NOTE TO CONSULTANTS: Edit with Track Changes turned on, any text in this section that appears in bold and italics then turn off the bold and italics for the final approved version. (Remove this Note).

PART 1 - GENERAL

1.01 Reference Standards: Conform to requirements of the following Reference Standards or as modified and supplemented hereinafter.

A. ACI Specifications for Structural Concrete for Buildings, ACI 301.

B. ACI Recommended Practice for Cold Weather Concreting, ACI 306.

C. ACI Recommended Practice for Hot Weather Concreting, ACI 605.

1.02 Quality Assurance: Concrete Work: Concrete work, where indicated to be exposed, is architecturally finished concrete. Special care must be taken to provide specified, finished surfaces without gravel pockets, and other defacements. The Engineer shall inspect concrete after removal of forms and before concrete repair work begins. Call the **SPR Inspection Request Line @ (206) 684-7034 or by email at parksconstruction.inspection@seattle.gov** to make arrangements for inspection.

1.03 Related Sections:

Section 32 13 13 - Concrete Paving
Section 03 10 00 - Concrete Formwork
Section 03 20 00 - Concrete Reinforcement
Section 03 30 00 - Cast in Place Concrete

1.04 Protection: Protect persons and adjacent materials and finishes from dust, dirt and other surface or physical damage during finishing operations, including materials driven by wind.

PART 2 - PRODUCTS *(Not Used)*

PART 3 - EXECUTION

3.01 Repairs:

A. Immediately after removal of forms and inspect all surfaces for defects. Repair or patch defects only after defects are inspected by the Engineer and then only with the Engineer's permission. Do all cutting and repair within 48 hours after removal of forms; cure repairs same as new concrete.

B. Defective Areas: Where patches are allowed, repair and patch areas; must match the surrounding areas in color and texture so as to be indistinguishable after completion, including curing and finishing. Determine mix for color by trial mixes before

patching; after initial cure, dress patch or repair area mechanically or by hand for texture match.

3.02 Finishes for Formed Surfaces:

A. Rough Form Finish: Provide for surface of walls and footings adjacent to grade or below grade. This is the concrete surface having texture imparted by form facing material use with tie holes and defective areas repaired and patched and fins and other projections exceeding 1/4 inch in height rubbed down or chipped off.

B. Smooth Formed Finish: Provide a smooth formed finish on formed concrete surfaces exposed to view. This is an as-cast concrete surface obtained with selected form facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Remove fins and other projections completely and smoothed. Repair and patch honeycombs and defective areas as directed by the Engineer. Tie holes shall not be filled.

C. Sacked Finish:

1. On all designated surfaces of the exposed concrete, provide a sacked finish by coating the concrete with sacking mortar. Sacking of patched or defective concrete surfaces may be required by the Engineer for areas not other wise already requiring this work.
2. Repair and patch tie holes, honeycombs and defective areas and trowel to smooth finish. Remove fins and other projections completely and smoothed.
3. Thoroughly wet surface to prevent absorption.
4. Coat entire surface with sacking mortar as soon as surface of concrete approaches surface dryness.
5. Thoroughly and vigorously rub mortar over area with clean burlap pads to fill all voids.
6. While mortar is still plastic but partially set (so it cannot be pulled from voids), sack-rub surface with dry mix of sacking mortar (leave out water). There should be no discernible thickness of mortar on concrete surface, except in voids; all surfaces should be uniformly textured.
7. Immediately begin a continuous moist cure for 72 hours.

D. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated. Provide for face surface of walls adjacent to plaza, walks and stairs.

3.03 Finishes for Unformed Surfaces:

A. Screed all slabs, for whatever finish, to true levels or slopes, work surfaces only to the degree required to produce the desired finish; do no finishing in areas where water has accumulated, drain and rescued; in no case use cement and sand sprinkling

to absorb moisture. Carefully finish all joints and edges with proper tools, unless otherwise specified.

B. Rough Screed Finish: Consolidate, level, and screed all surfaces to obtain evenness and uniformity; remove all surplus concrete after consolidation by striking off with sawing motion against guide strips. Provide for top horizontal surfaces of non-exposed footings. Provide for concrete slab under synthetic safety surfacing.

C. Float Finish: Apply float finish to monolithic slabs to receive trowel or other finishes. After screeding, consolidating, and leveling concrete slabs, do not work surface until ready for floating. Begin floating, using float blades or float shoes only, when surface water has disappeared, or when concrete has stiffened sufficiently to permit operation of power-driven floats, or both. Consolidate surface with power driven floats or by hand floating if area is small or inaccessible to power units. Finish surfaces to tolerances of F(F) 18 (floor flatness) and F(L) 15 (floor levelness) measured according to ASTM E 1155. Cut down high spots and fill low spots. Uniformly slope surfaces to drains. Immediately after leveling, re-float surface to a uniform, smooth, granular texture.

D. Broom Finish: Apply a non-slip broom finish to all exterior concrete slabs, stairs, walks, and ramps, and elsewhere as indicated. Immediately after float finishing, slightly roughen concrete surface by brooming with fiber bristle broom perpendicular to main traffic route.

E. Defective Work: Remove and replace when directed by the Engineer, surfaces which show excessive shrinkage cracks.

3.05 Curing:

A. Protect freshly deposited concrete from premature drying and excessively hot or cold temperatures; maintain minimal moisture loss at relatively constant temperature for necessary hydration time and proper relatively constant temperature for necessary hydration time and proper hardening of concrete.

B. Duration of Curing: In addition to the initial overnight curing, continue final curing operations until the cumulative number of days or fractions thereof (not necessarily consecutive) occurs, during which time the temperature of the air in contact with the concrete is above 50 degrees F, equals 7 days. If high-early strength concrete has been used, continue final curing operation for 3 days total time, calculated as before. Take care to prevent rapid drying at the end of the curing period. If early removal of forms is approved and forms are removed during the curing period, apply one of the curing methods specified in City of Seattle Standards Specifications (most recent edition), and continue curing for the remainder of the required curing period.

3.06 Inspection: The Contractor shall notify Engineer that they are starting concrete finish repair work at least 48 hours prior to the beginning of work. Call the **SPR Inspection Request Line @ (206) 684-7034 or by email at parksconstruction.inspection@seattle.gov** to make arrangements for inspection

3.07 Cleaning: Leave the premises completely clean and free of residue from the work of this section.

END OF SECTION