacities: Installed soffit system shall meet minimum required structural loading conditions when tested in accordance with Test Method No. 4 of AAMA Specification 1402-86.

C. Materials:
1. 0.019 inch (0.48 mm) thick minimum.
2. 'V' groove design complete with matching trim.
3. Panels shall be interlocked full length of panel.
4. Panel widths shall be Manufacturer's standard.
5. Perforations to conform to CMHC requirements having 3.375 sq inches (2.17 cm^2) of ventilation per square foot (square meter) of soffit area.

D. Finish:
1. Face finish shall meet performance requirements of Test Method No. 6 of AAMA Specification 1402-86. Reverse side coating shall pass requirements of paragraphs 1.1 through 1.4 of Test Method No. 6.
2. Double baked enamel to meet or exceed specifications of CAN / CGSB-93.1 and CAN / CGSB-93.2 with protective coating on back side.
3. White.

2.2 ASSESSORIES

A. Fastening Devices:
1. Non-corrosive screws of length and type recommended by Soffit Manufacturer.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Conceal fasteners where possible. Paint heads of exposed fasteners to match background.

B. Isolate from dissimilar metals to prevent electrolytic action.

3.2 FIELD QUALITY CONTROL

A. Non-Conforming Work: Non-conforming work as covered in the General Conditions applies, but is not limited to the following:
1. Correct any work found defective or not complying with contract document requirements including buckling or bowing due to improper installation and touch up of minor scratches and spots at no additional cost to the Owner.

3.3 CLEANING

A. General:
1. Clean exposed panel surfaces promptly after installation in accordance with manufacturer's instructions.

B. Waste Management:
1. Dispose of waste in provided waste receptacles (dumpsters) as specified in Section 01 7400.

END OF SECTION

SECTION 07 6322

STEEL FASCIA

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Furnish and install section of new metal fascia as described in Contract Documents.
   2. Intent is to match existing colour and profile on site.

1.2 REFERENCES

A. Reference Standards:
   1. ASTM International:
      a. ASTM A653/A653M-15, ‘Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process'.
      b. ASTM A792/A792M-10(2015), ‘Standard Specification for Steel Sheet, 55 % Aluminum-Zinc Alloy-Coated by the Hot-Dip Process'.
      c. ASTM E84-16, ‘Standard Test Method for Surface Burning Characteristics of Building Materials’.

1.3 SUBMITTALS

A. Action Submittals:
   1. Product Data:
      a. Manufacturer's literature or cut sheet for products furnished.

B. Closeout Submittals:
   1. Include following in Operations And Maintenance Manual specified in Section 01 7800:
      a. Warranty Documentation:
         1) Final, executed copy of Warranty.

1.4 QUALITY ASSURANCE

A. Regulatory Agency Sustainability Approvals:
   1. Fire Characteristics Performance Requirement:
      a. Meet requirements of ASTM E84 Class A fire rating.

B. Qualifications:
   1. Installer:
      a. Minimum three (3) years experience with installations of comparable quality, scope, similar size, and complexity before bidding.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Delivery And Acceptance Requirements:
   1. Materials shall be delivered in original, unopened packages with labels intact.
   2. Inspect delivered material for damage.

B. Storage And Handling Requirements:

1. Stack panels on pallets or above ground, covered with weathertight and ventilated covering. Prevent condensation build-up or moisture entrapment in materials.
2. Store panels not in contact with other materials that might cause staining, denting or other surface damage.

1.6 WARRANTY

A. Manufacturer Warranty:
   1. Manufacturer's standard warranty against manufacturer defects.
   2. Manufacturer's written thirty five (35) year warranty on paint finish against cracking, peeling, blistering, chalk, and color change.

PART 2 - PRODUCTS

2.1 ASSEMBLIES

A. Manufacturers:
   1. Type One Acceptable Manufacturers Of Metal:
      a. AEP / Span, Dallas, TX www.aep-span.com.
      b. ATAS Aluminum Products, Allentown, PA www.atas.com.
      c. CMG – Coated Metals Group, Denver, CO www.cmgmetals.com.
      d. Drexel Metals, LLC, Ivyland, PA www.drexmet.com.
      e. Fabral, Lancaster, PA www.fabral.com.
      f. Firestone Metal Products, Anoka, MN www.unaclad.com.
      g. Hunter-Douglas Canada Ltd, Brampton, ON www.hunterdouglasgroup.com.
      h. Kaycan Ltd, Montreal, PQ (514) 334-7550 www.kaycan.com.
      i. MBCI, Houston, TX www.mbci.com.
      j. Metal Sales Manufacturing Corp, Sellersburg, IN www.mtlsales.com.
      k. O'Neal Flat Rolled Metals (member of O'Neal Industries), Brighton, CO www.ofrmetals.com.
      l. Petersen Aluminum Corp, Elk Grove, IL www.pac-clad.com
      m. Ryerson, Chicago, IL www.ryerson.com.
      n. VicWest, Oakville, ON www.vicwest.ca
      o. Cascadia Metals Ltd.
      p. Equal as approved by Architect before bidding. See Section 01 6200.

B. Materials: Minimum 24 ga (0.635 mm), hot-dipped galvanized to meet requirements of ASTM A653/A653M, 1.25 oz/sq ft or galvalume meeting requirements of ASTM A792/A792M AZ50, 50 ksi and complete with accessories recommended by Manufacturer for proper installation.

C. Fabrication: Fascia may either be shop-fabricated using metal from a specified manufacturer, or a factory-fabricated standard system from a specified manufacturer.

D. Finishes:
   1. Face coating polyvinyledene Fluoride (PVF_2) Resin-base finish (Kynar 500 or Hylar 5000) for coil coating components containing 70 percent minimum PVF_2 in resin portion of formula. Thermo-cured two coat system consisting of corrosion inhibiting epoxy primer and top coat factory applied over properly pre-treated metal.
   2. Reverse side coating thermo-cured system consisting of corrosion inhibiting epoxy primer applied over properly pre-treated metal.
   3. White to match existing – see schedule A-1.

2.2 ACCESSORIES

A. Fastening Devices: Galvanized steel screws.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification Of Conditions:
   1. Examine substrate and verify framing is suitable for installation of fascia.
   2. Notify Architect of unsuitable conditions in writing.
      a. Do not install fascia over unsuitable conditions.
      b. Commencement of Work by installer is considered acceptance of substrate.

3.2 INSTALLATION

A. Conceal fasteners except where details might require a minimum number to be exposed. Paint heads of exposed fasteners to match background.

B. Install with slip joints at each end. Screw to substrate through pre-drilled, over-size holes.

C. Isolate from dissimilar metals not part of fascia system to prevent electrolytic action.

3.3 FIELD QUALITY CONTROL

A. Non-Conforming Work: Non-conforming work as covered in the General Conditions applies, but is not limited to the following:
   1. Correct any work found defective or not complying with contract document requirements including buckling or bowing due to improper installation and touch up of minor scratches and spots at no additional cost to the Owner.

3.4 CLEANING

A. General:
   1. Clean exposed panel surfaces promptly after installation in accordance with manufacturer's instructions.

B. Waste Management:
   1. Dispose of waste in provided waste receptacles (dumpsters) as specified in Section 01 7400.

END OF SECTION

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SECTION 07 7123

MANUFACTURED GUTTERS AND DOWNSPOUTS

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Furnish and install gutters and downspouts as described in Contract Documents.
   2. See notation in Drawings for sizes.

B. Related Requirements:
   1. Section 07 9213: 'Elastomeric Joint Sealant', for quality of sealants for joints.

1.2 REFERENCES

A. Reference Standard:
   1. Sheet Metal & Air Conditioning Contractors National Association Inc:
      a. SMACNA Architectural Sheet Metal Manual, (7th edition 2012).

1.3 SUBMITTALS

A. Action Submittals:
   1. Shop Drawings: Show gutter cross-section, mounting method, gauge of metal, expansion joint design and locations, and downspout locations minimum.

PART 2 - PRODUCTS

2.1 ASSEMBLIES

A. Manufacturers:
   1. Type Two Acceptable Manufacturers of Metal:
      a. ATAS Aluminum Products, Allentown, PA www.atas.com.
      b. CMG – Coated Metals Group, Denver, CO www.cmgmetals.com.
      c. Fabral, Jackson, GA www.fabral.com.
      d. Firestone Metal Products, Anoka, MN www.unaclad.com.
      e. MBCI, Houston, TX www.mbci.com.
      f. Metal Sales Manufacturing Corp, Sellersburg, IN www.mtlsales.com.
      g. O'Neal Flat Rolled Metals (member of O'Neal Industries), Brighton, CO www.ofrmetals.com.
      h. Petersen Aluminum Corp, Elk Grove, IL www.pac-clad.com.
      i. Reynolds Metals Company, Richmond, VA www.rmc.com.
      j. Ryerson, Chicago, IL www.ryerson.com.
      k. Cascadia Metals Ltd.
      l. Equal as approved by Architect before installation. See Section 01 6200.

B. Materials
   1. Steel:
      a. Downspouts: Square 3" x 3" (see Drawings), 26 ga (0.0217 inches - 0.5512 mm) galvanized steel including necessary elbows.
      b. Gutters: 24 ga (0.0276 inches - 0.7010 mm) galvanized steel.
      c. Brackets: 22 ga (0.0336 inches - 0.8534 mm) galvanized steel or 26 ga (0.0217 inches - 0.478 mm) double-hemmed minimum.

2. Screws, Bolts, Nails, And Accessory Fasteners: Non-corrosive and of strength and type consistent with function.
3. Downspouts, gutters, brackets, fasteners, and accessories shall be compatible material.

C. Fabrication:
1. Fabricate in accordance with SMACNA Architectural Manual recommendations, where applicable.
2. Cross-sectional configuration of gutter shall be 3” x 5” (match existing).
3. Form accurately to details. Profiles, bends, and intersections shall be even and true to line.

D. Finishes:
1. Metal exposed to view shall have face coating of polyvinyledene Fluoride (PVF_2) Resin-base finish (Kynar 500 or Hylar 5000) containing seventy (70) percent minimum PVF_2 in resin portion of formula.
a. Thermo-cured two (2) coat system consisting of corrosion inhibiting epoxy primer and top coat factory applied over properly pre-treated metal.
b. Reverse side coating shall be thermo-cured system consisting of corrosion inhibiting epoxy primer applied over properly pre-treated metal.
2. White to match existing – see schedule A-1.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protection Of In-Place Conditions:
1. Before starting work, verify governing dimensions at building. Inspect for conditions that would prevent installation of specified system. Do not install over improper conditions.
2. Insulate work from fascia as necessary to prevent electrolytic action.

3.2 INSTALLATION

A. Generally, allow no more than 40 feet (12 meters) between downspouts. Lap joints in downspouts 1-1/2 inches (38 mm) minimum in direction of water flow.

B. Furnish and install outlet tubes and gutter ends where required. Furnish and install expansion joints in runs exceeding 50 feet (15 meters) and in runs that are restrained at both ends. Lap other joints in gutter one inch (25 mm) minimum, apply sealant in lap, and stainless steel rivet one inch (25 mm) on center maximum.

3.3 FIELD QUALITY CONTROL

A. Field Tests:
1. At completion of this work, block downspouts and flood gutters.
2. Repair leaks and adjust for proper drainage.

3.4 CLEANING

A. Leave metals clean and free of defects, stains, and damaged finish.

END OF SECTION

SECTION 07 7226

RIDGE VENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Furnish ridge vent system and installed under other Sections as described in Contract Documents.
   2. Coordinate with new ridge area vent drill outs to increase attic ventilation performance as noted in Contract Drawings.

B. Related Requirements:
   1. Section 07 3113: 'Asphalt Shingles' for ridge vent installed over Asphalt Shingle roofing.
   2. Section 07 9213: ‘Elastomeric Joint Sealants’.

1.2 REFERENCES

A. Definitions:
   1. Net Free Area (NFA): Total unobstructed area (adjusted for insect screen, louvers and weather coverings) through which air can pass through a vent; generally measured in square inches. All non-powered vents have a Net Free Area rating.

B. Reference Standards:
   1. ASTM International:
      a. ASTM A653/A653M-15, ‘Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process'.
      b. ASTM A792/A792M-10(2015), ‘Standard Specification for Steel Sheet, 55 % Aluminum-Zinc Alloy-Coated by the Hot-Dip Process'.
      c. ASTM C920-14, ‘Standard Specification for Elastomeric Joint Sealants’.

      d. Chapter 12, 'Interior Environment':
         1) Section 1203, 'Ventilation':
            a) 1203.2, ‘Attic Spaces’.

1.3 ADMINISTRATIVE REQUIREMENTS

A. Pre-Installation Conference:
   1. Participate in pre-installation conference held jointly with Section 07 3113.
   2. In addition to agenda items specified in Section 01 3100, review following:
      a. Review if Project is in high wind area.
      b. Review Ridge Vent Manufacturers ventilation cutout requirements on roof deck and location of ventilation cutouts shown on Contract Documents.

B. Sequencing:
   1. Coordinate installation with roof membrane.
   2. Installation of ridge vent system.

1.4 SUBMITTALS

A. Informational Submittals:
   1. Manufacturer Instructions:

a. Design details.
b. Published ridge vent installation instructions.
c. Storage and handling requirements.

B. Informational Submittals:
1. Certificates:
a. Manufacturer's Certificates of compliance showing products meet or exceed specified requirements.
2. Tests And Evaluation Reports:
a. Manufacturer's test reports.
b. Wind speed coverage for warranted wind speed.
3. Special Procedure Submittals:
a. Contact Owner’s Representative (FM Group or Project Manager) for following information:
1) Installer to include following mandatory information for Warranty Information to be given to Ridge Vent Manufacturer to be added to Manufacturer Warranty included with Closing Submittals:
a) Name of Owner (name of FM Group) Edmonton East Facilities Management Group
b) Mailing Address (FM office address) 3002 47 Avenue, Red Deer, AB, T4N 3P1
c) Building Property ID (unique 7 digit identifier) 515-5037
d) Project site address: 6211 – 60 Street, Rocky Mountain House, AB
e) Installation of Ridge Vent (or Roof Completion) Date _____
f) Any addition data required from Ridge Vent Manufacturer.

C. Closeout Submittals:
1. Include following in Operations And Maintenance Manual specified in Section 01 7800:
a. Warranty Documentation:
1) Final, executed copy of Warranty including Installer project information.

1.5 QUALITY ASSURANCE

A. Regulatory Agency Sustainability Approvals:
1. Wind Speed:
a. As required to meet local codes having jurisdiction.

B. Qualifications:
1. Manufacturer:
a. Company specializing in manufacturing products specified with this section with at least five (5) years experience and no known failures of specified product manufactured.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Delivery And Acceptance Requirements:
1. Deliver products job site in original unopened containers or wrappings.
2. Deliver materials in sufficient quantities to allow continuity of work.

B. Storage And Handling Requirements:
1. Storage Requirements:
a. Follow Manufacturer’s instructions and precautions for storage of materials.
b. Protect materials from physical damage in a clean, dry, well vented, and protected location.
2. Handling Requirements:
a. Handle material so as to prevent damage.

1.7 WARRANTY

A. Manufacturer Warranty:

1. General:
   a. Ridge vent system will provide calculated net free area (NFA) stated design.
   b. Warranty starts at completion of installation.
   c. Warranty covers replacement cost excluding labor and any costs involved with repairing or replacing other roofing or building materials.
2. Manufacturer's thirty (30) year warranty covering:
   a. Kynar 500 paint and finish warranty covering color fade, chalk, and film integrity for ridge vent system.
3. Manufacturer's twenty (20) year warranty covering:
   a. Ridge vent system to be free from defects that will affect its performance.
   b. Ridge vent system will withstand winds up to 120 mph (193 kph) average wind speed.
   c. Ridge vent system will withstand snow load.

PART 2 - PRODUCTS

2.1 SYSTEM

A. Manufacturers:
   1. Category One VMR Products And Manufacturers. See Section 01 6200 for definitions of Categories:
      a. Metal-Era Airflow Solutions, Waukesha, WI www.metalera.com.
         1) Contact Information: Alissa Kuether-Bonlender (800) 558-2162 thechurch@metalera.com.
      b. Western Metal Products, LC, Woods Cross, UT www.westernmetalproducts.com.
         1) Contact Information: James Rohletter, phone (888) 298-3454, email rvbid@westernmetalproducts.com.

B. Materials:
   1. Description / Design Criteria:
      a. Ridge Vent:
         1) Basis of Design:
            a) Basis of Design Approved Product:
               (1) LDS HI-PERF High Velocity Ridge Vent by Metal-Era.
            b) Basis of Design Approved Equivalent Product:
               (1) Ridge Vent by Western Metal.
         2) Design Criteria:
            a) Not approved on roof mean heights greater than 33 feet (10 m).
            b) Weather-proof and bug-proof ventilation system.
            c) Withstand winds up to 120 mph (193 kph) average wind speed.
            d) Provide net free area (NFA) requirements as determined by vented roof deck system and eave condition as indicated on Contract Drawings.
         3) Slope to Slope Version:
            a) Category Four Approved Products. See Section 01 6200 for definitions of Categories:
               (1) Model HPSS by Metal-Era.
               (2) Model: ASRP2 by Western Metal.
               (3) Coordinate Model # with differing roof slopes.
         4) Net free area (NFA):
            a) Net free area: 33 sq. in. (213 sq cm) per lineal foot (305 mm).
   2. Components:
      a. Category Four Approved Product:
         1) Basis of design for System Components for this Project is Metal-Era Ridge Vent.
         2) Basis of design approved equivalent system components for this Project is Western Metal.
      b. Ridge vent system comprising of following:
         1) Cover plate 8 inch (200 mm) wide at each joint over ridge vent cover.
         2) Continuous deflector with baffle.

