

UNIVERSITY OF UTAH DESIGN STANDARDS FOR SMALL WIRELESS FACILITIES

Adopted 2023

A. General Principles

- Facilitate successful integration of Small Wireless Facilities (SWFs) in public rights of way (PROWs or ROWs) at the University of Utah (University) as defined and prescribed in Utah Code Title 54, Chapter 21 Small Wireless Facilities Deployment Act (Act).
- These standards shall also apply to University properties beyond the public rights of way.
- SWFs shall be designed to be context appropriate and to minimize all impacts to campus to the greatest extent possible through careful planning, design, siting, equipment selection, installation, screening, etc.
- Applicants are encouraged to collaborate early with University Planning, Design and Construction (PDC) and Information Technology (UIT) in developing the proposed SWF layout and application.
- “University observations” below are intended to inform the Applicant of the University’s desires and preferences. In comparison, the Standards listed below are University requirements for SWF installations.
- These Design Standards may be revised or updated as needed.

B. Definitions

- **Applicant** refers to the entity submitting the Permit Application.
- **CFaO** means the University’s Chief Facilities Officer or designee.
- **Collocation** is the utilization of existing light poles or similar.
- **Meaningful Use** of a SWF installation means use for the SWF Installation’s intended purpose, with interruptions in such use not exceeding more than five consecutive days in any calendar quarter or ten non-consecutive days in any calendar year.
- **Infrastructure** includes existing light poles, bases, controls, conduit, electrical wiring, etc.
- **Installer** is the contractor(s) performing the equipment installation, modification, etc.
- **Integrated equipment pole** contains and conceals all computers, batteries, switches, etc. within the pole shaft or its base.
- **PDC** refers to the University’s Planning, Design & Construction department.
- **Primary elevation** is typically defined by the presence of the main building entry or the building’s orientation to a major exterior space or circulation.
- **Provider** is the owner or operator of the SWF. (Applicant, Installer and Provider may refer to the same entity.)
- **Secondary elevations** are typically side or rear elevations, with minor or no entries, a lower level of architectural detailing, etc.
- **Section 106** refers to the National Historic Preservation Act with the consultation process defined in 36 CFR Part 800 – Protection of Historic Properties.
- **SWF** means Small Wireless Facility or Facilities.

- **Tertiary elevations** are limited to areas of negligible historic significance, detailing, character, etc. Typically loading dock or service areas, modern additions, etc.
- **UCA 9-8-404** refers to Utah Code Annotated 9-8-404 – Historic Sites, (State) Agencies’ Responsibilities.
- **UIT** refers to the University Information Technology department.
- **Undergrounding** means placement of all controls, computers, batteries, meter, switch or similar equipment located in an underground vault.

C. Small Wireless Facilities (SWF) Locations

University observations:

- *The University may prefer SWF installation outside ROWs in lieu of visually intrusive ground-level installations within ROWs. Possible locations include: Existing surface parking lots (non-stall areas); bus stops; existing utility/service/loading areas of buildings; tertiary elevations or careful roof-top mounting of SWFs on non-historic buildings.*
- *The University encourages collocation with other wireless facilities whenever possible. Clustering SWFs with other Providers is an option to minimize needed construction, trenching, etc.*

Standards

1. SWFs shall be located in established campus locations and not in any native or otherwise undeveloped areas.
2. SWFs shall not interrupt flow of vehicular, bike or pedestrian traffic and shall comply with established vehicle, ADA, bicycle, other ROW use and maintenance clearances.
3. SWFs shall be located near existing infrastructure whenever possible to minimize construction, trenching, boring or other impacts.
4. All proposed borings, excavations, utility lines, etc. shall be located in existing utility corridors and avoid tree root zones.
5. No SWF installations shall be allowed on top of underground occupied space (e.g., Marriott Library Plaza).
6. SWF installations are not allowed within 100 ft. of any public building entry.
7. Where existing light poles are installed in a regular, purposeful layout (e.g., along just one side of a ROW), SWFs shall be installed following, aligning, matching, etc. the existing layout.
8. Only one pole by any Provider shall be allowed between any pair of existing light poles
9. New poles shall be no closer than 50 ft. to any existing light pole or other SWF and shall avoid existing tree canopy and root zones.
10. All excavation of any size or equipment installation requires completion by Applicant or Installer of the University’s Utility Locate Request process (see <https://facilities.utah.edu/utility-locate-request/>), full coordination with University Grounds Maintenance, etc.
11. Additional location and design standards for Historic Districts (i.e., President Circle and Fort Douglas) are presented below.

