

UCSD ANTENNA AND DISH POLICY

I. REFERENCES

- A. UCSD Park
- B. UCSD Policy & Procedure Manual (PPM)
 - 440-4 [Licensed Real Property](#)
 - 510-1 [Use of University Properties](#)

II. DEFINITIONS

This policy includes the use of the following types of equipment:

- A. Satellite Dish /Microwave Dish - Parabolic shaped dish commonly used to transmit microwave frequencies (above approximately 3 GHz). In wireless data applications, satellite communications and other high bandwidth microwave applications, the most common type of antenna is the dish which is a reflector.
- B. Panel/Sector Antenna - Thin, rectangular antennas that radiate or collect signals from different sectors in a cell. Panel or sector panel antennas have a flat panel shape and are usually enclosed within a plastic radome to protect the internal elements and/or any electronics.
- C. Omni (Whip) Antenna - Flexible rod antennas supported on a base insulator. These capacitive antennas or electric doublets are insulated from the structure (plane, car or other product) and the whole assembly radiates.
- D. Support Structure- Apparatus used to mount equipment includes pipe mounts, steel tripods, non-penetrating roof mounts, and tower support structures.
- E. Equipment- Generic term that includes antennas, dishes, screening material, radio equipment cabinets, support structures, coax cable, and electrical cabling.

Panel antennas less than 12" x 12" and Omni antennas less than 24" are exempt from the policy.

III. POLICY

The intent of this policy is to direct appropriate sites of wireless dish antenna equipment and facilities to provide enhanced telecommunications services to the campus, while reducing the visual impact of such facilities to the campus and surrounding community. Further, this policy will facilitate the installation of multiple, diverse users in defined spaces and help to avoid disruption to existing facilities. This policy also applies to future technologies that serve the same or similar functions as the dish and antenna equipment as defined in Section II. This policy applies to all telecommunications equipment and facilities on the UCSD La Jolla Campus, including Scripps Institution of Oceanography, Elliot Field Station, and the UCSD Medical Center, La Jolla. There are two Approval Procedures: one for University Projects (Section V.) and one for Commercial Entities' Projects, including University Projects involving joint research/experimentation with Commercial Entities' participation (Section VI.).

IV. SITING AND DESIGN GUIDELINES

A. Guidelines for Siting Antenna and Dish Facilities

1. Facility shall be located outside of the UCSD Park boundary.
2. Locate equipment outside of a 300' line-of-sight from the Cal IT2 building. Proposed projects requesting an exception to be within this area will be subject to CalIT2 Facilities management review.

B. Guidelines for Design of Antenna and Dish Facilities

1. Rooftop equipment shall be located toward the center of the building to the greatest extent possible.
2. Screening material may be required to architecturally integrate the equipment with the building to mitigate visual impacts.
3. Rooftop equipment should not extend above the building parapet by more than 10% of building height or 10 feet whichever is less, although technical requirements may justify additional height.
4. Ground equipment shall be screened with landscaping and/or architectural walls.
5. Proposed telecommunications equipment shall be sited with existing facilities, to the greatest extent possible, to minimize visual impact and maximize operational efficiency.

NOTE: Requestor will be required to pay all maintenance costs for the Dish/Antenna system, including maintenance of any structures, screening, fencing, landscaping, and all other associated equipment.

V. APPROVAL PROCEDURES FOR UNIVERSITY PROJECTS

The project design and location shall determine the type of review process required prior to construction. After review of the initiation letter, staff will advise the applicant on the necessary submittal requirements and the appropriate review process based on the project characteristics. A project exemption for panel antennas less than 12" x 12" and for omni antennas less than 24" will be granted for University projects. Upon receipt of the initializing letter described in Section V.A.1 Physical Planning's staff will assist University project applicants with the requested submittal information.

If the proposed University Project involves joint research/ experimentation with a Commercial Entity or Entities' participation, Section VI. Approval Procedures for Commercial Entities applies.

A. Initial Submittal Requirements

Initiation letter: A letter shall be prepared including a detailed project description including the proposed location, equipment, use, and purpose, and forwarded from the Assistant Vice Chancellor of the requesting department (e.g. Academic Affairs, Student Affairs, etc.) to the Associate Vice Chancellor-Campus Planning.