3) Continuous Z bracket with intermittent spacer at 12 inch (305 mm) on center to supporting ridge cover.
4) End cap / cover plate.
5) Expanded metal support screen.
6) Fasteners.
7) Intermittent spacers at 12 inch (305 mm) on center directly under ridge vent cover.
8) Ridge vent cover in 12 feet (3.657 m) length.

c. Metal:
1) 24 ga (0.0276 in) (0.7010 mm) minimum hot-dipped galvanized to meet requirements of ASTM A653/A653M, 1.25 oz per sq ft (381.5 g per sq m) or galvalume meeting requirements of ASTM A792/A792M AZ50.

d. Expanded metal support screen:
1) 0.050 inch (1.27 mm) 3003-H14 formed aluminum with minimum of 48 percent open area.

e. Z brackets: 20 gauge (0.0396 in) (1.0058 mm) G90 galvanized steel.

f. Deflector: 24 ga (0.0276 in) (0.7010 mm) minimum.

C. Finishes:
1. Ridge vent and accessories:
a. Polyvinylidene Fluoride (PV_2) Resin-base finish (Kynar 500) for coil coating components containing seventy (70) percent minimum PVF_2 in resin portion of formula. Thermo-cured two coat system consisting of corrosion inhibiting epoxy primer and top coat factory applied over properly pre-treated metal.
b. Approved Color: to match to Cascadia Metals “Weathered Copper” - see schedule A-1. Provide sample of Dark and Medium Bronze for review.

2.2 ACCESSORIES

A. Ridge Vent System:
1. End Caps, Cover Plates, and other accessories necessary for proper installation.

B. Fasteners:
1. Ridge vent fastened to structure:
a. Category Four Approved Fasteners:
1) Basis of design: Metal-Era Ridge Vent.
2) Basis of design approved equivalent: Western Metal.
b. Fasteners shall be approved by Ridge Vent Manufacturer and provide minimum pull out resistance of 240 lbf (109 kg) into substrate when tested in accordance with TAS 105 test protocol:
1) Screws:
a) #9 1-1/2 inches (38 mm) stainless steel screws.
b) Provided by Manufacturer.
c. No nailing permitted.

C. Sealant:
1. Description:
a. Weathersealing expansion, contraction, perimeter, and other movement joint sealant.
2. Design Criteria:
a. As specified in Section 07 9213 ‘Elastomeric Joint Sealants’.
b. Meet following standards for Sealant:
1) ASTM C920: Type S Grade NS, Class 25 (min) Use O.
2) 100 percent silicone.
3. Category Four Approved Products. See Section 01 6200 for definitions of Categories:
a. Dow Corning: 790 Silicone Building Sealant.
b. Momentive Performance Materials (formerly, GE Sealants & Adhesives): GE SCS2350 Silicone Elastomeric Sealant.
c. Tremco: Tremsil 600 Silicone Sealant.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification Of Conditions:
   1. Verify Ridge Vent Manufacturers ventilation cutout requirements on roof deck and location of ventilation cutouts shown on Contract Documents to verify correct location for all cutouts.
      a. Make adjustments to ventilation cutouts if necessary before installation of ridge vent.
   2. Examine deck to determine if it is satisfactory for installation of ridge vent system.
      a. Conditions include, but are not limited to, moisture on deck and protruding deck fasteners.
      b. Verify substrate is dry, clean and free of foreign matter.
   3. Do not begin installation until substrates have been properly prepared.
   4. Coordinate Model # with differing roof slopes.

3.2 PREPARATION

A. Surface Preparation:
   1. Clean roof sheathing, including removal of dirt, shingle nails, and debris, before installation of ridge vent system.

3.3 INSTALLATION

A. Ridge Vent:
   1. Install in accordance with IBC Section 1503.2 'Flashing'.
   2. Install in accordance and as shown with Manufacturer's installation instructions for assembly of components and attachment to roof deck:
   3. Use provided fasteners consistent with manufacturer's instructions, suitable for substrate to which it is being installed.
   4. Attach to roof/wall structure with stainless steel screws provided by Manufacturer at spacing required by Manufacturer. All heads and vent section joints shall be sealed with silicone sealant.
   5. Remove protective film before applying sealant.
   6. Apply sealants as per Manufacturer's installation instructions.

3.4 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

3.5 CLEANING

A. General:
   1. Properly clean finished roof surface after completion.

B. Waste Management:
   1. Disposal:
      a. General:
         1) Remove debris resulting from work of this Section from roof and site. Dispose of or recycle all trash and excess material in manner conforming to current EPA regulations and local laws.

END OF SECTION

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SECTION 07 9213

ELASTOMERIC JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
1. Furnish and install sealants not specified to be furnished and installed under other Sections.
2. Quality of sealants to be used on Project not specified elsewhere, including submittal, material, and installation requirements.

B. Related Requirements:
1. Furnishing and installing of sealants is specified in Sections specifying work to receive new sealants.

1.2 REFERENCES

A. Definitions:
1. Sealant Types and Classifications:
a. ASTM Specifications:
1) Type:
a) Type S: Single-component sealant.
b) Type M: Multi-component sealant.
2) Grade:
a) Grade NS: Non-sag or gunnable sealant used for vertical and non-traffic joints.
3) Classes: Represent movement capability in percent of joint width.
a) Class 100/50: Sealant that, when tested for adhesion or cohesion under cyclic movement shall withstand of at least 100 percent increase and decrease of at least 50 percent of joint width as measured at time of application.
b) Class 50: Sealant that, when tested for adhesion or cohesion under cyclic movement shall withstand increase and decrease of at least 50 percent of joint width as measured at time of application.
c) Class 25: Sealant that, when tested for adhesion or cohesion under cyclic movement shall withstand increase and decrease of at least 25 percent of joint width as measured at time of application.
d) Class 12: Sealant that, when tested for adhesion and cohesion under cyclic movement shall withstand increase and decrease of at least 12 percent of joint width as measured at time of application.
4) Use:
a) NT (Non-Traffic): Sealant designed for use in joints in non-traffic areas.
b) I (Immersion): Sealant that meets bond requirements when tested by immersion (Immersion rated sealant applications require primer).
c) M (Mortar): Sealant that meets bond requirements when tested on mortar specimens.
d) G (Glass): Sealant that meets bond requirements when tested on glass specimens.
e) A (Aluminum): Sealant that meets bond requirements when tested on aluminum specimens.
f) O (Other): Sealant that meets bond requirements when tested on substrates other than standard substrates, being glass, aluminum, mortar.
2. Silicone: Any member of family of polymeric products whose molecular backbone is made up of alternating silicon and oxygen atoms and which has pendant hydrocarbon groups attached to silicon atoms. Used primarily as a sealant. Offers excellent resistance to water and large variations in temperature (minus 100 deg F to + 600 deg F) (minus 73.3 deg C to + 316 deg C).

B. Reference Standards:
   1. ASTM International:
      a. ASTM C920-14a, 'Standard Specification for Elastomeric Joint Sealants'.
      b. ASTM C1193-16, 'Standard Guide for Use of Joint Sealants'.
      c. ASTM C1330-02(2013), 'Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid Applied Sealants'.

1.3 ADMINISTRATIVE REQUIREMENTS

A. Scheduling:
   1. Schedule work so waterproofing, water repellents and preservative finishes are installed after sealants, unless sealant manufacturer approves otherwise in writing.
   2. Ensure sealants are cured before covering with other materials.

1.4 SUBMITTALS

A. Action Submittals:
   1. Product Data:
      a. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.
      b. Manufacturer's literature for each Product.
      c. Schedule showing joints requiring sealants. Show also backing and primer to be used.

B. Informational Submittals:
   1. Certificates:
      a. Manufacturer's Certificate:
         1) Certify products are suitable for intended use and products meet or exceed specified requirements.
         2) Certificate from Manufacturer indicating date of manufacture.
   2. Manufacturers' Instructions:
      a. Manufacturer's installation recommendations for each Product.
      b. Manufacturer's installation for completing sealant intersections when different materials are joined.

1.5 QUALITY ASSURANCE

A. Qualifications:
   1. Manufacturer: Company specializing in manufacturing products specified in this section with minimum ten (10) years documented experience.
   2. Applicator Qualifications:
      a. Company specializing in performing work of this section.
      b. Provide if requested, reference of projects with minimum three (3) years documented experience, minimum three (3) successfully completed projects of similar scope and complexity, and approved by manufacturer.
      c. Designate one (1) individual as project foreman who shall be on site at all times during installation.

B. Preconstruction Testing:
   1. Pre-construction testing is not required when sealant manufacturer can furnish data acceptable to Architect based on previous testing for materials matching those of the Work.

C. Mockups:
   1. Provide mockups including sealant and joint accessories to illustrate installation quality and color if requested by Architect or Project Manager.
      a. Incorporate accepted mockup as part of Work.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Delivery and Acceptance Requirements:
   1. Deliver and keep in original containers until ready for use.
   2. Inspect for damage or deteriorated materials.

B. Storage and Handling Requirements:
   1. Handle, store, and apply materials in compliance with applicable regulations and material safety data sheets (MSDS).
   2. Handle to prevent inclusion of foreign matter, damage by water, or breakage.
   3. Store in a cool dry location, but never under 40 deg F (4 deg C) or subjected to sustained temperatures exceeding 90 deg F (32 deg C) or as per Manufacturer's written recommendations.
   4. Do not use sealants that have exceeded shelf life of product.

1.7 FIELD CONDITIONS

A. Ambient Conditions:
   1. Do not install sealant during inclement weather or when such conditions are expected. Allow wet surfaces to dry.
   2. Follow Manufacturer’s temperature recommendations for installing sealants.

1.8 WARRANTY

A. Manufacturer Warranty:
   1. Signed warranties against adhesive and cohesive failure of sealant and against infiltration of water and air through sealed joint for period of three (3) years from date of Substantial Completion.
      a. Manufacturer's standard warranty covering sealant materials.
      b. Applicator’s standard warranty covering workmanship.

PART 2 - PRODUCTS

2.1 SYSTEMS

A. Manufacturers:
   1. Manufacturer Contact List:
      a. Dow Corning Corp., Midland, MI www.dowcorning.com.
      b. Franklin International, Inc. Columbus, OH www.titebond.com.
      c. GE Sealants & Adhesives (see Momentive Performance Materials Inc.).
      d. Laticrete International Inc., Bethany, CT www.laticrete.com.
      e. Momentive Performance Materials Inc. (formally GE Sealants & Adhesives), Huntersville, NC www.ge.com/silicones.
      f. Sherwin-Williams, Cleveland, OH www.sherwin-williams.com.
      g. Sika Corporation, Lyndhurst, NJ www.sikaconstruction.com or Sika Canada Inc, Pointe Claire, QC www.sika.ca.
      h. Tremco, Beachwood, OH www.tremcosealants.com or Tremco Ltd, Toronto, ON (800) 363-3213.

B. Materials:
   1. Design Criteria:
      a. Compliance: Meet or exceed requirements of these standards:
         1) ASTM C920: Elastomeric joint sealant performance standards.
      b. Comply with Manufacturer’s ambient condition requirements.
      c. Sealants must meet Manufacturer's shelf-life requirements.
      d. Sealants must adhere to and be compatible with specified substrates.

e. Sealants shall be stable when exposed to UV, joint movements, and environment prevailing at project location.
f. Primers (Concrete, stone, masonry, and other nonporous surfaces typically do not require a primer. Aluminum and other nonporous surfaces except glass require use of a primer. Installer Option to use Adhesion Test to determine if primer is required or use primer called out in related sections):
    1) Adhesion Test:
        a) Apply silicone sealant to small area and perform adhesion test to determine if primer is required to achieve adequate adhesion. If necessary, apply primer at rate and in accordance with Manufacturer's instructions. See 'Field Quality Control' in Part 3 of this specification for Adhesive Test.
    2) If Primer required, shall not stain and shall be compatible with substrates.
    3) Allow primer to dry before applying sealant.

2. Sealants At Exterior Building Elements:

a. Description:
    1) Weathersealing expansion, contraction, perimeter, and other movement joints which may include all or part of the following for project:
        a) Connections.
        b) Masonry.
        c) Wall penetrations.
        d) Other joints necessary to seal off building from outside air and moisture.
b. Design Criteria:
    1) Meet following standards for Sealant:
        a) ASTM C920: Type S, Grade NS, Class 50 Use NT, M, G, A.
    2) Limitations:
        a) Do not use below-grade applications.
        b) Do not use on surfaces that are continuously immersed or in contact with water.
        c) Do not use on wet, damp, frozen or contaminated surfaces.
        d) Do not use on building materials that bleed oils, plasticizers or solvents, green or partially vulcanized rubber gaskets or tapes.
    3) Color:
        a) Architect to select from Manufacturer's standard colors.
        b) Match building elements (do not use white that shows dirt easily).
c. Category Four Approved Products. See Section 01 6200 for definitions of Categories:
    1) Dow Corning:
        a) Primer: 1200 Prime Coat.
        b) Sealant: 791 Silicone Weatherproofing Sealant.
    2) Momentive Performance Materials (formerly, GE Sealants & Adhesives):
        a) Primer: SS4044 Primer.
        b) Sealant: GE SCS2000 SilPruf Silicone Sealant & Adhesive.
    3) Tremco:
        a) Primer:
            (1) Metal surface: No. 20 primer.
            (2) Porous surfaces: No. 23 primer.
        b) Sealant: Spectrum 1 Silicone Sealant.

3. Sealants At Exterior Sheet Metal And Miscellaneous:

a. Description:
    1) Weathersealing expansion, contraction, perimeter, and other movement joints which may include all or part of the following for project:
        a) Flashings.
        b) Gutters.
        c) Penetrations in soffits and fascias.
b. Design Criteria:
    1) Meet following standards for Sealant:
        a) ASTM C920: Type S Grade NS, Class 25 (min) Use NT, M, G, A and O.
    2) Limitations:
        a) Do not use below-grade applications.
        b) Do not use on surfaces that are continuously immersed or in contact with water.
        c) Do not use on wet, damp, frozen or contaminated surfaces.

d) Do not use on building materials that bleed oils, plasticizers or solvents, green or partially vulcanized rubber gaskets or tapes.

c. Category Four Approved Products. See Section 01 6200 for definitions of Categories:
1) Dow Corning: 790 Silicone Building Sealant.
2) Momentive Performance Materials (formerly, GE Sealants & Adhesives): GE SCS2350 Silicone Elastomeric Sealant.
3) Tremco: Tremsil 600 Silicone Sealant.

2.2 ACCESSORIES

A. Bond Breaker Tape:
1. Pressure sensitive tape as by Sealant Manufacturer to suit application.
2. Provide tape to prevent adhesion to joint fillers or joint surfaces at back of joint and allow sealant movement.

B. Joint Backing:
1. Comply with ASTM C1330.
2. Flexible closed cell, non-gassing polyurethane or polyolefin rod or bond breaker tape as recommended by Sealant Manufacturer for joints being sealed.
3. Oversized 25 to 50 percent larger than joint width.

C. Joint Cleaner:
1. Non-corrosive and non-staining type as recommended by Sealant Manufacturer, compatible with joint forming materials.

D. Masking Tape:
1. Non-staining, non-absorbent tape product compatible with joint sealants and adjacent joint surfaces.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification Of Conditions:
1. Examine substrate surfaces and joint openings are ready to receive Work.
a. Verify each sealant is compatible for use with joint substrates.
b. Verify joint surfaces are clean and dry.
c. Ensure concrete surfaces are fully cured.
2. Sealants provided shall meet Manufacturer's shelf-life requirements.
3. Notify Architect of unsuitable conditions in writing.
a. Do not proceed until unsatisfactory conditions are corrected.
4. Commencement of Work by installer is considered acceptance of substrate.

3.2 PREPARATION

A. Surface Preparation:
1. Surfaces shall be clean, dry, free of dust, oil, grease, dew, frost or incompatible sealers, paints or coatings that may interfere with adhesion. Prepare substrates in accordance with Manufacturer’s instructions:
a. Porous surfaces: Clean by mechanical methods to expose sound surface free of contamination and laitance followed by blasting with oil-free compressed air.
b. Nonporous surfaces: Use two-cloth solvent wipe in accordance with ASTM C1193. Allow solvent to evaporate prior to sealant application.
c. High-pressure water cleaning: Exercise care that water does not enter through failed joints.
d. Primers:

1) Primers enhance adhesion ability.
2) Use of primers is not a substitution for poor joint preparation.
3) Primers should be used always in horizontal application where there is ponding water.

