Exterior Building-Mounted Equipment Placement Procedure

General: The purpose of this procedure is to establish clear standards and review requirements for the placement, modification, and operation of exterior building-mounted equipment, including antennas, at the University of Alaska Fairbanks. For the purposes of this procedure, "exterior building-mounted equipment" includes any permanently or semi-permanently affixed equipment or antenna installed on roofs, parapets, exterior walls, façades, towers, or appurtenant structures, including associated cabling, supports, and penetrations. These standards are intended to preserve and enhance campus character and visual cohesion while ensuring that all exterior installations are planned, installed, and maintained in a manner that prioritizes safety, operational compatibility, and long-term asset stewardship.

This procedure addresses potential risks associated with exterior equipment, including but not limited to fall hazards, radio frequency (RF) exposure, rooftop exhaust discharge, structural loading, and interference with existing building systems and equipment. It applies to any UAF-owned buildings governed under the UAF Campus Master Plan. This generally includes buildings on the main and community campuses, and designated research sites owned by the University.

By providing a consistent framework for evaluation and approval, the procedure supports safe access for personnel, minimizes conflicts between systems, and ensures compliance with applicable codes, regulations, and university standards.

Proposal Requirements: User requirements shall be fully described in the proposal and include information as outlined on the attached checklist. The Antenna / Equipment Placement Request Form shall be the first and top page of the User proposal package.

Technical and Safety Requirements: Technical requirements for installing, operating, and maintaining the antenna or equipment must comply with all applicable codes and regulations, UAF Campus Design Standards, and Environmental, Health, Safety, and Risk Management (EHSRM) risk and safety concerns. The system must be designed and installed in accordance with the manufacturer's recommendations and current building codes. A stamped engineering design document must confirm code compliance, adherence to manufacturer requirements, and preservation of building envelope integrity and warranties.

Site Reclamation: All proposals must include a plan and an identified funding source to return the rooftop, building, or site to its original condition upon decommissioning. Removal and remediation costs are the responsibility of the user/owning department.

Review and Approval Process: At a minimum, the UAF Campus Master Planning Committee, EHSRM, and FS DDC will review and approve all installations. Based on the size, type, or aesthetic character of the equipment, some installations will rise to the level of the Chancellor. See the attached flow chart. An incomplete submittal will result in delays. No antenna or exterior-mounted equipment may be installed, modified, or replaced without written approval through this process. Unauthorized installations may be subject to removal at the user's/owning department's expense.

Post-Installation Information: **E**quipment permanently affixed to a building will become an asset in the FS Asset Management database, where information included in the proposal, design data, ownership, and other pertinent material will be gathered. FCC licensing or other governing agency approval to operate (NASA, NWS, etc), if applicable, will be the responsibility of the department owning the asset.

Antenna / Equipment Placement Request Checklist: User Antenna / Equipment Placement Request shall specifically address the following basic criteria:

Site Options: Provide information on the location proposed for the equipment and alternative locations considered during planning.

Funding: Provide information on funding for the equipment projects, indicating the underlying research program it will support and the department that will be responsible for maintenance and remediation.

Justification and Reason for the Equipment: Provide reason for the building selected, why the equipment has to be mounted on the building, how the system relates to UAF mission, if a separate effort is ongoing to lease space on a roof or building façade, etc. Preference is given to systems that support the UAF mission, support the community, and support the related industry.

Description of the remediation plan (demo and removal): All equipment requests require a remediation plan to ensure equipment is removed once it is no longer functional or supporting the mission. Include in the plan how any building modifications specific to the equipment will be removed or patched, holes sealed, debris removed, etc. Also include the anticipated duration of use and triggers for removal or replacement.

Maintenance and Operations: Provide the owner/responsible person's name & contact info.

Radio Frequency Emissions: Provide radiation power levels and frequencies.

Structural Loads: Provide the weight and dimensions of the equipment, including any manufacturer data/technical sheets. (Wind load, live load, dead load, and anchors will be determined in the design phase.) Preliminary estimates are acceptable at this stage.

Roof/Wall Penetrations: Provide locations and size of penetrations needed for the cabling(power, comm, etc)

Transmitter/Receiver: Provide operating frequencies for each type of antenna used.

Potential Interference: Coordinate with EHSRM to provide analysis from the Alaska Satellite Facility.

Exterior Building Mounted Equipment Work Flow

Request submitted by user with required backup(drawings, pictures, frequency band, etc) to EHSRM and FS DDC(email to the department)

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The Directors of EHSRM and DDC assign personnel to meet with the user regarding the request.

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EHSRM and DDC personnel assess all risks, including but not limited to fall protection, RF exposure, fume hood exhaust, interference with other rooftop equipment, structural load capacity, and removal/disposal of existing equipment.

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EHSRM provides a risk assessment report to the user with the recommendation to proceed or not to proceed based on existing hazard analysis by email, fax, or regular mail.

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The request and approval process stops here if the EHSRM recommendation is not to proceed. EHSRM will inform the user why the request was not approved.

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If the request is approved by EHSRM, DDC will assess the constructability of the equipment installation. Installation cannot compromise building components (i.e. structure, roof membrane, vapor barrier), and the equipment cannot affect existing equipment or research projects in the vicinity.

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The request and approval process stops here if the FS DDC recommendation is not to proceed. DDC will inform the user why the request was not approved.

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If FS DDC approves constructability, the form and recommendation reports are sent to the Master Planning Committee Chair for review.

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MPC Chair reviews the request and sends it to the full MPC for review. If the MPC recommends approval of the installation, the request will be submitted to the UAF Chancellor for approval or denial.

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Notification is sent to the MPC Chair and FS DDC Director of approval or denial of the request. The MPC Chair will inform the user why the request was not approved.

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If approved, a project will be created and the PM will notify the user. The PM will prepare drawings and specs for small requests or hire a design consultant for larger ones. The user must provide funding at this stage. Drawings and a code review will then be submitted to EHSRM, Facilities Engineers, and the UAF Fire Marshal for review.

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Comments are included in plans and specifications and resubmitted to EHSRM, the UAF Fire Marshal, and Facilities Engineers (if necessary) after approval.

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DDC notifies the user when the project can start. DDC will coordinate all construction and installation activities. DDC will contact EHSRM when the construction is complete. EHSRM will review access and service with the user to ensure safe operations. The DDC CADD Department will update the building roof drawings, and the antenna information will be sent to the FS Asset Manager for entry into AIM.