Based on the project characteristics as described in the initiation letter, staff will advise the applicant of the submittal requirements to continue the project review. The required information

may include the following:

1. Site application form: Complete and submit the Site application form, Exhibit A, or download an electronic copy at: <http://physicalplanning.ucsd.edu/telecom-test/exhibit-A.pdf>
2. Photographs: Photos looking at the site from the north, east, south, west, and any other prominent view shed shall be provided. Photos of comparable existing facilities or photo simulations of the proposed project should be submitted to show the equipment that will be used.
3. Drawings: Eleven (11) sets of 11x17 size drawings reflecting the antenna size and placement, use of screening, equipment cabinets/enclosures, coax/power/telco utility lines. The drawings should include a site plan and at least two (2) elevations. If landscaping is needed to screen equipment, then a concept landscape plan should be included.
4. Technical Information: A written description of the proposed frequency range, frequency interference with other antenna and dish facilities (existing at proposed building site or nearby), estimated power output, radiofrequency radiation, and power requirements shall be submitted.
5. Renovations & Alterations Form shall be submitted to Capital Planning for projects that involve construction, renovation, or alteration of University owned or University controlled property and facilities, including leased/managed facilities, which are coordinated through Real Estate Development. The form can be downloaded at: <http://capital.ucsd.edu/>.

NOTE: Requestor will be required to pay all maintenance costs for the Dish/Antenna system, including maintenance of any structures, screening, fencing, landscaping, and all other associated equipment.

Once Physical Planning staff has determined that the required information has been submitted and is complete, the project will be circulated for interdepartmental review.

B. Interdepartmental Review

The following departments will be forwarded a copy of the submitted information for review and comment.

- Physical Planning
- Real Estate Development
- Capital Planning
- Government and Community Relations
- Administrative Computing & Telecommunications (ACT)
- Hospital Facilities Administration, if applicable
- Environmental Health & Safety (EH&S)
- Facilities Design & Construction (FD&C)
- Facilities Management (FM)
- Academic Computing Services (ACS)

All comments shall be forwarded to Physical Planning within 30 days of circulation, otherwise the project will be evaluated for Administrative Approval or Committee Review based on the siting and design guidelines described in Section IV. Additional information may be requested to address issues raised during the Interdepartmental Review. Requesting departments shall pay all applicable fees.

C. Campus Community Notification

Based on comments received from the Interdepartmental Review, the project applicant may be required to hire an independent consultant to determine the potential effects of the proposed project. If needed, the independent consultant would recommend a project notification distance. If third party review is not necessary then the notification distance would be specified at the conclusion of the Interdepartmental Review process. In both instances the notification distance shall be determined on a case-by-case basis depending on project characteristics.

If deemed necessary, notification shall include a description of the proposed facility including technological characteristics (e.g. frequencies, power output, azimuth, etc.) and would be issued to the appropriate building managers to be distributed to the building occupants. The project response period will end 30 days from the date of project notice. Only those comments received within the 30-day response period will be considered when evaluating the suitability of the proposed wireless dish or antenna project.

D. Administrative Design and Approval

If the project: 1) conforms to the Siting and Design Guidelines (see Section IV.); 2) is supported by the departments involved in Interdepartmental Review; and 3) has not received a negative response from the Campus Community Notification, then the project shall be eligible for Administrative Approval granted by the Director of Physical Planning. Following Administrative Approval, the Constructability Review process shall begin (see Section V.F.).

If the project doesn't meet the criteria for Administrative Approval, then it will be subject to committee review.

E. Committee Review

Projects not meeting the criteria for Administrative Approval will be presented to the following committees:

1. Design Review Board (DRB)
2. Campus/Community Planning Committee (C/CPC)
3. Marine Sciences Physical Planning Committee (MSPPC)*
4. California Coastal Commission*

*Review by the MSPPC or California Coastal Commission will only be necessary if the project is located within the Scripps Institution of Oceanography neighborhood or Coastal Zone.

Projects will be presented to the MSPPC and C/CPC twice: once for information and once for action.

Following Committee Review the Constructability Review process shall begin (see Section V.F.)

F. Constructability Review

Upon design and site approval of the project by Administrative Approval or Committee Review the following information shall be submitted to the Senior Director of Project Management at Facilities Design and Construction (FD&C).

- Construction Drawings: Drawings (10 copies) should include applicable coax/utility runs, roof/wall penetrations, mounting details, electrical calculations, structural calculations, and soils report, if applicable.

Once drawings and information are reviewed and approved, FD&C will oversee contract bid and award of work. During construction the project will receive periodic inspections by EH&S and FD&C. Requesting departments shall pay all applicable fees.

G. Reporting Requirements

The requesting department shall submit to the Director of Physical Planning an annual report on the status and condition of the project, including the duration of time the project is estimated to be active. If the project is no longer necessary for research purposes or the equipment has reached its useful life, the requesting department shall be responsible to remove the equipment at its cost, coordinating with FD&C.

