

**PART 1 GENERAL****1.1 Summary**

- .1 Unless otherwise indicated, follow the standards below when specifying natural stone for landscape use. These standards are not intended to restrict or replace professional judgment.

**1.2 References**

- .1 ASTM International
  - .1 ASTM C97 Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone.
  - .2 ASTM C99 Standard Test Method for Modulus of Rupture of Dimension Stone.
  - .3 ASTM C170 Standard Test Method for Compressive Strength of Dimension Stone
  - .4 ASTM C568 Standard Specification for Limestone Dimension Stone.
  - .5 ASTM C615 Standard Specification for Granite Dimension Stone.

**1.3 Design Requirements**

- .1 Types of Natural Stones
  - .1 The following are considered by McGill as “noble materials” and its use will be considered for landscape elements
    - .1 Granite.
    - .2 Limestone.
      - .1 St-Marc Limestone.
      - .2 Indiana Limestone.
    - .3 Sandstone.
      - .1 Bluestone.
      - .2 Silicate Sandstone
    - .4 Slate.
  - .2 Natural Stone landscape features
    - .1 The following elements of landscape features that can be built using natural stone.
      - .1 Borders
      - .2 Steps
      - .3 Walls and retaining walls
      - .4 Prefabricated paving units.
        - .1 Granite is accepted.
        - .2 Other natural stones are not accepted for heavy traffic areas.

- .5 Etc.
- .2 The use of solid materials rather than veneer is preferred.
- .3 Other stones
  - .1 River rock or other loose stone used as surfacing material is to be avoided.

## **PART 2 PRODUCTS**

### **2.1 Limestone**

- .1 Shall meet or exceed the ASTM C568 standard.
- .2 Shall be Category II, medium density.

### **2.2 Granite**

- .1 Granite "Picasso", in accordance with ASTM C615, as provided by Polycor or approved equivalent.
  - .1 Texture: Medium to moderately coarse grain.
  - .2 Finishing
    - .1 All exposed surfaces will be thermal finished "*Brulé propane*" as performed by Polycor or approved equivalent.
      - .1 Other finishes may be acceptable on occasion for specific effects or highlights. However, "Brulé propane" should remain the overall standard.
        - .1 If other finishes are used on walkways or roads, slippery finishes (such as "polished") should be avoided.
    - .2 Appearance: free of cracks, splinters, scratches or spalling.
    - .3 Uniform, free of veins, or other defects affecting the appearance, strength or durability.
    - .4 The physical characteristics and mechanical granite should be as follows :
      - .1 Massive absorption: 0.16%, according to ASTM C97.
      - .2 Uniaxial compression: 160,5Mpa, according to standard C170.
      - .3 Density: 2 646kg / m<sup>3</sup>, according to ASTM C97.
      - .4 Modulus of rupture: 16,3Mpa, according to ASTM C99.

### **2.3 Sandstone**

- .1 Conforming to ASTM C568 standard, category II, average density
- .2 The stone shall be free of imperfections; no stylolytes (resembling faults and/or cracks), without clay, without inclusions of iron or others, without holes. Stylolytes deemed acceptable will be very low and discontinuous.
- .3 Density: 2160 - 2560kg/m<sup>3</sup>
- .4 Supplier: *Carrière St-Marc* or approved equivalent.

**2.4 Joints**

.1 Joints adjoining or between stone pieces shall be filled using Sikaflex 1a, or approved equivalent.

.1 Colour:

.1 For "Picasso" granite pieces: "medium bronze"

.2 For limestone: "stone"

**2.5 Material Requirements**

.1 Do not request to the general contractor the surplus for replacement.

**PART 3 EXECUTION****3.1 Prefabricated unit paving.**

.1 Refer to Section **32 14 15** Prefabricated Unit Paving.

**END OF SECTION**