2. Field test joints in inconspicuous location.
   a. Verify joint preparation and primer required to obtain optimum adhesion of sealants to joint substrate.
   b. When test indicates sealant adhesion failure, modify joint preparation primer, or both and retest until joint passes sealant adhesion test.
3. Masking: Apply masking tape as required to protect adjacent surfaces and to ensure straight bead line and facilitate cleaning.

B. Joints:
1. Prepare joints in accordance with ASTM C1193.
   a. Clean joint surfaces of contaminates capable of affecting sealant bond to joint surface using Manufacturer's recommended instructions for joint preparation methods.
   b. Remove dirt, dust, oils, wax, paints, and contamination capable of affecting primer and sealant bond.
   c. Clean concrete joint surfaces to remove curing agents and form release agents.

C. Protection:
1. Protect elements surrounding the Work of this section from damage or disfiguration.

3.3 APPLICATION

A. General:
1. Apply silicone sealant in accordance with Manufacturer's instructions.
2. Do not use damaged or deteriorated materials.
3. Install primer and sealants in accordance with ASTM C1193 and Manufacturer's instructions.
4. Apply primer where required for sealant adhesion.
5. Install sealants immediately after joint preparation.
6. Do not use silicone sealant as per the following:
   a. Apply caulking/sealant at temperatures below 40 deg F (4 deg C).
   b. Below-grade applications.
   c. Brass and copper surfaces.
   d. Materials bleeding oils, plasticizers, and solvents.
   e. Structural glazing and adhesive.
   f. Surfaces to be immersed in water for prolonged time.

B. Joint Backing:
1. Install joint backing to maintain sealant joint ratios recommended by Manufacturer.
2. Install without gaps, twisting, stretching, or puncturing backing material. Use gage to ensure uniform depth to achieve correct profile, coverage, and performance.
3. Rod for open joints shall be at least 1-1/2 times width of open joint and of thickness to give solid backing. Backing shall fill up joint so depth of sealant bite is no more than 3/8 inch (9.5 mm) deep.

C. Bond Breaker:
1. Install bond breaker where joint backing is not used or where backing is not feasible.
   a. Apply bond-breaker tape in shallow joints as recommended by Sealant Manufacturer.

D. Sealant:
1. Apply sealant with hand-caulking gun with nozzle of proper size to fit joints. Use sufficient pressure to insure full contact to both sides of joint to full depth of joint. Apply sealants in vertical joints from bottom to top.
2. Fill joint opening to full and proper configuration.
3. Apply in continuous operation.

4. Tool joints immediately after application of sealant if required to achieve full bedding to substrate or to achieve smooth sealant surface. Tool joints in opposite direction from application direction, i.e., in vertical joints, from the top down. Do not 'wet tool' sealants.
5. Depth of sealant bite shall be 1/4 inch (6 mm) minimum and 1/2 inch (12.7 mm) maximum, but never more than one half or less than one fourth joint width.

3.4 TOLERANCES

A. Provide joint tolerances in accordance with Manufacturer's printed instructions.

3.5 FIELD QUALITY CONTROL

A. Adhesion Test (Installer Option to use adhesion test to determine if primer is required).
   1. Perform adhesion tests in accordance with Manufacturer's instructions and ASTM C1193, Method A, Field-Applied Sealant joint Hand-Pull Tab:
      a. Perform five (5) tests for first 1,000 linear feet (300 meters) of applied silicone sealant and one (1) test for each 1,000 linear feet (300 meters) seal thereafter or perform one (1) test per floor per building elevation minimum.
      b. For sealants applied between dissimilar materials, test both sides of joints.
   2. Sealants failing adhesion test shall be removed, substrates cleaned, sealants re-installed, and re-testing performed.
   3. Maintain test log and submit report to Architect indicating tests, locations, dates, results, and remedial actions.

3.6 CLEANING

A. Remove masking tape and excess sealant.

B. Clean adjacent materials, which have been soiled, immediately (before setting) as recommended by Manufacturer.

C. Waste Management: Dispose of products in accordance with manufacturer's recommendation.

END OF SECTION

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DIVISION 09: FINISHES

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SECTION 09 9112

EXTERIOR PAINTED FERROUS METAL

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Preparing and painting following existing exterior ungalvanized iron and steel surfaces as described in Contract Documents:
      a. Existing removed, cleaned, and reinstalled mechanical items on sloped roof as noted in Drawings.

PART 2 - PRODUCTS

2.1 SYSTEM

A. Manufacturers:
   1. Category Four Approved Products and Manufacturers. See Section 01 6200 for definitions of Categories:
      a. Products listed in edition of MPI Approved Product List current at time of bidding and later are approved.

B. Description:
   1. Previously Finished Surfaces: Use MPI(r) REX 5.1K Waterborne Light Industrial Coating.

C. Design Criteria:
   1. Systems specified are in addition to prime coats provided under other Sections of Project Manual.
   2. Finish Requirements: Use MPI Premium Grade finish requirements for work of this Section.
   3. Gloss / Sheen Level Required: Gloss Level 5.

D. Materials:
   1. All paints and coatings.
      a. Primer Coat: MPI Product 107, ‘Primer, Rust-Inhibitive, Water Based’.
      b. Finish Coats: MPI Product 163, ‘Light Industrial Coating, Exterior, Water Based, Semi-Gloss (MPI Gloss Level 5).

PART 3 - EXECUTION

3.1 APPLICATION

A. Existing Painted Surfaces:
   1. Remove deteriorated and chalked existing paint and rust down to sound substrate by scraping or power tools.
   2. Clean existing sound painted surfaces as well as scraped and sanded existing painted surfaces as recommended by Paint Manufacturer. If all traces of rust cannot be removed, apply rust blocker recommended by Paint Manufacturer before applying primer coat.
   3. Spot prime bare metal surfaces followed by a prime coat over entire surface to be painted.
   4. Lightly sand entire surface.
   5. Clean surface as recommended by Paint Manufacturer.
   6. Apply specified finish coats.

END OF SECTION

SECTION 09 9113

EXTERIOR PAINTED GALVANIZED METAL

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Preparing and painting following existing exterior exposed galvanized metal surfaces as described in Contract Documents.
      a. Existing removed, cleaned, and reinstalled mechanical items on sloped roof as noted in Drawings.

PART 2 - PRODUCTS

2.1 SYSTEM

A. Manufacturers:
   1. Category Four Approved Products and Manufacturers. See Section 01 6200 for definitions of Categories.
      a. Products listed in edition of MPI Approved Product List current at time of bidding and later are approved, providing they meet VOC requirements in force where Project is located.

B. Description:
   1. All Other:
      a. Previously Finished Surfaces: Use MPI(r) REX 5.3H Latex Finish system.

C. Performance:
   1. Design Criteria:
      a. Deteriorated Existing Surfaces: MPI Premium Grade finish requirements.
      b. Sound Existing Surfaces: MPI Custom Grade finish requirements.
      c. Gloss / Sheen Level Required: Gloss Level 5.

D. Materials:
   1. Polyurethane:
      a. Vinyl Wash Primer Coat: MPI Product 80: ‘Primer, Vinyl Wash’.
      b. Finish Coats:
         1) Epoxy MPI Product 101: ‘Primer, Epoxy, Anti-Corrosive, for Metal’.
         2) Polyurethane MPI Product 72: ‘Polyurethane, Two-Component, Pigmented, Gloss (MPI Gloss Level 6-7)’.
   2. Latex:
      a. Waterborne Primer Coat: MPI Product 134: ‘Primer, Galvanized, Water Based’.
      b. Finish Coats: MPI Product 11: ‘Latex, Exterior Semi-Gloss (MPI Gloss Level 5)’.

PART 3 - EXECUTION

3.1 APPLICATION

A. Existing Painted Surfaces:
   1. Remove deteriorated and chalked existing paint and rust deposits down to sound substrate by sanding, scraping, or wire brushing.

2. Clean existing sound painted surfaces as well as scraped and sanded existing painted surfaces as recommended by Paint Manufacturer.
3. Apply prime coat.
4. Apply finish coats.

B. Existing Unpainted Surfaces:
1. Wirebrush or power wash as necessary to remove 'white rust'.
2. Apply prime coat.
3. Apply finish coats.

END OF SECTION

B I D D I N G R E Q U I R E M E N T S,

S A M P L E F O R M S, E T C

FIXED SUM PROJECTS

(C A N A D A)

B L A N K P A G E

INVITATION TO BID

1. GENERAL CONTRACTORS INVITED TO BID THE PROJECT:

To be announced and issued on Separate list.

2. PROJECT:

Rocky Mountain House
Project Identification Number: 515-5037-1904-0101
Red Deer Alberta Stake

3. LOCATION:

6211 – 60 Street
Rocky Mountain House, Alberta

4. OWNER

The Church of Jesus Christ of Latter-day Saints in Canada, an Alberta special act corporation
c/o Jim Kyle, Project Manager Phone: (403) 869-1521
Canada Calgary Project Management Office Email: kylejr@churchofjesuschrist.org
7040 Farrell Road Southeast, Room 109
Calgary, Alberta, Canada T2H 0T2

5. CONSULTANT:

GDG Architectural Group Phone: (403) 229-3233
1919 – 10th Avenue S.W.
Calgary, Alberta T3C 0K3
Attention: Ed Zukowski

6. DESCRIPTION OF PROJECT:

A. Products or systems may be provided under a Value Managed Relationship (VMR) the Owner has negotiated with the supplier. VMR products and systems are indicated as such in the Specifications:
   1. None

B. Description of Project and Major Components
   1. Remove existing roofing (1 section of SBS as well as all sloped asphalt shingles)
   2. Replace with new roofing (1 section of TPO as well as all sloped asphalt shingles)
   3. Remove existing rake and drip flashings and replace with new as detailed in Drawings
   4. Remove existing roof related flashings and replace with new as detailed in Drawings
   5. Existing fascia and soffit to remain unless noted otherwise in specific areas
   6. Existing eavestrough and downspouts to remain unless noted otherwise in specific areas
   7. Drill out ridge areas to improve ridge ventilation as detailed in Drawings
   8. Provide new ridge vent as detailed in Drawings

7. TYPE OF BID: Bids will be on a lump-sum basis. Segregated bids will not be accepted.

8. TIME OF SUBSTANTIAL PERFORMANCE: The time limit for substantial performance of this Work will be **45 calendar days** as noted in the Agreement.

9. PRE-BID CONFERENCE: A pre-bid conference will be held 11:00am, Thursday, September 12, 2019 at:

Rocky Mountain House - Relief Society Room
6211 – 60 Street
Rocky Mountain House, Alberta

Attendance by representative authorized to speak for Bidder (General Contractor) is mandatory.

10. BID OPENING:

A. Sealed Bids will be received and publicly opened at 2:00 pm, Thursday, September 26, 2019 at:

The office of the Owner:
c/o Jim Kyle, Project Manager Phone: (403) 869-1521
Canada Calgary Project Management Office Email: kylejr@churchofjesuschrist.org
7040 Farrell Road Southeast, Room 109
Calgary, Alberta, Canada T2H 0T2

B. **Original signed bid forms with bid security will be received in advance at the Office of the Owner and modifications to the bid amount will be accepted by email up to 5 minutes prior to the appointed bid opening time. Email: kylejr@churchofjesuschrist.org. The bidder shall use the form provided and acknowledge all addenda received on the email modification form.**

11. BIDDING DOCUMENTS:

A. Bidding Documents may be examined at the following plan room locations:

1. The Office of the Consultant Phone: (403) 229-3233
GDG Architectural Group
1919 – 10th Avenue S.W.
Calgary, Alberta T3C 0K3
Attn: Mr. Ed Zukowski

B. Bidding Documents may be obtained by invited General Contractors only at the Office of the Consultant.
1. Return all Tendering Documents in good condition within five days after Bid Date. Any person of firm who retains these Documents longer than this stipulated time shall not be invited to bid future projects.
2. **Bid Documents will also be available for pick up by invited General Contractors at the pre-bid conference.**

12. BID BOND: Bid security in the amount of five percent (5%) of the bid will accompany each bid in accordance with the Instruction to Bidders.

13. BIDDER'S QUALIFICATIONS: Bidding by the General Contractors will be by invitation only.

14. OWNER'S RIGHT TO REJECT BIDS: The Owner reserves the right to reject any or all bids and to waive any irregularity therein.

15. SITE ACCESS FOR VIEWING:

A. The site and building are accessible and available for public viewing by contacting Bill Cormack or Debbie Lyght at the Edmonton East FM Office (403) 348-8569. 24 hours minimum advance notice required for access arrangements.

END OF DOCUMENT

INSTRUCTIONS TO BIDDERS

1. DEFINITIONS:

A. The definitions set forth in Section 1 of the General Conditions are applicable to the documents included under Bidding Requirements.

B. Bidding Documents include the Bidding Requirements and the proposed Contract Documents. The proposed Contract Documents consist of the documents identified as Contract Documents in the Form of Agreement, except for Modifications. The Bidding Requirements are those documents identified as such in the proposed Project Manual.

C. Addenda are written or graphic documents issued by the Consultant prior to execution of the Contract which modify or interpret the Bidding Documents. They become part of the Contract Documents as noted in the Form of Agreement upon execution of the Contract.

2. BIDDER'S REPRESENTATIONS:

A. By submitting a bid, the bidder represents that
   1. Bidder has carefully studied and compared the Bidding Documents with each other. Bidder understands the Bidding Documents and the bid is fully in accordance with the requirements of those documents,
   2. Bidder has thoroughly examined the site and any building located thereon, has become familiar with local conditions which might directly or indirectly affect the contract work, and has correlated its personal observations with the requirements of the proposed Contract Documents, and
   3. Bid is based on the materials, equipment, and systems required by the Bidding Documents without exception.

3. BIDDING DOCUMENTS:

A. Copies
   1. Bidding Documents may be obtained as set forth in the Invitation to Bid.
   2. Partial sets of Bidding Documents will not be issued.
   3. Bidders will use complete sets of Bidding Documents in preparing bids and make certain that those submitting sub-bids to them have access to all portions of the documents that pertain to the work covered by sub-bid, including General Conditions, Supplementary Conditions, and Division 01. Bidder assumes full responsibility for errors or misinterpretations resulting from use of partial sets of Bidding Documents by itself or any sub-bidder.

B. Interpretation or Correction of Bidding Documents
   1. Bidders will request interpretation or correction of any apparent errors, discrepancies and omissions in the Bidding Documents.
   2. Corrections or changes to Bidding Documents will be made by written addenda.

C. Substitutions and Equal Products
   1. Generally speaking, substitutions for specified products and systems, as defined in the Uniform Commercial Code, are not acceptable. However, equal products may be approved upon compliance with Contract Document requirements.
   2. The terms '*Acceptable Manufacturers*', '*Approved Manufacturers ' Suppliers ' Installers*', and '*VMR (Value Managed Relationship) Manufacturers ' Suppliers ' Installers*' are used throughout the Project Manual to differentiate among the options available to Contractor regarding specified products, manufacturers, and suppliers. See Section 01 6200 for options available regarding acceptance of equal products.
   3. Base bid only on materials, equipment, systems, suppliers or performance qualities specified in the Bidding Documents.

4. Consultant is only authorized to consider requests for approval of equal products to replace specified products in Sections where the heading '*Acceptable Manufacturers*' is used and statement, '*Equal as approved by Consultant before bidding. See Section 01 6200*' or '*Equal as approved by Consultant before installation. See Section 01 6200*,' appears. In Sections where the afore-mentioned statements do not appear and a different heading is used, Consultant is authorized as Owner's representative to decline consideration of requests for approval of equal products. Approvals of equal products in such Sections must be made by Owner and will generally be for subsequent Projects.

D. Addenda - Addenda will be sent to bidders and to locations where Bidding Documents are on file no later than one week prior to bid opening or by fax no later than 48 hours prior to bid opening.

4. BIDDING PROCEDURES:

A. Form and Style Of Bids
1. Use Owner's Bid Form.
2. Fill in all blanks on Bid Form. Signatures will be in longhand and executed by representative of bidder duly authorized to make contracts.
3. Bids will bear no information other than that requested on bid form. Do not delete from or add to the information requested on the bid form.

B. Bid Security
1. Each bid will be accompanied by a bid bond naming Owner, as listed in the Agreement, as obligee. If Bidder refuses to enter into a Contract or fails to provide bonds and insurance required by the General Conditions, amount of bid security will be forfeited to Owner as liquidated damages, not as a penalty.
2. Bid bond will be issued by a surety company meeting requirements of the General Conditions for surety companies providing bonds and will be submitted on a CCDC 220 form, or authorized equivalent provided by surety company. The attorney-in-fact who executes the bond on behalf of the surety will affix to the bond a certified and current copy of the power of attorney.
3. Owner may retain bid security of bidders to whom an award is being considered until -
   a. Contract has been executed and bonds have been furnished,
   b. Specified time has elapsed so bids may be withdrawn, or
   c. All bids have been rejected.

C. Submission of Bids
1. Submit bid in sealed opaque envelope containing only bid form and bid security. Envelopes will be sealed, bear bidder's name, and include the following:

BID FOR

Rocky Mountain House - Red Deer Alberta Stake

515-5037-1904-0101

If bid is sent by mail, enclose sealed envelope in separate mailing envelope with notation 'SEALED BID ENCLOSED' on face.
2. It is bidder's sole responsibility to see that its bid is received at specified time. Bids received after specified bid opening time will be returned to bidders unopened.
3. No oral, facsimile, or telephonic bids, modifications, or cancellations will be considered. **Email (scanned) modifications will be accepted.**

D. Modification or Withdrawal Of Bid
1. Bidder guarantees there will be no revisions or withdrawal of bid amount for 45 days after bid opening.
2. Prior to bid opening, bidders may withdraw bid by written request or by reclaiming bid

envelope.