D. Small Wireless Facilities (SWF) Design

University observations:

- *Typically, the smallest possible equipment selection should result in the most compatible design.*
- *'Undergrounded' equipment is the preferred equipment location. An integrated equipment pole is generally preferred to screened ground-mount equipment, the latter should be limited to service areas, remote parking lot locations, etc.*

Standards

1. Each SWF shall be structurally independent and not require any bracing, guy wires, etc.
2. SWF poles shall not exceed 30 feet in height.
3. Collocation or reuse of any existing pole or other element as part of the SWF shall not impact the function, serviceability, structural integrity or warranty of the existing element.
4. When located on a matching replacement pole or an existing light pole, the antenna and other equipment shall be located in-line below the luminaire. The luminaire shall remain at the elevation of adjacent luminaires. Matching shrouds shall be installed to cleanly conceal any narrow-diameter mounts, etc.
5. New poles shall, to the greatest degree possible, match all physical aspects of existing/adjacent poles and installation (foundation appearance, pole base, offset from sidewalk, pole diameter/height/finish/color, etc.) and be equally spaced between existing poles. Matching banner brackets shall be provided if typical at adjacent light poles.
6. All exposed equipment (even when screened) shall utilize similar shapes and sizes as underlying infrastructure and be the same color, matching existing adjacent or nearby infrastructure.
7. Integrated equipment poles shall contain their associated equipment (computers, batteries, etc.) in the base or bottom shaft of the pole. Any equipment pole base shall be cylindrical in form. Rectangular pole bases are not allowed.
8. Pole base anchor bolts and similar shall be cleanly concealed from view with metal shroud matching pole color.
9. Underground vaults shall be located within/below existing sidewalks wherever possible. Vault lid shall be level with sidewalk; of similar color and texture; rated for applicable loads and use; and suitable for standard snow removal.
10. Passive cooling shall be utilized if feasible. Active cooling systems methods or equipment shall not exceed 30 decibels measured from 3 ft. away.
11. Visible meters with glass dome or 'bubble' are not allowed. If metering is required, wireless metering is preferred.
12. All conduit, cables, etc. shall be internal in the pole. Surface mounting of cables, conduit, etc. is not allowed.
13. Wood poles, sidearm extensions for equipment, microwave dishes, pole-mounted equipment or back-up generators are not allowed.
14. Ground-mounted equipment will only be allowed in parking lot locations or adjacent landscaped beds; service/loading dock areas; or similar. The equipment must be a visually cohesive assembly, a single matching color, without rack rail extensions, etc.
15. When ground-mounted equipment is allowed it shall not block existing campus signage; be located a minimum of 48 in. from any drive or sidewalk; shall not impact tree root protection zones; and be screened to substantially block the equipment from all casual view (e.g., from sidewalks, plazas, lawn areas, etc.). To better integrate into the landscape in many areas,

remote location of equipment from the pole is preferred. Landscaped screening is preferred but must meet University standards and provide year-round screening under all typical conditions. Constructed screening shall include compatible buffering landscaping. Venting of vaults shall be concealed in landscaping.

16. No signage, stickers, branding, logos, lights, etc. shall be allowed on the complete wireless facility beyond what is required by state and/or federal law. Any required sticker, inventory number, etc. shall be as small as allowed, positioned as close as possible to related equipment (e.g., RF warning sticker close to antenna or UE relay unit) and facing away from the most prominent viewing direction as feasible.

E. SWF Installations within the Presidents Circle National Register Historic District and the Fort Douglas National Historic Landmark

University observations:

- *Both historic areas received very early national recognition for their architectural and historical significance.*
- *The University has unique federally-imposed stewardship responsibilities for historic Fort Douglas.*
- *Boundaries of the Presidents Circle National Register Historic District and the Fort Douglas National Historic Landmark provided in Appendix.*

Standards

1. SWFs shall not be located on any historic buildings or on the primary historic landscapes, specifically, the 'Circle' or Cottam's Gulch at Presidents Circle; Stilwell Field or Officers Circle semicircle at Fort Douglas.
2. SWF installations are not allowed within the 45 degree extension of the primary elevation(s) of any historic building, from building to street or within 50 ft. of the building if no street is present. (See *Figure 1* below.) If the historic building is located on a corner, both street elevations shall be considered 'primary' and no SWF shall be allowed within the corner zone (see *Figure 2*).
3. All proposed SWF installations located within 50 ft. of primary or secondary elevations of any historic building, or visible from the landscaped 'Circle', Stilwell Field or Officers Circle semicircle, shall meet the SWF Design Standards above as well as be 'undergrounded'.
4. The Applicant or Provider shall be responsible for all required 'Section 106' or 'U.C.A. 9-8-404' consultation with the State Historic Preservation Office, National Park Service and Advisory Council on Historic Preservation as applicable. Prior coordination with PDC is required and PDC shall be copied on all communication. The Applicant or Provider shall also be responsible for any archaeological monitoring of excavation, impact mitigation or similar required as a result of this consultation. Consultation and mitigation, if required, shall be completed prior to installation of the SWF.