VI. APPROVAL PROCEDURES FOR COMMERCIAL ENTITIES

The project design and location shall determine the type of review process required prior to construction. After review of initial submittal, Real Estate Development staff will advise the applicant on the appropriate review process based on the project characteristics.

A. Initial Submittal Requirements

1. Initiation letter: The purpose of a commercial project should be to enhance campus services. A letter should therefore be prepared explaining such enhancements or benefits. Also included should be a detailed project description including the proposed location, equipment, use, purpose, and consideration, and sent to the Director of Real Estate Development. Co-location of facilities is encouraged and therefore coordination among proposers will expedite review.
2. Site application form: Complete and submit the site application form, Exhibit A, or download an electronic copy at: <http://physicalplanning.ucsd.edu/telecom-test/exhibit-A.pdf>
3. Facility Map: A map of any existing facilities on and adjacent to University property shall be provided. Geographic coverage maps of the entire campus shall also be submitted to reflect the company's existing and proposed signal coverage.
4. Photographs: Photos looking at the site from the north, east, south, west, and any other prominent view shed shall be provided. Photos of comparable existing facilities or photo simulations of the proposed project should be submitted to show the equipment that will be used.

5. Drawings: Eleven (11) sets of 11x17 size drawings reflecting the antenna size and placement, use of screening, equipment cabinets/enclosures, coax/power/telco utility lines. The drawings should include a site plan and at least two (2) elevations. If landscaping is needed to screen equipment, then a concept landscape plan should be included.
6. Technical Information: A written description of the proposed frequency range, frequency interference with other antenna and dish equipment (existing at the proposed building site or nearby), estimated power output, radiofrequency radiation, and power requirements shall also be submitted.

NOTE: Requestor will be required to pay all maintenance costs for the Dish/Antenna system, including maintenance of any structures, screening, fencing, landscaping, and all other associated equipment.

Once Real Estate Development staff has determined that the aforementioned information has been submitted and is complete, the project will be circulated for interdepartmental review.

B. Interdepartmental Review

The following departments will be forwarded a copy of the submitted information for review and comment.

- Physical Planning
- Real Estate Development
- Capital Planning
- Government and Community Relations
- Administrative Computing & Telecommunications (ACT)
- Hospital Facilities Administration, if applicable
- Environmental Health & Safety (EH&S)
- Facilities Design & Construction (FD&C)
- Facilities Management (FM)
- Academic Computing Services (ACS)

All comments shall be forwarded to Real Estate Development within 30 days of circulation, otherwise the project will be evaluated for Administrative Design and Site Approval or Committee Review based the siting and design guidelines described in Section IV. Additional information may be requested to address issues raised during the Interdepartmental Review.

C. Campus Community Notification

Based on comments received from the Interdepartmental Review, the project applicant may be required to hire an independent consultant to determine the potential effects of the proposed project. If engaged, the independent consultant would recommend a project notification distance and if third party review is not necessary then the distance would be specified at the conclusion of the Interdepartmental Review process. In both instances the notification distance shall be determined on a case-by-case basis depending on project characteristics.

If deemed necessary, notification shall include a description of the proposed facility including technological characteristics (e.g. frequencies, power output, azimuth, etc.) and would be issued to the appropriate building managers to be distributed to the building occupants. The

project response period will end 30 days from the date of project notice. Only those comments received within the 30-day response period will be considered when evaluating the suitability of the proposed wireless dish or antenna project.

D. Administrative Design and Site Approval

If the project: 1) conforms to the Siting and Design Guidelines (see Section IV); 2) is supported by the departments involved with the Interdepartmental Review; and 3) has not received a negative response from the Campus Community Notification, then the project shall be eligible for Administrative Approval granted by the Director of Physical Planning. Following Administrative Approval, the Constructability Review and License Agreement Review processes shall begin (see Sections VI.F. and VI.G.).

If the project doesn't meet the criteria for Administrative Approval, then it will be subject to committee review.

E. Committee Review

Projects not meeting the criteria for Administrative Approval will be presented to the following committees:

1. Design Review Board (DRB)
2. Campus/Community Planning Committee (C/CPC)
3. Marine Sciences Physical Planning Committee (MSPPC)*
4. California Coastal Commission*

*Review by the MSPPC or California Coastal Commission will only be necessary if the project is located within the Scripps Institution of Oceanography neighborhood or Coastal Zone.

Projects will be presented to the Park Committee, MSPPC, and C/CPC twice: once for information and once for action.