3. Prior to bid opening, bidder may mark and sign on the sealed envelope that bidder acknowledges any or all Addenda.
4. **Email (scanned) transmitted modifications will be accepted as noted in the Invitation to Bid using the form provided, if the original bid form and bid security has been previously submitted to the bid closing location. Email: kylejr@churchofjesuschrist.org**

5. CONSIDERATION OF BIDS:

A. Opening Of Bids - See Invitation to Bid.

B. Rejection of Bids - Owner reserves right to reject any or all bids and to waive any irregularity therein.

C. Acceptance Of Bid
1. No bidder will consider itself under contract after opening and reading of bids until Agreement between Owner and Contractor is fully executed.
2. Bidder's past performance, organization, subcontractor selection, equipment, and ability to perform and complete its contract in manner and within time specified, together with amount of bid, will be elements considered in award of contract.

6. POST-BID INFORMATION:

A. The conditionally accepted bidder submitting a bid involving subcontractors will submit its list of proposed subcontractors in a meeting to be held immediately after bid opening.

7. PERFORMANCE BOND AND PAYMENT BOND:

A. Bond Requirements - Performance Bond and Labour and Material Payment bond will be required for this Project as specified in the General Conditions.

B. Time Of Delivery Of Bonds - Bonds will be delivered to Owner with Agreement signed by bidder.

8. FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR:

A. Agreement form will be “Agreement Between Owner and Contractor for a Fixed Sum (Canada)” provided by Owner.

9. MISCELLANEOUS:

A. Pre-Bid Conference
1. A pre-bid conference will be held at a time and place to be announced.

B. Liquidated Damages - Conditions governing liquidated damages are specified in the General Conditions and in the Supplementary Conditions.

C. Examination Schedule for Existing Site
1. The site is open and available for public viewing at any time with prior arrangements.

D. Exemption from local taxes - See Supplementary Conditions

END OF DOCUMENT

B L A N K P A G E

SUBCONTRACTORS AND MAJOR MATERIALS SUPPLIERS LIST

Project Name: __Rocky Mountain House____ Date:_____

Stake: ____Red Deer Alberta Stake_____ Project No: ___515-5037-1904-0101__

General Contractor: _____

General Contractor is to provide the names of the following subcontractors and suppliers to the Owner's Project Manager immediately following the bid opening:

VMR SUBCONTRACTORS

Other _____

Other _____

Other _____

Other _____

Other _____

SUBCONTRACTORS AND SUPPLIERS

Flat Roofing _____

Sloped Roofing _____

Metal Flashing_____

Demolition _____

Other _____

Other _____

Other _____

B L A N K P A G E

EQUAL PRODUCT APPROVAL REQUEST FORM (Canada)

Project Name: Rocky Mountain House Request Number: _____

TO: _____

FROM: _____

BID DATE: _____

A proposed product is not legally approved and cannot legally be included in a bid or used in the Work until it appears in an Addendum or other Contract Modification as defined in the General Conditions. See Instructions To Bidders Paragraph 3,C, General Conditions, and Section 01 6200.

PROPOSED EQUAL PRODUCT:

Specification Section: _____

Specified Products: _____

Proposed Product: _____

The Undersigned certifies:

1. Proposed equal product has been fully investigated and determined to be equal or superior in all respects to specified products.
2. Same warranty will be furnished for proposed equal product as for specified products.
3. Same maintenance service and source of replacement parts, as applicable, is available.
4. Proposed equal product will have no adverse effect on other trades and will not affect or delay progress schedule.
5. Proposed equal product does not affect dimensions and functional clearances.

ATTACHMENTS:

Include the following attachments -

1. Copy of the Project Manual Section where the proposed equal product would be specified, rewritten or red-lined to include any changes necessary to correctly specify the proposed equal product. Identify completely changes necessary to the original Project Manual Section.
2. Copies of details, elevations, cross-sections, and other elements of the Project Drawings redone as necessary to show changes necessary to accommodate proposed equal product. Identify completely the changes from the original Drawings.
3. Complete product literature and technical data, installation and maintenance instructions, test results, and other information required to show complete conformance with requirements of the Contract Documents.

SIGNED: _____

Printed Name _____

Company _____

Address _____

City, Province, Postal Code _____

Telephone _____ Fax _____

REVIEW COMMENTS:

_____ Accepted. See Addenda Number _____.

_____ Submission Not In Compliance With Instructions. Respond to attached comments and resubmit.

_____ Proposed Equal Product Not Acceptable. Use specified products.

_____ Not Reviewed. Submission received too late. Use specified products.

ADDITIONAL COMMENTS:

BY: _____ **DATE:** _____

B I D F O R M

FOR GENERAL CONTRACT WORK (Canada)

PROJECT IDENTIFICATION:
Rocky Mountain House - LDS #515-5037-1904-0101, Red Deer Alberta Stake

OWNER:
The Church of Jesus Christ of Latter-day Saints in Canada, an Alberta special act corporation ("Owner")

CONSULTANT:
GDG Architectural Group

B I D

1. In submitting this Bid, Bidder represents that:
   a. If this Bid is accepted, Bidder will enter into an agreement with Owner to perform and furnish the Work described in the Bidding Documents for the Bid Price and within the Time of Substantial Performance indicated in this Bid and in accordance with the other terms and conditions of the Contract Documents.
   b. Bidder has carefully examined Set(s) Number _____ of the Bidding Documents consisting of the Project Manual containing the Bidding Requirements, the Conditions of the Contract, and the Specifications, entitled __Rocky Mountain House___, the Drawings entitled __Rocky Mountain House___ and dated __August 2019__, and including sheets numbered __ACS, A-1, A-2, and A-3, and addenda numbers _____.
   c. Bidder has examined the site of the work, existing conditions, and all other conditions affecting the work on the above-named Project.
   d. Bidder has carefully correlated the information known to Bidder and information and observations obtained from visits to the site with the Bidding Documents.
   e. Bidder is familiar with Federal, Province, and local laws and regulations applicable to Project.
   f. Bidder guarantees there will be no revisions or withdrawal of bid amount for forty-five (45) days after the bid opening.

2. Bidder hereby proposes to furnish all materials, labor, equipment, tools, transportations, services, licenses, fees, permits, etc., required by said documents to complete the Work described by the Contract Documents for the lump-sum of: _____ Canadian Dollars (CAD$_____) plus GST or HST where applicable.

3. Bidder agrees to achieve substantial performance of the Work within the number of days indicated in the Invitation to Bid.

4. Enclosed is a Bid Bond for not less than five percent (5%) of the bid.

RESPECTFULLY SUBMITTED:

_____
Signature

_____
Printed name

_____
Title

_____
Company name

_____
Business Address

_____ _____
Date City, Province, and Postal Code

_____ _____
License No. Telephone Fax

_____
Contact Email Address

B L A N K P A G E

CONSTRUCTION MATERIAL ASBESTOS STATEMENT (Canada)

Building Name: Rocky Mountain House

Building Plan Type:

Building Address: 6211 – 60 Street, Rocky Mountain House, Alberta

Building Owner: The Church of Jesus Christ of Latter-day Saints in Canada, an Alberta special act corporation

Project Number: 515-5037-1904-0101

Completion Date:

As PROJECT CONSULTANT and principal in charge; based on my best knowledge, information, inspection, and belief; I certify that on the above referenced Project, no asbestos-containing building materials were specified in the construction documents or given approval in shop drawings or submittals.

Project Consultant and Principal in Charge (signature) Date

GDG Architectural Group
Company Name

As GENERAL CONTRACTOR in charge of construction; based on my best knowledge, information, inspection, and belief; I affirm that on the above-referenced Project, no asbestos-containing building materials were used in the construction.

General Contractor (signature) Date

Company Name

B L A N K P A G E

Email Bid Modification

Project Name:	Rocky Mountain House
Project Number:	515-5037-1904-0101
Bid Opening Date:	Thursday, September 26, 2019 (unless changed by addendum)
Bid Opening Time:	2:00 pm
Bid Opening Location:	Office of the Owner – c/o Jim Kyle, Project Manager, Canada Calgary Project Management Office, 7040 Farrell Road Southeast, Room 109
Email Address:	**kylejr@churchofjesuschrist.org**

This document is equivalent to the Sealed Bid Envelope and as such becomes part of the submitted Sealed Bid when emailed to the bidding location before the time of the Bid Opening as noted below. It is the Contractor's Responsibility to scan and email the document in sufficient time to be received before the bid time is closed for the Bid Opening. When using this form to make any alterations, the bidder shall acknowledge the number of addenda on the form where indicated.

Contractor's Name: _____

Contractor's Address: _____

Acknowledgement of Addenda Numbers: _____

Add: _____ ($ _____)

Subtract: _____ ($ _____)

This change modifies the sum printed and written on the Bid Form in Sealed Envelope.

Person signing is authorized agent of the Company:

_____
Signature

_____
(print signors name)

_____
Title or Position

a. Date and time will be as printed on the email receipt. Email submission must be received 5 minutes before the Bid Opening or this document will be non-responsive.

b. This form shall be used for bid modifications only. Indication on this form of the total bid value will invalidate the bid.

c. Bidders in attendance for the Bid Opening may modify their bids by writing the above information on the sealed envelope and resubmitting the envelope prior to the appointed time for Bid Opening, as noted in the Instructions to Bidders or as discussed at the Pre-bid Conference.

END OF DOCUMENT

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C O N D I T I O N S

O f T h e

C O N T R A C T

B L A N K P A G E

GENERAL CONDITIONS
For a Fixed Sum (Canada)

TABLE OF CONTENTS

SECTION 1 - GENERAL PROVISIONS

1.1 DEFINITIONS

A. Adverse Weather: weather conditions that are seasonally abnormal and could not have been reasonably anticipated.

B. Agreement: the document entitled "Agreement Between Owner and Contractor for a Fixed Sum (Canada)" executed by Owner and Contractor for performance of the Work.

C. Change In The Work. a modification to the requirements of the Contract Documents or a delay in Substantial Performance resulting from an instruction from Owner or Consultant to Contractor or from another event or circumstance.

D. Change Order: a written instrument prepared by Consultant and signed by Owner, Contractor, and Consultant stating their agreement upon the following: (1) the occurrence of a Change in the Work; (2) the amount of the adjustment, if any, in the Contract Sum as a result of the Change in the Work; and (3) the extent of the adjustment, if any, in the Contract Time as a result of the Change in the Work.

E. Construction Change Directive: a written order prepared by Consultant and signed by Consultant and Owner which: (1) orders a Change in the Work if the terms of a Change Order cannot be agreed upon prior to performance of a Change in the Work described in Section 7.1 or after occurrence of an event or circumstance described in Section 7.2; and (2) states a proposed basis for adjustment, if any, in the Contract Sum, the Contract Time, or both, resulting from the Change in the Work.

F. Consultant: the entity identified as such in the Agreement.

G. Contract Documents: the documents identified as such in the Agreement.

H. Contract Sum: the total amount set forth in the Agreement payable by Owner to Contractor for performance of the Work.

I. Contract Time: the period of time set forth in the Agreement for the Substantial Performance of the Work.

J. Contractor: the entity identified as such in the Agreement.

K. Day: calendar day unless otherwise specifically defined.

L. Direct Costs: actual costs for labour, materials, equipment, insurance, bonds, subcontract costs and onsite supervision relating to the Project. They do not include labour costs for project managers or other off-site administration.

M. Drawings: the documents identified as such in the Agreement.

N. Field Change: a written order prepared by Consultant and signed by Consultant and Contractor for a minor Change in the Work consistent with the general intent of the Contract Documents costing CA$1,000 or less, resulting in no time extension, and which is necessary to avoid delaying the Work.

O. Modification: a written amendment to the Contract Documents in the form of a:
1. Change Order;
2. Construction Change Directive; or
3. Field Change.

P. Owner: the entity identified as such in the Agreement.

Q. Project: the total construction designed by Consultant of which the Work performed under the Contract Documents may be the whole or a part.

R. Product Data: standard illustrations, schedules, performance charts, instructions, brochures, diagrams, and other information

furnished by Contractor to illustrate details regarding materials or equipment to be used in the Work, or the manner of installation, operation, or maintenance of such materials or equipment.

S. Project Manual: the document identified as such in the Agreement.

T. Samples And Mock-ups: physical examples that illustrate materials, equipment, or workmanship and establish standards by which the Work will be judged.

U. Shop Drawings: drawings, diagrams, illustrations, schedules, performance charts, fabrication and installation drawings, setting diagrams, patterns, templates, and other data which illustrate some portion of the Work and confirm dimensions and conformance to the Contract Documents specially prepared by Contractor or any Subcontractor, manufacturer, supplier, or distributor.

V. Specifications: the documents identified as such in the Agreement.

W. Subcontractor: any entity supplying labour, materials, equipment, construction or services for the Work under separate contract with Contractor or any other Subcontractor.

X. Submittals: Shop Drawings, Product Data, Samples and Mock-ups and any other documents or items furnished by Contractor or its Subcontractors to Owner or Consultant to demonstrate how any portion of the Work will be accomplished or the type of materials or products that will be used in the Work.

Y. Substantial Performance: Completion of the Work to a point where Owner can use the Work for its intended purposes. The date of Substantial Performance is the date certified as such by Consultant in accordance with the Contract Documents..

Z. Work: all labour, materials, equipment, construction, and services required by the Contract Documents.

AA. Written Notice: notice in writing given from one party to the other at the addresses or facsimile numbers listed in the Agreement, or at such other addresses or facsimile numbers as the parties will designate from time to time by Written Notice, and will be effective at the earliest of:
1. The date of personal delivery to the other party with signed acknowledgment of receipt; or
2. The date sent by facsimile transmission to the other party provided receipt of the facsimile is verified by an electronic confirmation report by the party sending the facsimile transmission and further provided that a confirmation copy is sent to the other party by courier or by registered or certified mail within twenty-four (24) hours after the time and date of the facsimile transmission; or
3. The date of receipt by the other party as stated on the return receipt if sent by registered or certified mail, or by courier.

1.2 CORRELATION AND INTENT OF CONTRACT DOCUMENTS

A. The intent of the Contract Documents is to require Contractor to provide all labour, materials, equipment, construction, and services necessary for the proper execution and completion of the Work. The Contract Documents are complementary and what is required by any one will be as binding as if required by all. Contractor will perform the Work in accordance with the requirements expressly set forth in or reasonably inferable from the Contract Documents.

B. The organization of the Contract Documents is not intended to control Contractor in dividing the Work among Subcontractors or to establish the extent of the Work to be performed by any trade.

C. Words used in the Contract Documents that have well known technical or trade meanings are used therein in accordance with such recognized meanings.

D. In the interest of brevity, the Contract Documents may omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

E. When any of the Contract Documents are prepared in both the English and French languages, it is agreed that in the event of any apparent discrepancy between the English and French versions, the English language version will prevail. The Contract Documents are drawn in English, by agreement and at the request of the parties. (Les Documents Contractuels sont rédigés en anglais par consentement à la demande des parties.)

1.3 OWNERSHIP AND USE OF CONTRACT DOCUMENTS

The Drawings, the Project Manual, and copies thereof are the property of Owner. Contractor will not use these documents on any other project. Contractor may retain one copy of the Drawings and the Project Manual as a contract record set and will return or destroy all remaining copies following final completion of the Work.

1.4 PUBLIC STATEMENTS REGARDING PROJECT

Contractor will not make any statements or provide any information to the media about the Project without the prior written consent of Owner. If Contractor receives any requests for information from media, Contractor will refer such requests to Owner.

1.5 OWNERSHIP AND USE OF RENDERINGS AND PHOTOGRAPHS

Renderings representing the Work are the property of Owner. All photographs of the Work, whether taken during performance of the Work or at completion, are the property of the Owner. The Owner reserves all rights including copyrights to renderings and photographs of the Work. No renderings or photographs shall be used or distributed without written consent of the Owner

1.6 NO COMMERCIAL USE OF TRANSACTION OR RELATIONSHIP

Without the prior written consent of Owner, which Owner may grant or withhold in its sole discretion, neither Contractor nor Contractor's affiliates, officers, directors, agents, representatives, shareholders, members, Subcontractors, Sub-subcontractors or employees shall make any private commercial use of their relationship to Owner or the Project, including, without limitation:

A. By referring to this Agreement, Owner, or the Project verbally or in any sales, marketing or other literature, letters, client lists, press releases, brochures or other written materials except as may be necessary for Contractor to perform Contractor's obligations under the terms of this Agreement;

B. By using or allowing the use of any photographs of the Project or any part thereof, or of any service marks, trademarks or trade names or other intellectual property now or which may hereafter be associated with, owned by or licensed by Owner in connection with any service or product; or

C. By contracting with or receiving money or anything of value from any person or commercial entity to facilitate such person or entity obtaining any type of commercial identification, advertising or visibility in connection with the Project.