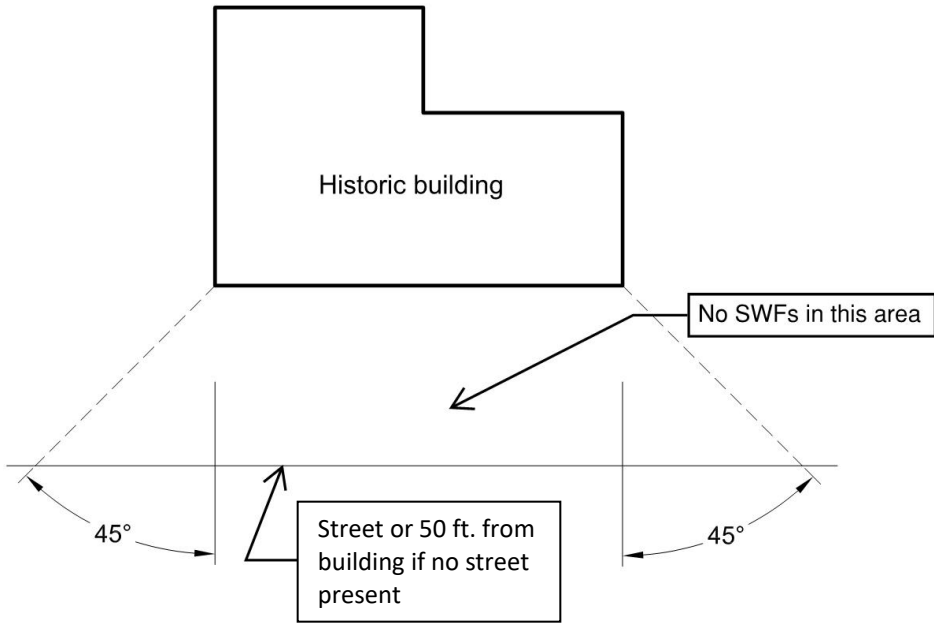


Figure 1. Trapezoidal area extending from primary elevation of historic building where SWF installations are not allowed.

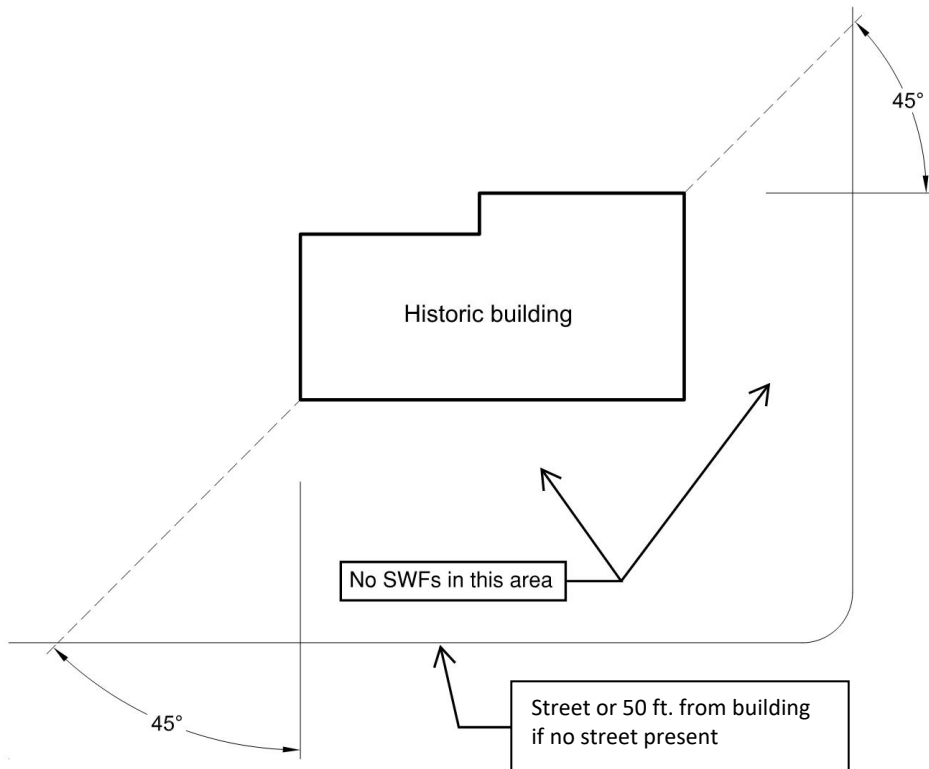


Figure 2. Flared area around corner elevations of historic building where SWF installations are not allowed.

