1. **GENERAL**
   1. **Requirements Include**
      1. Steel handrails, guardrails, railings, and accessories for a complete system.
   2. **General Requirements**
      1. Exterior handrails and guardrails: Galvanized or stainless steel. Stainless steel is preferred.
         1. Galvanized and then painted – service areas only.
         2. Stainless steel finish: type 316, brushed #4 – all public areas.
   3. **System Description / Performance Requirements**
      1. Structural Performance of Handrails and Railings: Provide handrails and railings complying with requirements of the latest edition of the BC Building Code.
      2. Thermal Movements: Provide handrails and railings that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
         1. Temperature Change (Range): 67 degrees of C, ambient; 100 degrees of C, material surfaces.
      3. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.
2. **QUALITY ASSURANCE**
   1. **Requirements**
      1. Fabricator Qualifications: A firm experienced in producing metal handrails and railings similar to that indicated for the Work with a record of successful in-service performance, and sufficient production capacity to produce required units.
      2. Testing Agency Qualifications: An independent testing agency with the experience and capability to conduct the testing indicated.
      3. Preconstruction Testing Service: Engage a qualified independent testing agency to test handrails and railings for compliance with specified requirements for performance and test methods. Conduct tests using specimens and assemblies representative of proposed materials and construction.
         1. Fabricate and install test assemblies using personnel who will perform the same tasks for Project.
         2. Select sizes and configurations of assemblies to adequately demonstrate capability of handrails and railings to comply with performance requirements.
         3. Notify Consultant seven (7) days in advance of dates and times when assemblies will be constructed.
         4. When testing is complete, remove assemblies; do not reuse materials on Project.
      4. Welding Standards: Qualify procedures and personnel according to the following:
         1. AWS D1.1 "Structural Welding Code-Steel."

\*\*\* END OF **HANDRAILS and GUARDRAILS** SECTION \*\*\*