Notwithstanding the foregoing, Contractor may include a reference to Owner and the services and equipment provided under this Agreement in a professional résumé or other similar listing of Contractor's references without seeking Owner's written consent in each instance; provided, that such reference to Owner, the services and equipment is included with at least several other similar references and is given no more prominence than such other references.

1.7 CONFIDENTIALITY / PROPERTY RIGHTS

A. Owner will retain ownership and intellectual property rights in all plans, designs, drawings, documents, concepts, and materials provided by or on behalf of Owner to Contractor and to all work products of Contractor for or relative to Work performed under this Agreement, such products, services, and Work of Contractor constituting works made for hire. Contractor will not reuse any portions of such items provided by Owner or developed by Contractor for Owner pursuant to this Agreement, or disclose any such items to any third party without the prior written consent of Owner. Owner may withhold its consent in its' absolute discretion.

B. In addition, Contractor shall ensure that Contractor, Subcontractors, and the employees, agents and representatives of Contractor and its Subcontractors maintain in strict confidence, and shall use and disclose only as authorized by Owner all Confidential Information of Owner that Contractor receives in connection with the performance of this Agreement. Notwithstanding the foregoing, Contractor may use and disclose any information to the extent required by an order of any court or governmental authority, but only after it has notified Owner and Owner has had an opportunity to obtain reasonable protection for such information in connection with such disclosure. For purposes of this Agreement, "Confidential Information" means:
   1. The name or address of any affiliate, customer or contractor of Owner or any information concerning the transactions of any such person with Owner;
   2. Any information relating to contracts, agreements, business plans, budgets or other financial information of Owner to the extent such information has not been made available to the public by the Owner; and
   3. Any other information that is marked or noted as confidential by the Owner at the time of its disclosure.

1.8 COMPLY WITH INTELLECTUAL PROPERTY RIGHTS OF OTHERS

Contractor represents and warrants that no Work (with its means, methods, goods, and services attendant thereto), provided to Owner will infringe or violate any right of any third party and that Owner may use and exploit such Work, means, methods, goods, and services without liability or obligation to any person or entity (specifically and without limitation, such Work, means, methods, goods, and services will not violate rights under any patent, copyright, trademark, or other intellectual property right or application for the same).

SECTION 2 - OWNER

2.1 OWNER'S DESIGNATED REPRESENTATIVE

Owner will designate in writing a representative who will have express authority to bind Owner with respect to all matters requiring Owner's approval or authorization.

2.2 INFORMATION AND SERVICES REQUIRED OF OWNER

A. Owner will be responsible for establishment of property lines and benchmarks for grading.

B. Owner will furnish to Contractor any information or services it is required to furnish under the Contract Documents with reasonable promptness to avoid delay in the orderly progress of the Work.

C. Owner will furnish to Contractor a reasonable number of copies of the Drawings, the Project Manual, and the Addenda.

2.3 OWNER'S RIGHT TO INSPECT THE WORK

Owner and its representatives will have the right to inspect any portion of the Work wherever located at any time.

2.4 OWNER'S RIGHT TO STOP THE WORK

If Contractor fails to carry out the Work in accordance with the Contract Documents or fails to correct Work which is not in accordance with the Contract Documents in a timely manner, Owner may order Contractor in writing to stop the Work, or any portion thereof, until the cause for that order has been eliminated.

SECTION 3 - CONTRACTOR

3.1 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

A. By executing the Agreement, Contractor represents that it has visited the Project site, familiarized itself with the local conditions under which the Work is to be performed, and correlated its own observations with the requirements of the Contract Documents.

B. Contractor will carefully review and compare the Contract Documents and any other available information relating to the Project prior to commencing and during performance of each portion of the Work and will immediately report to Consultant any errors, inconsistencies, and omissions it discovers.

C. Should Contractor or any of its Subcontractors become aware of any question regarding the meaning or intent of any part of the Contract Documents prior to commencing that portion of the Work about which there is a question, Contractor will request an interpretation or clarification from Consultant before proceeding. Contractor proceeds at its own risk if it proceeds with the Work without first making such a request and receiving an interpretation or clarification from Consultant. If neither Contractor nor its Subcontractors become aware of the question until after work on the relevant portion of the Work has commenced, then the following precedence will govern for purposes of determining whether resolution of the question constitutes a Change in the Work:
   1. The Agreement takes precedence over all other Contract Documents.
   2. The Supplementary Conditions take precedence over the General Conditions.
   3. The General Conditions and Supplementary Conditions take precedence over the Drawings and the Specifications.
   4. An Addendum or a Modification takes precedence over the document(s) modified by the Addendum or Modification.
   5. The Specifications take precedence over the Drawings.
   6. Within the Drawings, larger scale drawings take precedence over smaller scale drawings, figured dimensions over scaled dimensions, and noted materials over graphic indications.

D. Contractor will give Consultant notice of any additional drawings, specifications, or instructions required to define the Work in greater detail, or to permit the proper progress of the Work, sufficiently in advance of the need for information so as not to delay the Work.

E. It is not Contractor's responsibility to ascertain that the Contract Documents are in accordance with requirements of applicable laws, statutes, ordinances, building codes, rules and regulations. However, if Contractor observes that portions of the Contract Documents are at variance with those requirements, Contractor will immediately notify Consultant in writing. Contractor will not proceed unless Owner and/or Consultant effects Modifications to the Contract Documents required for compliance with such requirements. Contractor will be fully responsible for any work knowingly performed contrary to such requirements and will fully indemnify Owner against loss and bear all costs and penalties arising therefrom.

F. Contractor will take field measurements and verify field conditions and will compare such field measurements and conditions and other information known to Contractor with the Contract Documents before ordering any materials or commencing construction activities. Contractor will immediately report errors, inconsistencies, and omissions which it discovers to Consultant. If Contractor orders materials or commences construction activities before taking field measurements and verifying field conditions, Contractor will not be entitled to any compensation for additional costs to Contractor resulting from field measurements or conditions different from those anticipated by Contractor which would have been avoided had Contractor taken field measurements and verified field conditions prior to ordering the materials or commencing construction activities.

G. If site conditions indicated in the Contract Documents or other information provided by Owner or Consultant to Contractor differ materially from those Contractor encounters in performance of the Work, Contractor will immediately notify Consultant in writing of such differing site conditions.

H. Where the Contract Documents require the Contractor to provide professional services for architecture or engineering, the Contractor shall cause such services to be performed by appropriately licensed professionals.

3.2 SUPERVISION OF CONSTRUCTION PROCEDURES

A. Contractor will supervise and direct the Work. Contractor will be solely responsible for all construction means, methods, techniques, sequences, and procedures and for coordinating all portions of the Work. All loss, damage, liability, or cost of correcting defective work arising from the use of any construction means, methods, techniques, sequences or procedures will be borne by Contractor, notwithstanding that such construction means, methods, techniques, sequences or procedures are referred to, indicated or implied by the Contract Documents, unless Contractor has given timely notice to Owner and Consultant in writing that such means, methods, techniques, sequences or procedures are not safe or suitable, and Owner has then instructed Contractor in writing to proceed at Owner’s risk.

B. Contractor will utilize its best skill, efforts, and judgment to provide efficient business administration and supervision, to furnish at all times an adequate supply of workers and materials, and to perform the Work in an expeditious and economical manner consistent with the interests of Owner.

C. Contractor will be responsible for:
   1. The proper observance of property lines and set back requirements as shown in the Contract Documents;
   2. The location and layout of the Work as shown in the Contract Documents with respect to the position of the Work on the property and the elevation of the Work in relation to grade; and
   3. Setting and maintaining construction stakes.

D. Contractor will be responsible to Owner for the acts and omissions of its employees and Subcontractors as well as persons either directly or indirectly employed by Subcontractors.

E. Contractor will not be relieved of its obligation to perform the Work in accordance with the Contract Documents as a result of any tests, inspections, certifications or approvals by Owner, Consultant or their subconsultants.

F. Contractor will be responsible for inspection of portions of the Work already completed to determine that such portions are in proper condition to receive subsequent portions of the Work.

G. Contractor recognizes that the Project site and the surrounding area is frequently visited by the public and is important to Owner's image and function and will maintain the premises free from debris and waste materials resulting from Construction. At the completion of Construction, Contractor shall promptly remove construction equipment, tools, surplus materials, waste materials and debris.

3.3 LABOUR AND MATERIALS

A. Unless otherwise provided in the Contract Documents, Contractor will provide and pay for all labour, materials, equipment, tools, water, heat, utilities, transportation, and other facilities and services necessary for the proper execution and completion of the Work.

B. Contractor will at all times enforce strict discipline and good order among those performing the Work and will not permit employment of any unfit person or anyone not skilled in the tasks assigned to them.

C. Contractor is fully responsible for the Project and all materials and work connected therewith until Owner has accepted the Work in writing. Contractor will replace or repair at its own expense any materials or work damaged or stolen, regardless of whether it has received payment for such work or materials from Owner.

D. Contractor will remedy all damage or loss to any property caused in whole or in part by Contractor, any Subcontractor, or by anyone for whose acts any of them may be liable.

E. Contractor will be responsible for determining that all materials furnished for the Work meet all requirements of the Contract Documents. Consultant may require Contractor to produce reasonable evidence that a material meets such requirements, such as certified reports of past tests by qualified testing laboratories, reports of studies by qualified experts, or other evidence which, in the opinion of Consultant, would lead to a reasonable certainty that any material used, or proposed to be used, in the work meets the requirements of the Contract Documents. All such data will be furnished at Contractor's expense. This provision will not require Contractor to pay for periodic testing of different batches of the same material, unless such testing is specifically required by the Contract Documents to be performed at Contractor's expense.

F. Contractor will coordinate and supervise the work performed by Subcontractors so that the Work is carried out without conflict between trades and so that no trade, at any time, causes delay to the general progress of the Work. Contractor and all Subcontractors will at all times afford each trade, any separate contractor, or Owner, reasonable opportunity for the installation of Work and the storage of materials.

G. Contractor warrants to Owner that the materials and equipment furnished for the Work will be new unless otherwise specified by the Contract Documents, and that the Work will be free from defects, and will conform with the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective in the discretion of Owner. If required by Consultant, Contractor will furnish satisfactory evidence as to the kind and quality of the materials and equipment used in performing the Work.

H. Owner may elect to purchase materials required for the Work. In that event, Contractor will comply with the procedures set forth in the Contract Documents relating to such materials.

3.4 COMPLIANCE WITH LAWS

Contractor will comply with all applicable laws, ordinances, rules, regulations, and orders of any public authorities relating to performance of the Work.

3.5 TAXES

A. Contractor will pay all sales, use, consumer, payroll, workers compensation, unemployment, old age pension, surtax, and similar taxes assessed in connection with the performance of the Work.

B. Owner will pay all taxes and assessments on the real property comprising the Project site.

3.6 PERMITS AND FEES

A. Owner will obtain and pay for all zoning and use permits and permanent easements necessary for completion of the Work.

B. Contractor will obtain and pay for the building permit, and all other permits, governmental fees, licenses and inspections necessary for the proper execution and completion of the Work.

C. Contractor will secure any certificates of inspection and of occupancy required by authorities having jurisdiction over the Work. Contractor will deliver these certificates to Consultant prior to issuance of the Certificate of Substantial Performance by Consultant.

3.7 CONTRACTOR'S ON-SITE REPRESENTATIVE

Contractor will employ a competent representative acceptable to Owner to supervise the performance of the Work. This representative will be designated in writing by Contractor prior to commencement of work and will not be changed prior to Final Inspection of the Work without prior written consent of Owner. This representative will represent Contractor for all purposes, including communication with Owner.

3.8 CONTRACTOR'S CONSTRUCTION SCHEDULES

A. Contractor will prepare and submit for Owner's and Consultant's information Contractor's construction schedule for the Work in accordance with the requirements of the Contract Documents.

B. Contractor will prepare and maintain a Submittal schedule which is coordinated with Contractor's construction schedule and sets forth specified times for Consultant to review Submittals.

3.9 DOCUMENTS AND SUBMITTALS AT THE SITE

Contractor will keep at the Project site for use by Owner, Consultant, or their representatives, a record copy of the Project Manual, the Drawings, all Addenda, and all Modifications. These documents will be maintained in good order and currently marked to record changes and selections made during construction. In addition, Contractor will keep at the Project site one copy of all Submittals.

3.10 SUBMITTALS

A. Submittals are not Contract Documents and do not alter the requirements of the Contract Documents unless incorporated into the Contract Documents by a Modification.

B. Contractor will review, approve, and submit to Consultant Submittals in accordance with the Contract Documents. By approving Submittals, Contractor represents that it has determined and verified field measurements, field construction criteria, materials, catalog numbers, and similar data, and that it has checked and coordinated each Submittal with the requirements of the Work and of the Contract Documents or will make such determination, verification, check, and coordination prior to commencing the relevant portion of the Work. In reviewing Submittals Consultant will be entitled to rely upon Contractor’s representation that such information is correct and accurate.

C. Contractor will inform Consultant in writing at the time of submission of any Submittal or portion thereof which deviates from the requirements of the Contract Documents. Contractor will provide Consultant with documentation demonstrating to Consultant that the Submittal is equal to or better than the specified product or work. Contractor will not be relieved of responsibility for deviations from the requirements of the Contract Documents by Consultant’s acceptance of a Submittal unless Contractor has informed Consultant in writing of the deviation and Consultant has incorporated the deviation into the Contract Documents by a Modification.

D. Contractor will not perform any portions of the Work requiring Submittals until the respective Submittal has been reviewed and accepted in writing by Consultant.

E. When professional certification of performance criteria of materials, systems or equipment is required by the Contract Documents, Owner will be entitled to rely upon such certifications, and neither Owner nor Consultant will be expected to make any independent examination with respect thereto.

F. Submittals not required by the Contract Documents may be returned to Contractor without action.

3.11 CUTTING AND PATCHING

Contractor will be responsible for any cutting, fitting, and patching that may be required to complete the Work and make its parts fit together properly.

3.12 ACCESS TO WORK

Contractor will permit Owner and Consultant, their respective representatives and subconsultants, access to the Work wherever located at any time.

3.13 ROYALTIES AND PATENTS

Contractor will pay all royalties and license fees required by the Work or by Contractor's chosen method of performing the Work. Contractor will defend and hold Owner harmless from all suits or claims for infringement of any patent, license or other intellectual property rights or any loss on account thereof.

3.14 INDEMNIFICATION

A. Contractor will indemnify and hold harmless Owner, its representatives, employees, agents, architects, and consultants from and against any and all claims, damages, liability, demands, costs, judgments, awards, settlements, causes of action, losses and expenses (collectively “Claims” or “Claim”), including but not limited to legal fees (on a solicitor and his own client basis), consultant fees, expert fees, copy costs, and other expenses, arising out of or resulting from performance of the Work, attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of real or personal property, including loss of use resulting therefrom, except to the extent that such liability arises out of the negligence of Owner, its representatives, agents, and employees. This indemnity includes, without limitation, indemnification of Owner from all losses or injury to Owner’s property, except to the extent that such loss or injury arises out of the negligence of Owner, its representatives, agents, and employees. This indemnity applies, without limitation, to include Claims occurring both during performance of the Work and/or subsequent to completion of the Work. In the event that any Claim is caused in part by a party indemnified hereunder, that party will bear the cost of such Claim to the extent it was the cause thereof. In the event that a claimant asserts a Claim for recovery against any party indemnified hereunder, the party indemnified hereunder may tender the defense of such Claim to Contractor. If Contractor rejects such tender of defense and it is later determined that the negligence of the party indemnified hereunder did not cause all of the Claim, Contractor will reimburse the party indemnified hereunder for all costs and expenses incurred by that party in defending against the Claim. Contractor will not be liable hereunder to indemnify any party for damages resulting from the sole

negligence of that party.

B. In addition to the foregoing, Contractor will be liable to defend Owner in any lawsuit filed by any Subcontractor relating to the Project. Where liens have been filed against Owner's property, Contractor (and/or its bonding company which has issued bonds for the Project) will obtain lien releases and record them in the appropriate provincial and/or local jurisdiction and provide Owner with a title free and clear from any liens of Subcontractors. In the event that Contractor and/or its bonding company are unable to obtain a lien release, Owner in its absolute discretion may require Contractor to provide a bond around the lien or a bond to discharge the lien at Contractor's sole expense.

C. In addition to the foregoing, Contractor will indemnify and hold Owner harmless from any claim of any other contractor resulting from the performance, nonperformance or delay in performance of the Work by Contractor.

D. The indemnification obligation herein will not be limited by a limitation on the amount or type of damages, compensation or benefits payable by or for Contractor or a Subcontractor under worker's compensation acts, disability benefit acts, or other employee benefit acts.

3.15 PROJECT MEETINGS

Contractor will attend and participate in meetings as required by the Contract Documents.

SECTION 4 - ADMINISTRATION OF THE CONTRACT

4.1 CONSULTANT

In the event that Owner terminates its contractual relationship with Consultant, Owner will appoint in writing another Consultant, whose status under the Contract Documents will be that of the former Consultant in all respects.