F. Site and Landscape Repair/Rehabilitation

University observations:

- *The University campus has been designated a State Arboretum in recognition of many unique, heritage trees.*
- *The landscape is highly valued and standards of the Landscape Master Plan must be met during SWF planning and installation. All modifications, installations, etc. need to carefully integrate and minimize impact to the established landscape.*

Standards

1. SWF installation shall fully repair or replace impacted landscape, irrigation, walks, curbs, etc. to match existing and meet applicable University standards and building codes.
2. Bollards in approved parking lot SWF installations shall utilize University-approved metal bollard caps painted to match pipe bollard. No exposed concrete plug/caps are allowed.

G. Installation, Maintenance & Post-Use Disposition

University observations:

- *The University has a long-term stewardship outlook on campus development and changes. All proposals must be evaluated against campus master planning as well as respond to current conditions and interests.*

Standards

1. Prior to any installation of authorized work, the Provider and the University shall enter into an agreement that, among other topics, addresses:
 - a. Authorization for the installation on University property;
 - b. Requirements and procedures for installation and maintenance;
 - c. Payment of fees allowed under the Act; and
 - d. Indemnification, insurance, and bonding requirements satisfactory to the University.
2. Provider shall commence construction of approved SWFs within 180 days of University approval and shall expeditiously complete construction, landscaping, screening, etc.
3. The Provider shall maintain all components of the SWF to properly maintain safety and appearance as when installed.
4. Any visible addition, modification or upgrade of any SWF component shall be submitted via application for University review prior to the upgrade.
5. Upon equipment obsolescence, decommissioning, lack of Meaningful Use or similar, the Provider shall promptly and completely remove all such components, including Provider's pole, base, concrete foundation, racks, bollards, etc. as applicable, and shall fully repair or replace impacted landscape, irrigation, walks, curbs, etc. at Provider's expense to meet applicable University standards and building codes.

H. SWF Building Permit Application

University observations:

- *SWF applications shall follow typical construction permit application process including standards below.*

Standards

1. Completed application shall be submitted to University Planning, Design, & Construction at: V. Randall Turpin University Services Building, 1795 E. South Campus Dr. Room 201, Salt Lake City, Utah 84112. Application must demonstrate in detail the scope of work and compliance with the Act and these standards.
2. Applicant is responsible for location and identification of underground utilities on The University of Utah campus and properties. University utilities should be identified through a utility locate request <https://facilities.utah.edu/utility-locate-request/>. Applicant must contact Blue Stakes for information about non-University utilities.
3. Appropriate reviews by Campus Planning, University Information Technology, Facilities Management, Open Space, Grounds Maintenance or others will be started following receipt of a complete application. This may include presentation(s) by Applicant to the Facilities Management Review Committee (see <https://facilities.utah.edu/resources/fmrc/>). Approval of the application will be determined by the CFaO.
4. The Applicant shall provide clear high-resolution photos of each proposed SWF location and accurate photo simulation of each typical proposed installation. (Google StreetView or similar online photos are not acceptable.) The photo simulation shall become part of the construction documents for each approved installation and shall be maintained with the 'permit set' at the installation site.
5. The Applicant shall provide all technical information needed for review by the University's Fire Marshall and Building Official. Building Permit Application documentation shall include: appropriately scaled site plans and elevations of all SWF equipment and poles; SWF equipment and distribution wiring and cables to poles; structural calculations for pole and other structures pertinent to the SWF installation; electrical and mechanical plans, details and specifications; and any other documents as required to show compliance to the adopted construction and fire codes. All documents submitted to the Building Official for a permit shall be sealed by a state of Utah licensed engineer. Construction work is subject to code required inspections by the University. See <https://pdc.utah.edu/permits-building-official/> and <https://facilities.utah.edu/requests/permits/> for further information.
6. The Applicant shall indicate if they believe the proposal constitutes a Collocation or New Site and that the application accurately presents all SWF components – wireless/electrical equipment as well as all support, protective or other structures or devices.
7. Applicant shall pay the University's standard fees for project oversight and code enforcement.
8. Any installation or collocation of a SWF or utility pole shall be conditioned upon the Provider's agreement to indemnification, insurance, and bonding requirements satisfactory to the University.
9. The Applicant shall provide written evidence why any requirement of these Design Standards for Small Wireless Facilities cannot be met before exceptions by the CFaO will be considered.