PART 1 - GENERAL

1.01. Summary:

A. See UAF Master Landscape Plan.

B. All roadways per the American Association of State Highway and Transportation Officials, (AASHTO) Standards for local roads.

C. Roadway and parking lot signs per the Manual of Uniform Traffic Control Devices, Federal Highway Administration with Alaska Supplement. Colors of post and street name signs selected by UAF.

D. Consultant shall provide standard DOT/AASHTO details for approval by Facilities Services for the following.

1. Standard roadway and driveway geometrics.


1.02 Systems descriptions and requirements:

A. General environmental conditions and requirements:

1. Ambient temperatures can range from -65 deg. F to +97 deg. F over the course of the year. Design exterior systems: caulking, moisture protection, asphalt, etc, to accommodate expansion/contraction and thermal stresses brought about by the extreme temperature range in Fairbanks. Use only proven methods and materials.

2. Take particular care in areas with southern, eastern, and western exposures. Structures with these exposures will be subjected to daily freeze-thaw cycles during the full period of the spring thaw.

B. Vehicle access and circulation:

1. Minimum traveled lane width for multilane roads- centerline to lane stripe or face of curb: 10 feet for driveways and 12 feet for streets. For single lane roads and driveways, traveled lane shall be a minimum of 16 feet from edge to edge of road.

2. Provide curb and gutter on most roadways and a minimum of a 2 feet wide paved shoulder beyond the travel lane.

4. Grade in the direction of travel: maximum of 5%. Grade transverse to the direction of travel: a minimum of 2% and maximum of 4%. One-way streets or driveways may exceed these limits.

5. Design roadway and parking lot structures sufficient to support an AASHTO HS20 or H20 design vehicle at all times of the year.

6. Vehicle circulation paths and parking: include fire department and emergency vehicle access, maintenance vehicle parking areas, ADA-required accessible routes, ADA-required accessible parking areas, delivery and private vendor access, and user access and parking. All designs shall be compatible with the UAF Master Plan for Circulation and Parking.

7. Automobile head-bolt heater outlets: Provide for all long term parking spaces. Cords shall not cross walkways, drives or adjacent parking. Refer to Division 26.

8. Design parking lots for straight forward snow removal and drainage.

9. Where practical, design in a widened shoulder or separated path for bicycle access and circulation.

C. Pedestrian access and circulation:

1. Sidewalks: Minimum width: 6 feet. Preferred width: 8 feet. Minimum of 6 inch thickness. Concrete per Section 03

2. Provide a 1 foot minimum clearance each side of the walkway to vertical obstructions such as buildings, trees, light poles, etc.

3. Canopies/roofs: Provide at exterior stairs and landings, ramps, and at the landings of building entrances and exits to prevent rain and the accumulation of snow and rain on these structures per applicable codes and OSHA regulations. Direct canopies/roofs runoff away from sidewalks or other pedestrian pathways. Provide minimum 15-foot x 15-foot area immediately adjacent to the protected area for equipment turn around. No snow or rain drainage is allowed on pedestrian walkways or parking spaces.

4. Provide handrails and guardrails on exterior stairwells and walkways as required by applicable codes and OSHA regulations.

5. Design walkways, hard landscaping, and adjacent facilities for UAF Facilities Services snow removal operations, snow storage areas, snow throw directions, maneuvering areas for snow removal equipment, and occasional use by maintenance and emergency vehicles.
6. Design pedestrian access and circulation such that snow melt will shed to a ditch, storm drain system, or curb and gutter system. Do not place paths in locations that will accumulate ice from dripping snowmelt from building exteriors, or adjacent landscaped areas.

7. Maximum 7% sidewalk ramp slope in any direction.


9. Snowmelt systems may only be used if proper drainage can be provided to avoid icing at the demarcation point between heat and non-heated slab.

D. Drainage:

1. Do not connect year around water flow sources to the storm drainage systems.

2. Size drainage structures for 50 year design storm for Fairbanks.

3. Site drainage: Design to prevent water flow and snow runoff from crossing over pedestrian paths.

4. Channel drainage in surface structures to the greatest extent possible - ditches, swales, etc. Structure side slopes: Maximum 4:1 but in no case greater than 3:1.

5. Ductile iron for all inlets, manhole covers and other drainage structures, sized to withstand AASHTO H20 and HS20 loading.

6. Avoid retaining walls when practical.

7. Grade exterior stair risers at 1% to drain water to the side unless they have an open structure such as grating. For open type risers, grade under the stairs to control drainage to a safe area and the ultimate point of departure. Install curbing or other features to provide positive prevention of drainage flowing onto the stairway from exterior sources.