4.2 CONSULTANT'S ADMINISTRATION OF THE CONTRACT

A. Consultant will make periodic visits to the site to familiarize itself generally with the progress and quality of the Work and to determine if the Work is proceeding in accordance with the Contract Documents. Although Consultant is required to make periodic inspections, it is not required to make exhaustive or continuous onsite inspections. On the basis of its observations while at the site, Consultant will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defects and deficiencies in the Work. Consultant’s failure to observe a defect or deficiency in the Work will not relieve Contractor of its duty to perform the Work in accordance with the Contract Documents.

B. Consultant will review Contractor's payment requests and determine the amounts due Contractor in accordance with Section 9.

C. Communications between Contractor and Owner relating to the Work will be through Consultant. Communications between Owner or Contractor with Consultant’s subconsultants relating to the Work will be through Consultant. Communications between Owner or Consultant and subcontractors relating to the Work will be through Contractor. Communications between Contractor and any separate contractor will be through Consultant, except as otherwise specified in the Contract Documents.

D. Owner and/or Consultant will have the right to reject and require removal of the following at Contractor's expense:
1. Any portion of the Work that does not meet the requirements of the Contract Documents.
2. Any portion of the Work damaged or rendered unsuitable during installation or resulting from failure to exercise proper protection.

E. Consultant will have authority to suspend the Work, with concurrence of Owner, whenever such suspension may be necessary in its reasonable opinion to insure the proper performance of the Work.

F. Consultant will review Contractor’s Submittals and will accept or take other appropriate action regarding the Submittals. Consultant's review of the Submittals will be for the limited purpose of checking for general conformance with the Contract Documents and will not be conducted for the purpose of determining the accuracy and completeness of details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of Contractor. Consultant's review of Submittals will not relieve Contractor of its obligations under the Contract Documents. Consultant's review of Submittals will not constitute acceptance of safety precautions or construction means, methods, techniques, sequences or procedures. Consultant's acceptance of a specific item will not indicate acceptance of an assembly of which the item is a component.

G. Consultant has authority to order Construction Change Directives and Field Changes in accordance with Section 7.

H. Consultant will conduct inspections to determine the dates of Substantial Performance and final completion, will receive and review written guarantees and related documents required by the Contract and assembled by Contractor, and will review and certify or reject Contractor's final payment request.

I. Consultant will be the interpreter of the performance and requirements of the Contract Documents. Consultant's interpretations will be in writing or in the form of drawings.

J. Consultant's decisions in matters relating to aesthetic effect will be final if consistent with the Contract Documents and approved by Owner.

SECTION 5 - SUBCONTRACTORS

5.1 AWARD OF SUBCONTRACTS FOR PORTIONS OF THE WORK

A. Contractor will enter into contracts with Subcontractors to perform all portions of the Work that Contractor does not customarily perform with its own employees.

B. Contractor will not contract with any Subcontractor who has been rejected by Owner. Contractor will not be required to contract with any Subcontractor against whom it has a reasonable objection.

C. If Owner rejects any Subcontractor proposed by Contractor, Contractor will propose an acceptable substitute to whom Owner has no reasonable objection.

D. Contractor will not make any substitution for any Subcontractor that has been accepted by Owner and Consultant without the prior written approval of Owner and Consultant.

5.2 SUBCONTRACTUAL RELATIONS

A. Contractor's responsibility for the Work includes the labour and materials of all Subcontractors, including those recommended or approved by Owner. Contractor will be responsible to Owner for proper completion and guarantee of all workmanship and materials under any subcontracts. Any warranties required for such work will be obtained by Contractor in favor of Owner and delivered to Consultant. It is expressly understood and agreed that there is no contractual relationship between Owner with any Subcontractor, and under no circumstances will Owner be responsible for the non-performance or financial failure of any Subcontractor or any effects therefrom.

B. Contractor agrees to pay the Subcontractors promptly upon receipt of payment from Owner for that portion of the funds received which represents the Subcontractor's portion of the Work completed to Contractor's satisfaction for which Owner has made payment.

C. Contractor will require each Subcontractor to:
1. Be licensed by the province in which the Project is located where such licensing is required by the governing authority;
2. Be bound by the terms of the Contract Documents as far as they are applicable to the Subcontractor's work;
3. Assume toward Contractor the same obligations Contractor has assumed toward Owner, including the prompt payment of its Subcontractors;
4. Submit its applications for payment to Contractor in time to permit Contractor to make timely application to Owner;
5. Execute claim or lien releases or lien waivers for payments made by Contractor; and
6. Make all claims for Changes in the Work to Contractor in the same manner as Contractor is required to make such claims to Owner.

SECTION 6 - CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

6.1 OWNER'S RIGHT TO PERFORM WORK OR AWARDSEPARATE CONTRACTS

A. Owner reserves the right to perform work itself or to award separate contracts in connection with the Project.

B. When separate contracts are awarded, "Contractor" in the Contract Documents in each case will mean the contractor who signs each separate contract.

6.2 MUTUAL RESPONSIBILITY

A. Contractor will afford other contractors reasonable opportunity to place and store their materials and equipment on site and to perform their work and will properly connect and coordinate its Work with theirs where applicable.

B. If any part of Contractor's Work depends upon the work of any separate contractor for proper performance or results, Contractor will inspect and promptly report to Consultant any apparent discrepancies or defects in such work that render it unsuitable for proper performance and results. Failure of Contractor to so inspect and report will constitute an acceptance of the work of the separate contractor as fit and proper to receive Contractor's Work, except as to defects not then reasonably discoverable.

C. Contractor will promptly remedy damage caused by Contractor or any Subcontractor to the completed or partially completed work of other contractors or to the property of Owner or of other contractors.

6.3 OWNER’S RIGHT TO CLEAN UP

If a dispute arises among Contractor and separate contractors as to the responsibility under their separate contracts for maintaining the Project free from waste materials and rubbish, Owner may clean the Project, allocate the cost among those responsible as Owner and Consultant determine to be just, and withhold such cost from any amounts due or to become due to Contractor.

SECTION 7 - CHANGES IN THE WORK

7.1 CHANGES IN THE WORK RESULTING FROM AN INSTRUCTION BY OWNER OR CONSULTANT TO CONTRACTOR

A. If Owner or Consultant gives Contractor an instruction that modifies the requirements of the Contract Documents or delays Substantial Performance, Contractor may be entitled to an adjustment in the Contract Sum and/or the Contract Time. If compliance with the instruction affects the cost to Contractor to perform the Work, the Contract Sum will be adjusted to reflect the reasonable increase or decrease in cost subject to the conditions set forth in Section 7.1, Paragraphs B through G. If compliance with the instruction delays Substantial Performance, the Contract Time will be extended for a period of time commensurate with such delay subject to the conditions set forth in Section 7.1, Paragraphs B through G and Section 7.3, Paragraph A and Contractor will be paid liquidated damages for the delay as set forth in Section 7.3, Paragraph B.

B. If Contractor receives an instruction from Owner or Consultant that Contractor considers to be a Change in the Work, Contractor, before complying with the instruction, will notify Consultant in writing that Contractor considers such instruction to constitute a Change in the Work. If Consultant agrees that compliance with the instruction will constitute a Change in the Work, Contractor will furnish a proposal for a Modification in accordance with Section 7.1, Paragraphs C. and D. within ten (10) days.

C. If Contractor claims that it is entitled to an adjustment in the Contract Sum (including without limitation costs related to a time extension) as a result of an instruction by Owner or Consultant, Contractor will furnish a proposal for a Change Order containing a price breakdown itemized as required by Owner. The breakdown will be in sufficient detail to allow Owner to determine any increase or decrease in Direct Costs as a result of compliance with the instruction. Any amount claimed for subcontracts will be supported by a similar price breakdown and will itemize the Subcontractor's profit and overhead charges. Profit and overhead will be subject to the following limitations:
   1. The Subcontractor's profit and overhead will not exceed ten (10) percent of its Direct Costs on work performed. Subcontractor's profit and overhead will not exceed five (5) percent on work performed by its sub-subcontractors.
   2. Contractor's profit and overhead on work performed by its own crews will not exceed ten (10) percent of its Direct Costs.
   3. Contractor's profit and overhead mark up on work performed by its Subcontractors will not exceed five (5) percent of the Subcontractors' charges for such work.
   4. Amounts due Owner as a result of a credit change will be the actual net savings to Contractor from the Change in the Work as confirmed by Consultant. On credit changes, profit and overhead on the originally estimated work will not be credited back to Owner. If both additions and credits are involved in a single Change in the Work, overhead and profit will be figured on the basis of net increase, if any, related to that Change in the Work.

D. If Contractor claims that it is entitled to an adjustment in the Contract Time as a result of an instruction from Owner or Consultant, Contractor will include in its proposal justification to support Contractor's claim that compliance with the instruction will delay Substantial Performance.

E. Upon receipt of Contractor's proposal for Modification, Consultant and Owner will determine whether to proceed with the Change in the Work. If Consultant and Owner determine to proceed with the Change in the Work, they will issue a Change Order, a Construction Change Directive or a Field Change as appropriate.

F. Contractor agrees that if it complies with an instruction from Owner or Consultant without first giving written notice to Consultant as provided in Section 7.1., Paragraph B, and receiving a Change Order, Construction Change Directive or Field Change, Contractor will not be entitled to any adjustment in the Contract Sum or the Contract Time as a result of the instruction and waives any claim therefor.

G. If Contractor is instructed to perform work which it claims constitutes a Change in the Work but which Owner and Consultant do not agree constitutes a Change in the Work, Contractor will comply with the instruction. Contractor may submit its claim for adjustment to the Contract Sum, the Contract Time, or both as a dispute pursuant to Section 13 within thirty (30) days after compliance with the instruction. Contractor agrees that if it fails to submit its claim for resolution pursuant to Section 13 within thirty (30) days after compliance with the instruction, then Contractor will not be entitled to any adjustment in the Contract Sum or the Contract Time as a result of the instruction and waives any claim therefor.

H. Contractor agrees that it is responsible for submitting accurate cost and pricing data to support its Change Order Proposals. Owner will have the right to examine the Contractor's records to verify the accuracy and appropriateness of the pricing data used to price change order proposals.

7.2 CHANGE IN THE WORK RESULTING FROM AN EVENT OR CIRCUMSTANCE

A. If an event or circumstance other than an instruction from Owner or Consultant affects the cost to Contractor of performing the Work or delays Substantial Performance, Contractor may be entitled to an adjustment in the Contract Sum and/or the Contract Time. If the circumstance or event affects the cost to Contractor to perform the Work and is caused by a willful or negligent act or omission of Owner or Consultant, the Contract Sum will be adjusted to reflect the reasonable increase or decrease in Contractor's cost to perform the Work resulting from the event or circumstance, subject to the conditions set forth in Section 7.2, Paragraphs B through F. If the event or circumstance delays Substantial Performance and is described in Section 7.3, Paragraph A, the Contract Time will be extended for a period of time commensurate with such delay subject to the conditions set forth in such section. If the circumstance or event delays Substantial Performance and is caused by a willful or negligent act or omission of Owner or Consultant, then Contractor will be compensated for costs incident to the delay in accordance with Section 7.3, Paragraph B. Contractor will not be entitled to any adjustment to the Contract Sum or other damages from Owner as a result of any event or circumstance unless the event or circumstance results from a willful or negligent act or omission of Owner or Consultant.

B. If a Change in the Work results from any event or circumstance caused by the willful or negligent act or omission of Owner or Consultant, Contractor will give Owner Written Notice of such event or circumstance within twenty-four (24) hours after commencement of the event or circumstance so that Owner can take such action as is necessary to mitigate the effect of the event or circumstance. Contractor will not be entitled to any adjustment in either the Contract Time or the Contract Sum based on any damages or delays resulting from such event or circumstance during a period more than twenty-four (24) hours prior to Contractor giving such Written Notice to Owner.

C. Contractor will submit in writing any claims for an adjustment in the Contract Time and/or the Contract Sum resulting from an event or circumstance within the time limits set forth below. In the event that Contractor fails to submit its claim in writing within the time limits set forth below, then Contractor agrees it will not be entitled to any adjustment in the Contract Time or the Contract Sum or to any other damages from Owner due to the circumstance or event and waives any claim therefor.
   1. Claims for an adjustment in the Contract Time due to Adverse Weather will be made by the tenth (10th) of the month following the month in which the delay occurred.
   2. Claims for an adjustment in the Contract Time and/or the Contract Sum due to any other circumstance or event will be submitted within seven (7) days after the occurrence of the circumstance or event.

D. If Contractor claims that it is entitled to an adjustment in the Contract Sum (including without limitation costs related to a time extension) because of an event or circumstance resulting from the willful or negligent act or omission of Owner or Consultant, Contractor will furnish a proposal for a Change Order containing a price breakdown as described in Section 7.1, Paragraph C. Any amount claimed for increased labour costs as a result of the event or circumstance must be supported by a certified payroll. Any claim for rented equipment or additional material costs must be supported by invoices.

E. If Contractor claims that it is entitled to an adjustment in the Contract Time as a result of an event or circumstance, Contractor will include with its claim copies of daily logs, letters, shipping orders, delivery tickets, Project schedules, and other supporting information necessary to justify Contractor's claim that the event or circumstance delayed Substantial Performance. If Contractor is entitled to an adjustment in the Contract Time as a result of an event or circumstance caused by the willful or negligent act or omission of Owner or Consultant, Contractor will be compensated for all costs related to the delay in accordance with Section 7.3, Paragraph B.

F. Within thirty (30) days after receipt of Contractor's claim, Consultant will either deny the claim or recommend approval to Owner. If Owner approves the claim, the adjustment in the Contract Time and/or Contract Sum will be reflected in a Change Order pursuant to Section 7.5 or a Construction Change Directive pursuant to Section 7.6. If Owner or Consultant denies Contractor's claim, Contractor may submit its claim as a dispute pursuant to Section 13 within thirty (30) days of receipt of the denial of the claim. If Contractor fails to submit its claim for resolution pursuant to Section 13 within the thirty (30) day time period, then Contractor agrees it is not entitled to any adjustment in the Contract Time and/ or Contract Sum or any other damages as a result of the event or circumstance and waives any claim therefor.

7.3 EXTENSIONS OF TIME

A. If Substantial Performance of the Project is delayed because of any of the following causes, then the Contract Time will be extended by Change Order for a period of time equal to such delay:
   1. Labour strikes or lock-outs;
   2. Adverse Weather;
   3. Unusual delay in transportation;
   4. Unforeseen governmental requests or requirements;
   5. A Change in the Work resulting from an instruction by Owner or Consultant to Contractor subject to the conditions set forth in Section 7.1.; or
   6. Any other event or circumstance caused by the willful or negligent act or omission of Owner or Consultant.

B. Contractor will not be entitled to any compensation for delay described in Section 7.3, Paragraph A, subparagraphs 1, 2, 3 and 4. For each day of delay in Substantial Performance described in Section 7.3, Paragraph A, subparagraphs 5 and 6, Contractor will be paid liquidated damages in the amount per day set forth in the Supplementary Conditions to compensate Contractor for all damages resulting from any delay including but not limited to damages for general conditions costs, additional job site costs, additional home office overhead costs, disruption costs, acceleration costs, increase in labour costs, increase in subcontract costs, increase in materials costs, and any other costs incident to the delay. Contractor will be entitled to no other compensation relating to the delay.

C. In no event will any time extension or cost adjustment be given on account of delay which reasonably should have been anticipated by the Contractor or in circumstances where performance of the Work is, was, or would have been, delayed by any other cause for which the Contractor is not entitled to an extension.

7.4 DOCUMENTATION OF CHANGES IN THE WORK

Every Change in the Work will be documented by a Change Order, a Construction Change Directive or a Field Change. If Owner, Consultant and Contractor reach agreement regarding the adjustment in the Contract Sum, if any, and the adjustment in the Contract Time, if any, resulting from a Change in the Work, then the parties will execute a Change Order pursuant to Section 7.5. If Owner, Consultant and Contractor cannot reach agreement regarding the adjustment in Contract Sum or the adjustment in Contract Time resulting from a Change in the Work, then Owner and Consultant will issue a Construction Change Directive pursuant to Section 7.6. Field Changes require the agreement of Consultant and Contractor only.

7.5 CHANGE ORDERS

Contractor's signature upon a Change Order is Contractor's acknowledgment that it is not entitled to any additional adjustment in the Contract Sum or the Contract Time or any other damages or compensation as a result of the Change in the Work other than that provided for in the Change Order, irrespective of whether a subsequent claim for additional compensation or time extensions relating to the Change in the Work is described as a change in the requirements of the Contract Documents, a delay, a disruption of the Work, an acceleration of the Work, an impact on the efficiency of performance of the Work, an equitable adjustment, or other claim and irrespective of whether the impact of the Change in the Work is considered singly or in conjunction with the impact of other Changes in the Work.

7.6 CONSTRUCTION CHANGE DIRECTIVES

A. Contractor will promptly comply with all Construction Change Directives.

B. Pending final resolution of any adjustment in the Contract Sum or Contract Time relating to a Construction Change Directive, the amounts proposed by Owner in the Construction Change Directive may be included in Contractor's payment requests once the work relating thereto is completed.

C. If after the work described in the Construction Change Directive is completed, Owner, Consultant, and Contractor reach agreement on adjustments in the Contract Sum, Contract Time, or both, such agreement will be reflected in an appropriate Change Order.