Following Committee Review the Constructability Review process shall begin (see Section V.F.)

F. Constructability Review

Upon design and site approval of the project by Administrative Approval or Committee Review the following information shall be submitted to the Senior Director of Project Management at Facilities Design and Construction (FD&C).

1. Construction Drawings: Drawings (10 copies) should include applicable coax/utility runs, roof/wall penetrations, mounting details, electrical calculations, structural calculations, and soils report, if applicable.

G. License Agreement Review

Upon campus design, site, and constructability approval of the proposed project, the Real Estate Development office will prepare a License Agreement documenting all terms and

conditions of the project, including business terms, access procedures, utility cost reimbursement, and a construction work agreement.

1. **Work Agreement:** This document shall document in detail all proposed construction work (including screening, if applicable), timeframes, contractors, contractors' insurance, warranties, and specifics of the project.
2. **Construction:** FD&C shall review and approve all plans and specifications before commencement of construction. This approval is in lieu of City building permits. FD&C and EH&S shall inspect the work for compliance with the plans, specifications, and radiation safety. The commercial entity shall pay for all costs of such services. Co-location of facilities is encouraged. If multiple projects will be scheduled simultaneously, proposing entities should coordinate and select one contractor.

EXHIBIT A

**SITE FOR APPLICATION
FOR
ANTENNA and DISH EQUIPMENT AT UCSD TELECOM SITES**

PART I – GENERAL INFORMATION

Company Name _____

Mailing Address _____

Physical Address _____

Type of Business Entity _____

PART II – CONTACTS INFORMATION

Attending Technician(s) Contact(s)
Name/Title _____
Phone Number _____
Fax Number _____
E-Mail Address _____
(attach list if necessary)

Contracts Contact
Name/Title _____
Phone Number _____
Fax Number _____
E-Mail Address _____

(If mailing address different than above fill in correct mailing address)

PART III – PROJECT OPERATIONS

Effective: 03/01/2007

Supersedes: N/A

Review Date: TBD

Issuing Office: [Physical and Community Planning Office](#) and [Real Estate Development Office](#)

Description of Business Activities

Description of Planned Use of Site*

Geographic Area To Be Served

UCSD Customer Base to be Served by the Site

PART IV – TECHNICAL INFORMATION

Transmitter & Receive Characteristics

Manufacturer

Series

Model

Version

Transmitter Frequency

Receive Frequency

Emission

Effective Radiated Power

Transmit Power

Circulator/Harmonic Filter

Duplexer

Mounting

Control (Auto Relay/Radio Link/ Leased Line/Other)

Electrical Power Requirements

Voltage

Amperage

HVAC

Effective: 03/01/2007

Supersedes: N/A

Review Date: TBD

Issuing Office: [Physical and Community Planning Office](#) and [Real Estate Development Office](#)

Space Requirements for Transmitter & Receiver _____

Number of Space Requirements (Equipment Area) _____

Space #1

Weight _____

Standard 19" Mounting _____

Cabinet Size (W x D x H) _____

Space #2

Weight _____

Standard 19" Mounting _____

Cabinet Size (W x D x H) _____

Antenna System

Receive Type _____

Transmit Type _____

Gain _____

ERP _____

Feedline Type _____

Location on Tower _____

FCC License Information****

Licensee _____

Call Letters _____

Radio Service _____

Issue Date _____

Expiration Date _____

File # _____

Areas of Operation _____

Equipment to Comply with Site Requirements in Future**

Transmitter Bandpass Filter _____

Effective: 03/01/2007

Supersedes: N/A

Review Date: TBD

Issuing Office: [Physical and Community Planning Office](#) and [Real Estate Development Office](#)

Cavity _____
Isolators _____

PART V – CONTRACT INFORMATION

Address for Official Notices
Address _____

Attn: _____

Contract Signator Block Information
Name of Contract Signor _____
Title of Signator _____
Brokers Name (if applicable) _____

Disclosure of Hazardous Substances to Be Used
Radio Frequency Interference Study _____
Radio Frequency Radiation Study _____
Radio Frequency Geographic Coverage Map _____

Insurance Information***
Each Occurrence **\$1,000,000**
Products/Completed **\$1,000,000**
Personal & Advertising Injury **\$1,000,000**
General Aggregate **\$5,000,000**
Business Auto Liability **\$1,000,000 per occurrence**
Additional Insured The Regents of the University of California

* To be known as "Permitted Use"
** To be filled out at later date if required by UCSD Manager of Wireless Communications
*** Insurance Certificate attached as part of this application
**** FCC License attached as part of this application