8. Design for positive drainage away from all surface structures that are not intended to receive drainage such as building foundations, manholes, cleanouts, fire hydrants, valve boxes, light poles, junction boxes, conduit, etc.

9. Drainage paths and structures: Include entry and departure points and anticipated magnitudes of flow. Include locations of drainage discharge from the building to the site - including normal and overflow roof drains, foundation drains, and dry wells.

10. Drainage from roof drains shall be directed to an appropriately sized new or existing storm water system. Dry wells for the total roof drain flow are not allowed; consideration may be given for drywells or infiltration systems to receive incidental
winter snow melt flow. Locate and design dry wells or infiltration systems to preclude ground saturation within the building foundation structural prism. Drywells shall have a vent and bypass with outfall onto a concrete or stone spillway, graded away from the structure. Infiltrator type drywells are preferred to reduce contamination from impermeable materials.

11. Design all storm water systems to meet EPA and State of Alaska DEC criteria for the most current APDES Permit applicable to the Fairbanks Urbanized Area.

E. Consider snow removal procedures, maneuvering requirements, and storage for walkways, roads, drives, and parking lots:

1. Roadways and parking areas: Provide snow storage areas readily accessible to, and within 1000 feet of, the area from which snow is removed.

2. Provide snow storage areas adjacent to walkways.

3. Design snow storage area capacity for 2.3 cubic feet of packed snow for every 1 square foot of area from which snow is removed.

4. Locate snow storage areas to protect structures, roadways, parking lots or walkways from spring snow melt.

5. Provide adequate maneuvering space for snow removal equipment. Roads and lots are cleared with road graders and front end loaders. Walkways are cleared with motorized brush maintenance vehicles.

6. Provide ramps or drives to all areas requiring snow removal, configure for access by snow removal equipment.

7. Do not locate permanent bicycle racks, benches, and other fixed site equipment in areas of mechanized snow removal. Place light poles, raised manholes, transformers, and other similar structures at least 9 feet away from the roadway edge of pavement or face of curb and at least 6 feet away from the edge of sidewalks or walkways.

8. Designate snow storage areas, and design roadways and parking lots to allow efficient removal of snow to those areas without damage to roadway or lot equipment or structures. Construct inside curb curves in street-side parking alcoves with a minimum 20 foot radius to the face of curb. In parking lots do not use curbs, bumper blocks, peninsulas, or similar structures that inhibit the straight push of snow to the storage area. Avoid 'hammerhead' or 'barbell' ends in parking lots.

9. Design parking lots to allow efficient snow removal and to provide ADA-compliant access to engine heater receptacles. Provide barriers to physically protect headbolt heater outlet posts, area lighting standards, and other electrical equipment from vehicles and snow removal operations. Plan barriers for year-round ADA-compliant access to headbolt heater receptacles.
F. Locate buried utility with adequate operational and maintenance access and such that future excavation, using OSHA trench safety requirements, will not undermine permanent structures, require removal of substantial trees, or unduly block vehicle or pedestrian access. Design the utilities systems to resist the seasonal structural and thermal forces, i.e. frost jacking, shading, lack of snow cover, traffic loading, etc. Locate and dimension surface facilities to accommodate anticipated snow depths.

G. Design refuse handling storage and disposal (dumpsters) to minimize visual exposure to students and the public, and for safe and efficient access by custodians and refuse trucks.

1. Locate dumpsters to minimize dumpster/pedestrian conflict. In no case may dumpsters be closer to a building than code allows. Locate dumpsters within 75-feet of buildings when this can be accomplished without forcing pedestrian traffic next to dumpsters.

2. The refuse truck maneuvering space requirements approximate those of an AASHTO SU design vehicle.

3. Configure the path of refuse delivery to allow efficient snow removal and traction sand application with normal walkway snow removal motorized brush equipment. Where possible, cover path to prevent snow accumulation.

4. Provide a minimum 10 foot wide maintenance access around and adjacent to the entire perimeter of the dumpster. Maximum grade 5%.

PART 2 - PRODUCTS

2.01 Site Furnishings, UAF standards: (confirm current model numbers with Faciliteis Services Operations.)

A. Bicycle racks. Brandier International, Inc. - "Ribbon Rack No. RB11" or equal.

B. Trash can, 45 gallons, Rubbermaid #8442, "Ranger", beige with walnut panels, with rigid liner, Rubbermaid #3567, walnut/beige or equal.

C. Benches. Brandier International, Inc. - "TF 2140-8" and "2028-8" or equal