D. If the parties do not reach agreement regarding an adjustment to the Contract Sum, Contract Time, or both relating to the Construction Change Directive within thirty (30) days of the completion of the work described therein, then Contractor may submit its claim for an adjustment pursuant to Section 13 within thirty (30) days of the completion of such work. Contractor agrees that if it fails to submit its claim for resolution pursuant to Section 13 within thirty (30) days of completion of the work described in the Construction Change Directive, then it will not be entitled to an adjustment in Contract Sum or Contract Time resulting from such work except as set forth in the Construction Change Directive and waives any claim therefor.

7.7 FIELD CHANGES

Consultant and Contractor will sign a Field Change order listing the Change In The Work and the Contract Sum including markups before Contractor proceeds with the Field Change.

7.8 WAIVER OF CLAIMS

Except as set forth in Section 7, Contractor will not be entitled to any adjustment in the Contract Sum or the Contract Time or for any damages of any kind whatsoever resulting from an instruction from Owner or Consultant, any event or circumstance, or any act or omission of Owner or Consultant and Contractor expressly waives any and all claims therefor.

SECTION 8 - TIME

8.1 TIME IS OF THE ESSENCE

All time limits stated in the Contract Documents are of the essence. By executing the Agreement, Contractor confirms that the Contract Time is a reasonable period for performing the Work. Contractor will proceed expeditiously with adequate resources and will achieve Substantial Performance within the Contract Time.

8.2 COMMENCEMENT OF THE WORK

Contractor will not commence work on the Project site until the date set forth in the Written Notice to proceed. However, Contractor may enter into subcontracts and secure material for the Project after receipt of the Agreement with Owner's authorized signature. Owner will issue the Written Notice to proceed within forty-five (45) days after Owner receives acceptable bonds and evidence of insurance pursuant to Section 11 unless Owner earlier terminates the Agreement pursuant to Section 14.

8.3 DELAY IN COMPLETION OF THE WORK

A. For each day after the expiration of the Contract Time that Contractor has not achieved Substantial Performance, Contractor will pay Owner the amount set forth in the Supplementary Conditions as liquidated damages for Owner's loss of use of the Project and the added administrative expense to Owner to administer the Project during the period of delay. In addition, Contractor will reimburse Owner for any additional Consultant's fees, expert fees, legal fees (on a solicitor and his own client basis), copy costs, and other expenses incurred by Owner as a result of the delay. Owner may deduct any liquidated damages or reimbursable expenses from any money due or to become due to Contractor. If the amount of liquidated damages and reimbursable expenses exceeds any amounts due to Contractor, Contractor will pay the difference to Owner within ten (10) days after receipt of a written request from Owner for payment.

B. At the time Consultant certifies that Contractor has achieved Substantial Performance, Consultant will identify the remaining items to be completed for final completion of the Work and will establish with Contractor a reasonable time for completion of those items. Consultant will set forth the items to be completed and the time established for their completion in a Certificate of Substantial Performance. For each day that Contractor exceeds the time allowed for completion of the items set forth in the Certificate of Substantial Performance, Contractor will pay to Owner as liquidated damages for additional administrative expenses the amount set forth in the Supplementary Conditions. In addition, Contractor will reimburse Owner for any additional Consultant's fees, expert fees, legal fees (on a solicitor and his own client basis), copy costs, and other expenses incurred by Owner as a result of the delay in completing such items.

SECTION 9 - PAYMENTS AND COMPLETION

9.1 SCHEDULE OF VALUES

Contractor will submit to Consultant a schedule of values which allocates the Contract Sum to various portions of the Work. The schedule of values will be supported by such data to substantiate its accuracy as required by Consultant. This schedule, when accepted by Owner and Consultant, will be used as a basis for reviewing Contractor's payment requests.

9.2 PAYMENT REQUESTS

A. Not more than once a month, Contractor will submit a payment request to Consultant for the Work completed, materials stored on the site, and for materials stored offsite as of the date of the payment request.
   1. The amount of the payment request will be based upon the schedule of values and will be equal to the value of the Work completed:
      a. Less retention;
      b. Less all prior amounts paid by Owner to Contractor as part of the Contract Sum; and
      c. Less allowable offsets.
   2. The payment request may include Changes in the Work that have been performed by Contractor and authorized by Owner and/or Consultant pursuant to Section 7.
   3. If a payment request includes materials stored offsite, Contractor will include with the payment request a list of the materials, the location where they are stored and the written request of Contractor and its performance bond surety that payment be

made for such materials.
4. Each payment request will separately itemize GST/HST/PST/QST, where applicable.

B. Contractor warrants and guarantees that upon the receipt of payment for materials and equipment, whether incorporated in the Project or not, title to such materials and equipment will pass to Owner free and clear of all liens, claims, security interests, or encumbrances. Notwithstanding this payment and passage of title, Contractor will remain responsible for all such materials and equipment until actual delivery to the project site, incorporation into the Work, and final acceptance by Owner. Contractor further warrants that no material or equipment covered by a payment request is subject to an agreement under which an interest therein or an encumbrance thereon is retained by the seller or any other person or entity.

9.3 PAYMENT REQUEST CERTIFICATION

A. Consultant will, within seven (7) days after receipt of Contractor's payment request, forward to Owner the payment request certified for such amount as Consultant determines is properly due. If Consultant certifies less than the full amount of the payment request, Consultant will notify Contractor and Owner of Consultant's reasons for withholding certification of the full amount requested.

B. The certification of the payment request will constitute a representation by Consultant to Owner based upon Consultant's observations at the site and the data comprising the payment request, that the Work has progressed to the point indicated and that, to the best of Consultant's knowledge, information, and belief, the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Performance, to results of subsequent tests and inspections, to minor deviations from the Contract Documents correctable prior to completion, and to specific qualifications expressed by Consultant. However, the certification of the payment request will not constitute a representation that Consultant has:
1. Conducted exhaustive or continuous on-site inspections to check the quantity or quality of the Work;
2. Reviewed construction means, methods, techniques, sequences, or procedures;
3. Reviewed copies of requisitions received from Subcontractors or other data requested by Owner to substantiate Contractor's right to payment; or
4. Made examination to ascertain how or for what purpose Contractor has used money previously paid on account of the Contract Sum.

C. In taking action on Contractor’s payment request, Owner will be entitled to rely on the accuracy and completeness of the information furnished by Contractor.

9.4 DECISIONS TO WITHHOLD CERTIFICATION AND PAYMENT

A. Consultant may withhold certification of a payment request in whole or in part to the extent reasonably necessary to protect Owner if, in the opinion of Consultant, the representations to Owner required by Section 9.3, Paragraph B cannot be accurately made. If Consultant is unable to certify payment in the amount of the payment request, Consultant will notify Contractor and Owner as provided in Section 9.3, Paragraph A. If Contractor and Consultant cannot agree on a revised amount, Consultant will promptly certify a payment request for the amount for which Consultant is able to make such representations to Owner. Consultant may also decide not to certify payment or, because of subsequently discovered evidence or subsequent observations, may nullify the whole or a part of a payment request previously certified, to such extent as may be necessary in Consultant's opinion to protect Owner from loss because of:
1. Defective work not remedied;
2. Third-party claims filed or reasonable evidence indicating probable filing of such claims;
3. Failure of Contractor to make payments properly to Subcontractors for labour, materials, equipment, construction or services;
4. Reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
5. Damage to Owner or another contractor for which Contractor is responsible;
6. Reasonable evidence that the Work will not be completed within the Contract Time and that the unpaid balance will not be adequate to cover the cost of completing the Work and damages for the anticipated delay; or
7. Contractor's persistent failure to carry out the Work in accordance with the Contract Documents.

B. Owner reserves the right to withhold payments to Contractor, subsequent to Consultant's certification of any payment request, in order to protect Owner from loss due to any condition described in Section 9.4, Paragraph A, Subparagraphs 1 through 7. Upon satisfactory resolution of any such conditions, payments so withheld will be made.

9.5 PROGRESS PAYMENTS

A. Owner will pay Contractor progress payments within the parameters of Section 9.2 within fifteen (15) days after Owner receives:
1. Contractor’s payment request, certified by Consultant, for work to date;
2. up to date evidence of compliance with applicable workers compensation legislation and as required herein and a statement from the provincial authority administering workers compensation authorizing payment and release of the requested funds; and
3. Statutory Declarations on Forms CCDC 9A and/or 9B (2001), as applicable, by Contractor and its subcontractors.

Owner will make payments to Contractor by either placing the payments in the mail addressed to Contractor or by electronic transfer at Owner’s discretion.

B. Upon receipt of any payment from Owner, Contractor will pay to each Subcontractor the amount paid to Contractor on account of such Subcontractor's portion of the Work.

C. Contractor will maintain a copy of each payment request at the Project site for review by the Subcontractors.

D. No payment made under the Contract Documents, either in whole or in part, will be construed to be an acceptance of defective or improper materials or workmanship.

E. In addition and notwithstanding the foregoing, Owner will also withhold and retain 10% of payments made to Contractor.

F. Owner will pay any unpaid retention less any amounts withheld pursuant to Section 9.4 within forty-five (45) days after Contractor achieves Substantial Performance, submits its payment request for retained funds, delivers to the Consultant Owner's form entitled "Contractor's Substantial Performance Affidavit and Consent of Surety" fully executed by Contractor and its surety, obtains Waiver and Release documents executed by all subcontractors and suppliers having claim against the retained funds, and Owner receives a certificate of occupancy.

9.6 FINAL PAYMENT

A. Owner will make full and final payment of the Contract Sum within thirty (30) days of the completion of all of the following requirements:
   1. Contractor has submitted its final payment request;
   2. Contractor has provided proof of clear title issued after expiration of the time within which liens may be asserted;
   3. Contractor has provided up to date evidence of compliance with applicable workers compensation legislation and as required herein throughout the duration of the Project and has provided a statement from the provincial authority administering workers compensation authorizing payment and release of the requested funds;
   4. Contractor and its subcontractors have submitted Statutory Declarations on Forms CCDC 9A and/or 9B (2001), as applicable;
   5. Contractor has submitted a Final Payment Affidavit and Consent of Surety;
   6. The time for retaining hold back funds under applicable law has expired;
   7. Contractor has collected and provided to Owner all manufacturers' and other guaranties and warranties, properly signed and endorsed to Owner, that are required by the Contract Documents that extend for a period beyond one year after Substantial Performance. (Delivery of such guaranties and warranties will not relieve Contractor for any obligation assumed under any other provision of the Contract Documents); and
   8. Consultant has declared to Owner in writing that the Work is complete and has certified Contractor's final payment request.

B. Acceptance of final payment by Contractor or any Subcontractor will constitute a waiver of claims by the payee except for those claims previously made in writing pursuant to Section 7 and identified by Contractor in its affidavit as still pending.

C. If the aggregate of previous payments made by Owner exceeds the amount due Contractor, Contractor will reimburse the difference to Owner.

SECTION 10 - PROTECTION OF PERSONS AND PROPERTY

10.1 SAFETY PRECAUTIONS AND PROGRAMS

Contractor will be responsible to Owner for initiating and supervising all safety programs in connection with the performance of the Work.

10.2 SAFETY OF PERSONS AND PROPERTY

A. Contractor will take reasonable precautions to prevent damage, injury, or loss to:
   1. All persons on the site;
   2. The Work and materials and equipment to be incorporated into the Work; and
   3. Other property at the site or adjacent to it.

B. Contractor will give notices and comply with applicable laws, ordinances, rules, regulations, and other lawful requirements of public authorities bearing on the safety or protection of persons and property. No work will be performed that may pose an undue safety hazard to Contractor, Contractor's employees, or any other person.

C. Contractor will designate a responsible member of its organization at the site whose duty will be the prevention of accidents. This person will be Contractor's onsite representative unless otherwise designated in writing by Contractor to Owner and Consultant.

10.3 EMERGENCIES

In case of an emergency endangering life or threatening the safety of any person or property, Contractor may, without waiting for specific authorization from Consultant or Owner, act at its own discretion to safeguard persons or property. Contractor will immediately notify Consultant of such emergency action and make a full written report to Consultant within five (5) days after the event.

10.4 HAZARDOUS MATERIALS

In the event the Contractor encounters on the site material reasonably believed to be hazardous materials which have not been rendered harmless, the Contractor shall immediately stop Work in the area affected and report the condition to the Owner and Consultant in writing. The Work in the affected area shall be resumed in the absence of hazardous materials, or when it has been rendered harmless, by written agreement of the Owner and Contractor.

SECTION 11 - INSURANCE AND BONDS

11.1 CONTRACTOR'S LIABILITY INSURANCE

A. Contractor will obtain the following insurance and provide evidence thereof as described below prior to commencement of the Work or within ten (10) days after signing the Agreement, whichever is earlier:

1. Workers Compensation Insurance for Contractor, including optional personal coverage, covering all persons of Contractor who may enter upon the Project and/or participate in the Work in any degree and/or provide materials or services relative thereto, including without limitation, partners, officers, directors, managers, owners, agents, employees, proprietors, and volunteers of Contractor. The Contractor will provide to Owner a "Certificate in good standing" from the Contractor's applicable Provincial Safety and Insurance Board. In addition, Contractor will ensure, and collect evidence thereof, that each Subcontractor obtains and maintains Workers Compensation Insurance for all persons of each Subcontractor.
2. Commercial General Liability Insurance - The insurance coverage will not be less than the insurance required by IBC Form 2100, or its equivalent replacement, provided that IBC Form 2100 will contain the latest edition of the relevant Canadian Construction Documents Committee ("CCDC") endorsement form. To achieve the desired limit, umbrella or excess liability insurance may be used. The policy will provide primary coverage in the event of any Occurrence, Claim, or Suit, with:
   a. Limits of the greater of Contractor's actual coverage amounts or the following:
      1) CA$2,000,000 Aggregate - Products / Completed Operations;
      2) CA$1,000,000 Personal and Advertising Injury;
      3) CA$1,000,000 Per Occurrence;
      4) CA$50,000 Fire Damage (any one fire);
      5) CA$5,000 Medical Expense (any one person);
      6) CA$1,000,000 Non-Owned Automobile.
   b. Endorsements attached thereto including the following:
      1) describing the Agreement and specifying limits as shown above.
      2) adding Owner and Consultant as additional insureds.
3. Automobile Liability Insurance, with: (1) combined single limit each accident or occurrence in the amount of CA$1,000,000 or Contractor's actual coverage, whichever is greater; and (2) coverage applying for bodily injury, death, and damage to property, and covering all licensed vehicles owned or leased by Contractor. Where the policy has been issued pursuant to a government operated automobile insurance system, Contractor will provide Owner with confirmation of automobile insurance coverage for all automobiles registered in the name of the Contractor.
4. All risk contractor's equipment insurance covering construction machinery and equipment used by Contractor for the performance of the Work. This insurance will be in a form acceptable to Owner and will not allow subrogation claims by the insurer against Owner.

B. Contractor will provide evidence of such insurance to Owner as follows:
1. Deliver to Owner a certificate of insurance, on CSIO form or equivalent:
   a. Listing Owner and Consultant as additional insureds on general liability policies or excess policies;
   b. Listing and attaching all endorsements set forth above;
   c. Identifying the Project;
   d. Attaching an endorsement which provides Owner not less than 30 days notice in writing in advance of any cancellation, change, or amendment restricting coverage;
   e. Listing the insurance companies providing coverage. All companies must either (1) be included on the Office of the Superintendent of Financial Institutions - OSFI listing of Federally regulated Financial Institutions, or (2) be listed in AM Best's guide having a rating of B+ Class VII or higher; and
   f. Bearing the name, address, and telephone number of the producer and an original signature of the authorized representative of the producer.

C. Contractor will maintain, from commencement of the Work, insurance coverage required herein as follows:
1. General liability and any excess liability policies through expiration of warranty period specified in Section 12.2, Paragraph B, including completion of any warranty repairs; and
2. All other insurance through Final Payment.

D. Owner reserves the right to reject any insurance company, policy, endorsement, or certificate of insurance with or without cause.

E. The cost of insurance as required above will be the obligation of Contractor. Contractor will be responsible for payment of all deductible amounts under all insurance.

F. Owner will provide builders risk insurance for the cost of the Project. The policy will be written on an all risk basis with coverage for perils of wind, flood, earthquake, and terrorism, with exclusions standard for the insurance industry. The policy will be subject to a CA$5,000 deductible per occurrence which will be the responsibility of Contractor and will not be a reimbursable expense. Owner will provide a copy of the terms and conditions of the builders risk policy to Contractor upon Contractor's request. Contractor will comply with terms, conditions, and deadlines of the builders risk policy. The terms, conditions, and deadlines of the builders risk policy shall govern coverage. In addition, when there is a loss which may be covered by the builders risk insurance policy, Contractor will comply with the following:
1. Contractor will report the loss immediately to builders risk commercial insurer by calling 1-866-537-7475 and shall make such further written submissions as required and otherwise comply with all requirements of the builders risk policy.
2. Contractor will report the loss immediately to the Owner.
3. Contractor will immediately notify its general liability insurance carrier of the loss.
4. Contractor will take all necessary and appropriate actions to protect the property and individuals from further loss, harm, and injury. In the event there are damages resulting from fire or water, restoration shall be performed only by a certified restoration contractor.
5. To the extent possible, Contractor will preserve and not disturb the evidence of the loss until after the builders risk commercial insurer and all interested parties and their insurance carriers have had the opportunity to view and investigate the site and loss.
6. Contractor will cooperate with Owner and the builders risk commercial insurer in the investigation, documentation, and settlement of loss claims, including without limitation promptly responding to all requests for information and documentation from the builders risk commercial insurer and/or Owner.

11.2 PERFORMANCE BOND AND LABOUR AND MATERIALPAYMENT BOND

A. Prior to commencement of the Work or within ten (10) days after signing the Agreement, whichever is earlier, Contractor will

furnish to Owner a performance bond and a labour and material payment bond each in an amount equal to fifty percent (50%) of the Contract Sum, including applicable taxes, as security for all obligations arising under the Contract Documents. Such bonds will:

1. Be written on forms in accordance with the latest edition of the Form CCDC 222 (1979) and Form CCDC 221 (1979);
2. Be issued by a Canadian surety company or companies listed by the Treasury Board of Canada in Contracting Policy - Appendix L as approved for bonding purposes, licensed in the province in which the Project is located, and holding valid certificates of authority as acceptable sureties or reinsurance companies on provincial or federal bonds;
3. Be issued in the names of the Owner; and
4. Have proper corporate seals attached.

B. Owner reserves the right to reject any surety company, performance bond, or labour and material payment bond with or without cause.

C. The cost of the bonds as required above will be the obligation of Contractor.

SECTION 12 - UNCOVERING AND CORRECTION OF WORK

12.1 UNCOVERING OF WORK

Contractor will notify Consultant at least twenty-four (24) hours in advance of performing work that would cover up work or otherwise make it difficult to perform inspections required by the Specifications or by applicable governing authorities. Should any such work be covered without proper notification having been given to Consultant, Contractor will uncover that work for inspection at its own expense.

12.2 CORRECTION OF WORK

A. Contractor will promptly correct any portion of the Work that is rejected by Consultant or which fails to conform to the requirements of the Contract Documents, whether observed before or after Substantial Performance and whether or not fabricated, installed, or completed. Contractor will bear the cost of correcting such rejected Work, including additional testing and inspection costs, compensation for Consultant's services, and any other expenses made necessary thereby.

B. Contractor will remedy any defects due to faulty materials, equipment, or workmanship which appear within a period of one (1) year from the date of Substantial Performance or within such longer period of time as may be prescribed by law or by the terms of any applicable special warranty required by the Contract Documents. Contractor will pay all costs of correcting faulty work, including without limitation additional Consultant's fees, expert fees, legal fees (on a solicitor and his own client basis), copy costs, and other expenses when incurred.

C. Nothing in the Contract Documents will be construed to establish a period of limitation within which Owner may enforce the obligation of Contractor to comply with the Contract Documents. The one year period specified above has no relationship to the time within which compliance with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish Contractor's liability with respect to Contractor's obligations.

12.3 ACCEPTANCE OF NONCONFORMING WORK

A. If Owner prefers to accept any portion of the Work not in conformance with the Contract Documents, Owner may do so instead of requiring removal and correction of the nonconforming Work. In that event, the Contract Sum will be reduced by an amount agreed upon by the parties which reflects the difference in value to Owner between the Work as specified and the nonconforming Work. Such adjustment may consider increased maintenance costs, early replacement costs, increased inefficiency of use, and the like and will be effective whether or not final payment has been made. Such adjustment will be reflected in a Change Order pursuant to Section 7.5.

B. Temporary or trial usage by Owner or Consultant of mechanical devices, machinery, apparatus, equipment, or other work or materials supplied under the Contract Documents prior to written acceptance by Consultant, will not constitute Owner's acceptance.

SECTION 13 - RESOLUTION OF DISPUTES

13.1 SUBMITTAL OF DISPUTE

In the event there is any dispute arising under this Agreement which cannot be resolved by agreement between the parties, either party may submit the dispute with all documentation upon which it relies to the Director of Architecture, Engineering, and Construction, Meetinghouse Facilities Department, 50 East North Temple, Salt Lake City, Utah 84150 U.S.A., who will convene a dispute resolution conference within thirty (30) days. The dispute resolution conference will constitute settlement negotiations and any settlement proposal made pursuant to the conference will not be admissible as evidence of liability. In the event that the parties do not resolve their dispute pursuant to the dispute resolution conference, either party may commence legal action to resolve the dispute. Any such action must be commenced within six (6) months from the first day of the dispute resolution conference or be time barred. Submission of the dispute to the Director as outlined above is a condition precedent to the right to commence legal action to resolve any dispute. In the event that either party commences legal action to adjudicate any dispute without first submitting the dispute to the Director, the other party will be entitled to obtain an order dismissing the litigation without prejudice and awarding such other party any costs and expenses (including legal fees on a solicitor and his own client basis, consultant fees, expert fees, copy costs, and other expenses) incurred by that party in obtaining the dismissal.

13.2 CONTRACTOR TO PROCEED WITH DILIGENCE

Pending final resolution of a dispute hereunder, Contractor will proceed diligently with the performance of its obligations under this

Agreement.

SECTION 14 - TERMINATION

14.1 TERMINATION BY CONTRACTOR

In the event Owner materially breaches any term of the Contract Documents, Contractor will promptly give Written Notice of the breach to Owner. If Owner fails to cure the breach within ten (10) days of the Written Notice, Contractor may terminate the Agreement by giving Written Notice to Owner and recover from Owner the percentage of the Contract Sum represented by the Work completed on the Project site as of the date of termination together with any out of pocket loss Contractor has sustained with respect to materials and equipment as a result of the termination prior to completion of the Work, less any offsets. Contractor will not be entitled to unearned profits or any other compensation or damages as a result of the termination and hereby waives any claim therefor. Contractor will provide to Owner all warranty, as built, inspection, and other close out documents as well as materials that Contractor has in its possession or control at the time of termination. Without limitation, Contractor's indemnities and obligations under section 3.14 as well as all warranties in the specifications relative to Work provided through the date of termination survive a termination hereunder.

14.2 TERMINATION BY OWNER FOR CAUSE

Should Contractor fail to provide Owner with the bonds and certificates of insurance required by Section 11 within the time specified therein, make a general assignment for the benefit of its creditors, fail to apply enough properly skilled workmen or specified materials to properly prosecute the Work in accordance with Contractor's schedule, or otherwise materially breach any provision of the Contract Documents, then Owner may, without any prejudice to any other right or remedy, give Contractor Written Notice thereof. If Contractor fails to cure its default within ten (10) days, Owner may terminate the Agreement by giving Written Notice to Contractor. In such case, Owner may, in Owner's sole discretion, take legal assignment of subcontracts and other contractual rights of Contractor and/or take possession of the premises and all materials, tools, equipment, and appliances thereon, and finish the Work by whatever method Owner deems expedient. Contractor will not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Sum exceeds the expense of finishing the Work, including compensation for additional administrative, architectural, consultant, and legal services (including without limitation legal fees on a solicitor and his own client basis, expert fees, copy costs, and other expenses), such excess will be paid to Contractor. If such expense exceeds the unpaid balance, Contractor will pay the difference to Owner. Contractor will provide to Owner all warranty, as built, inspection, and other close out documents as well as materials that Contractor has in its possession or control at the time of termination. Without limitation, Contractor's indemnities and obligations under section 3.14 as well as all warranties in the specifications relative to Work provided through the date of termination survive a termination hereunder.

14.3 TERMINATION BY OWNER FOR CONVENIENCE

Notwithstanding any other provision contained in the Contract Documents, Owner may, without cause and in its absolute discretion, terminate the Agreement at any time. In the event of such termination, Contractor will be entitled to recover from Owner the percentage of the Contract Sum equal to the percentage of the Work which Consultant determines has been completed on the Project site as of the date of termination, together with any out of pocket loss Contractor has sustained with respect to materials and equipment as a result of the termination prior to completion of the Work, less any offsets. Contractor will not be entitled to unearned profits or any other compensation as a result of the termination and hereby waives any claim therefor. Contractor will provide to Owner all warranty, as built, inspection, and other close out documents as well as materials that Contractor has in its possession or control at the time of termination. Owner may, in Owner's sole discretion, take legal assignment of subcontracts and other contractual rights of Contractor. Without limitation, Contractor's indemnities and obligations under section 3.14 as well as all warranties in the specifications relative to Work provided through the date of termination survive a termination hereunder.

SECTION 15 - MISCELLANEOUS PROVISIONS

15.1 GOVERNING LAW

The parties acknowledge that the Contract Documents have substantial connections to the province of Alberta. The Contract Documents will be deemed to have been made, executed, and delivered in the province of Alberta. To the maximum extent permitted by law, (i) the Contract Documents and all matters related to their creation and performance will be governed by and enforced in accordance with the laws of the province of Alberta, excluding conflicts of law rules; and (ii) all disputes arising from or related to the Contract Documents will be decided only in a local court of Alberta and not in any other court, province, or territory. Toward that end, the parties hereby consent to the jurisdiction of the local courts of Alberta and waive any other venue to which they might be entitled by virtue of domicile, habitual residence, place of business, or otherwise.

15.2 NO WAIVER

No action or failure to act by Owner, Consultant, or Contractor will constitute a waiver of a right or duty afforded them under the Contract Documents, nor will such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed in writing.

15.3 RULE OF CONSTRUCTION

Owner and Contractor agree that the Contract Documents will be deemed to have been drafted by both Owner and Contractor and will not be construed against either Owner or Contractor because of authorship.

15.4 COSTS AND LEGAL FEES

In the event either party commences legal action to enforce or rescind any provision of the Contract Documents, the prevailing party will be entitled to recover its costs and expenses (including legal fees on a solicitor and his own client basis, consultant fees, expert

fees, copy costs, and other expenses), incurred in that action and on all appeals, from the other party.

15.5 TESTS AND INSPECTIONS

A. Owner and Consultant have the right to have tests made when they deem it necessary. Tests conducted by Owner or Consultant will be paid for by Owner. Should a test reveal a failure of the Work to meet Contract Document requirements, the cost of the test as well as subsequent tests related to the failure necessary to determine compliance with the Contract Documents will be paid for by Owner, with the cost thereof deducted from the Contract Sum by Modification.

B. Tests will be made in accordance with recognized standards by a competent, independent testing laboratory. Materials found defective or not in conformity with Contract Document requirements will be promptly replaced or repaired at the expense of Contractor.

C. Owner and Consultant have the right to obtain samples of materials to be used in the Work and to test samples for determining whether they meet Contract Document requirements. Samples required for testing will be furnished by Contractor and selected as directed by Consultant. Samples may be required from the sample's source, point of manufacture, point of delivery, or point of installation at Consultant's discretion. Samples not required as a Submittal in the Specifications will be paid for by Owner. Should tests reveal a failure of the Sample to meet the Contract Document requirements, Contractor will provide other Samples that comply with the requirements of the Contract Documents.

END OF DOCUMENT

S P E C I F I C A T I O N S

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S U P P L E M E N T A R Y C O N D I T I O N S

FOR FIXED SUM (CANADA)

ITEM 1 - GENERAL

1. Conditions of the Contract apply to each Division of the Specifications.
2. Provisions contained in Division 01 apply to all Divisions of the Specifications.

ITEM 2 - LIQUIDATED DAMAGE AMOUNTS:

1. The amount of liquidated damages to be paid to the Contractor for delays under General Conditions Section 7.3, Paragraph B is CAD$170.00 per day.

2. The amount of liquidated damages to be deducted by Owner from final payment for delays in Substantial Performance of the Work under General Conditions Section 8.3, Paragraph A is CAD$170.00 per day.

3. The amount of liquidated damages to be deducted by Owner from final payment for delays in completing work itemized on the Substantial Performance Certificate under General Conditions Section 8.3, Paragraph B is CAD$155.00 per day.

ITEM 3 - PROVINCE SPECIFIC SUPPLEMENTARY CONDITIONS

Alberta

RETENTION APPLIED TO CONTRACTOR PAYMENTS FOR PROJECTS IN ALBERTA:

Replace the following to Section 9.5.E and F with the following:

E. In addition and notwithstanding the foregoing, Owner will also withhold and retain 10% of each payment made to Contractor. Owner will establish a major lien retention fund for the 10% of retained progress payments made prior to Substantial Performance and a minor lien retention fund for the 10% of retained payments made after Substantial Performance.

1. The major lien retention fund may be maintained for a period of forty-five (45) days after the certificate of Substantial Performance is issued or, if no certificate is issued, for a period of forty-five (45) days after completion of the Work. The major lien retention funds may be released upon satisfaction of the following requirements:
   a. Contractor has submitted a payment request, certified by Consultant, for release of the major lien retention funds;
   b. Contractor has provided proof of clear title issued after expiration of the time within which liens may be asserted;
   c. Contractor has provided up to date evidence of compliance with applicable workers compensation legislation and as required herein throughout the duration of the Project and has provided a statement from the provincial authority administering workers compensation authorizing payment and release of the requested funds;
   d. Contractor and its subcontractors have provided Statutory Declarations on Forms CCDC 9A and/or 9B (2001), as applicable; and
   e. The time for retaining hold back funds under applicable law has expired.
2. The minor lien retention fund may be maintained for a period of forty-five (45) days after final completion of the Work. The minor lien retention funds may be released upon satisfaction of the requirements set forth in Section 9.6.

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AGREEMENT BETWEEN OWNER AND CONTRACTOR
FOR A FIXED SUM (Canada)

The Church of Jesus Christ of Latter-day Saints in Canada, an Alberta special act corporation ("Owner") and ____ ("Contractor") hereby enter into this *Agreement Between Owner and Contractor for a Fixed Sum (Canada)* ("Agreement") and agree as follows:

1. **Property/Project.**

   Property/Project Number:
   Property Address ("Project Site"):
   Project Type:
   Project Name ("Project"):
   Stake Name:

2. **Scope of the Work.** Contractor will furnish all labour, materials, equipment, construction, and services necessary to complete the Work in accordance with the Contract Documents.

3. **Contract Documents.**
   a. The Contract Documents consist of:
      1) This Agreement;
      2) The General Conditions for a Fixed Sum (Canada), the Supplementary Conditions for a Fixed Sum (Canada), and the Specifications (Divisions 01 through 49) contained in the Project Manual entitled _____, dated _____, and prepared by _____ ("Consultant");
      3) The Drawings prepared by Consultant entitled _____, sheet numbers _____, dated _____;
      4) Addendum No. _____ dated _____; and
      5) All Modifications to the Contract Documents.
   b. The Contract Documents are incorporated into this Agreement by reference as if fully set forth herein.
   c. The definitions set forth in the General Conditions for a Fixed Sum (Canada) will apply to the Contract Documents.
   d. The Contract Documents contain the entire and integrated agreement between the parties hereto and supersede all prior negotiations, representations, or agreements, either written or oral.
   e. Modifications or other amendments to the Contract Documents must be in writing and as provided in the General Conditions for a Fixed Sum (Canada).

4. **Time of Commencement and Substantial Performance.**
   a. Contractor will commence the Work on the date for commencement set forth in the Written Notice to proceed from Owner to Contractor.
   b. Contractor will achieve Substantial Performance and have the Work ready for Owner's inspection no later than _____ (_____) days from the date of commencement set forth in the Written Notice to proceed from Owner to Contractor, as adjusted in accordance with the Contract Documents.
   c. Time is of the essence.

5. **Contract Sum.**
   a. Owner will pay Contractor for performance of Contractor's obligations under the Contract Documents the Contract Sum in the amount of _____ Canadian Dollars (CA$_____) (plus GST/HST/PST/QST where imposed), subject to additions and deductions as provided in the Contract Documents.
   b. Owner will make payments to Contractor in accordance with the Contract Documents.

6. **Independent Contractor Relationship.** Contractor is an independent contractor and is not the agent or employee of Owner.

7. **Assignment.** Neither party to this Agreement will assign any right or obligation hereunder without the prior written consent of the other, which consent may be granted or withheld in such party's absolute discretion. Contractor will not assign moneys due or to become due to Contractor hereunder, nor will Contractor pledge the credit of Owner or bind Owner to any third party.

8. **Notice.** The parties designate the addresses, facsimile numbers, and email addresses as set forth in the

signature blocks below to be used for sending Written Notice to the other party:

9. **Effective Date.** The effective date of this Agreement is the date indicated by the Owner's signature.

10. **English / French Contract Documents.** When any of the Contract Documents are prepared in both the English and French languages, it is agreed that in the event of any apparent discrepancy between the English and French versions, the English language version shall prevail. The Contract Documents are drawn in English by agreement and at the request of the parties. (Les Documents Contractuels sont rédigés en anglais par consentement à la demande des parties.)

OWNER: The Church of Jesus Christ of Latter-day Saints in Canada, an Alberta special act corporation.	**CONTRACTOR:** (company)
Signature:	Signature:
Print Name:	Print Name:
Title:	Title:
Address:	Address:
Telephone No:	Telephone No:
Facsimile No:	Facsimile No:
Email:	Email:
Effective Date:	GST / HST / PST / QST No:
	License No:
Reviewed By:	Date Signed: