

SECTION 27-32-26 EMERGENCY TELEPHONES

PART 1 – GENERAL

1.01 DESCRIPTION

- A. The work covered by this section of the Specifications shall include all labor necessary to perform and complete such construction, all materials and equipment incorporated or to be incorporated in such construction and all services, facilities, tools and equipment necessary or used to perform and complete such construction. The work of this section shall include, but is not limited to, the following:
 - 1. A complete and operable Emergency Telephone System.
 - 2. All install locations, product configurations, and or graphics must be approved by the Chief of Police of the Cal Poly University Police Department or his/her designee and the Cal Poly ITS Telecomm group.

1.02 QUALITY ASSURANCE

- A. Refer to Section 27-00-00 for general details.

1.03 CODES, STANDARDS, AND GUIDELINES

- A. Except as modified by governing codes and by the Contract Documents, comply with the applicable provisions and recommendations in Section 27-00-00.
- B. UL/CSA 60950
- C. FCC Regulations 47CFR part 68
- D. The Cal Poly ITS Telecomm group, Telecommunications Standards Document and the Labeling, Design and Syntax Standards in Appendix B.

1.04 SUBMITTALS

- A. Refer to Section 27-00-00 for general details.
- B. Shop Drawings:
 - 1. N/A
- C. Submit Manufacturer's Cut Sheets for the following:
 - 1. Any products not specifically listed in the PRODUCTS section shall require a submittal of the manufacturer's cut sheets and approval by the Cal Poly ITS Telecomm group.
- D. Provide manufacturer's warranty statement.
- E. Provide all user/installation/programming manuals for all installed equipment.

1.05 IDENTIFICATION

- A. All cables, protectors, hand-holes, conduit and other communications infrastructure shall be labeled per Cal Poly I.T.S. Telecomm Labeling, Design and Syntax Standards.

- B. Refer to Section 27-05-53 for additional details.

1.06 DEFINITIONS

- A. N/A

1.07 WARRANTY

- A. Refer to Section 27-00-00 for general details.

PART 2 – PRODUCTS

2.01 HANDS-FREE EMERGENCY PHONE

A. GENERAL

2. The Emergency Phone shall consist of an outdoor-rated, vandal resistant and ADA-compliant hands-free speakerphone communications device with a stainless steel faceplate and metal buttons.
3. The Emergency Phone shall be Talk-A-Phone model ETP-400V, or Cal Poly ITS Telecomm group approved equal, and have one red anodized aluminum tactile button labeled "EMERGENCY" and one 0.375" diameter red light emitting diode (LED) labeled "LIGHT ON INDICATES CALL RECEIVED".
4. The unit shall be programmable from a remote location and have a two number dialing capability, reverting to the second number if the first is busy or does not respond. The unit shall be totally hands-free on both sides after connection is initiated at site or by attendant. The unit shall be phone line powered, requiring no outside power source or battery back-up. DIP switch programming, push to talk devices, and devices requiring external power are not acceptable. The unit shall have a dedicated communication line.

B. CONSTRUCTION

1. Chassis and face plate shall be constructed of stainless steel.
2. Faceplate shall be 12 gauge #4 brushed stainless steel measuring 9.5" W x 11.75" H.
3. Back Box shall be constructed of high impact resistant thermoplastic and measure approximately 6.63" W x 9.75" H x 2.5" D.
4. Unit shall weigh approximately 6 lbs.
5. Signage shall be constructed of cast metal with lettering and Braille raised approximately 3/32" for ADA compliance. Word "EMERGENCY" shall be white (on blue) and the button shall be red.
6. Push button and switch shall be a single assembly rated for 1,000,000 cycles and provide tactile response. Piezo switches not permitted.
7. Speaker and microphone shall be protected by non-ferrous metal screen to provide a barrier against vandalism, rain, snow and insects.

C. FEATURES

1. Unit shall be capable of operating on standard phone lines or analog PBX extensions.
2. Unit shall dial at approximately 10 tones per second.
3. Output sound level shall be greater than 80 dB at one meter for normal conversation.

4. All programming shall be stored in non-volatile EEPROM memory.
5. Button shall provide tactile feedback.
6. Unit shall be programmable from a remote telephone via keypad entry.
7. Call timer shall be programmable from 1 to 4320 minutes.
8. LED for the hearing impaired shall illuminate to indicate when calling party may speak (when receiving party is silent).
9. Unit shall be programmable with two different telephone numbers of up to 18 digits each including pauses. If first number does not answer or is busy, unit shall automatically call the second number. If that number is busy or does not answer, unit shall call the first number again. Unit shall continue alternating until call is answered or call timer limit is reached.
10. When dialing a secondary number, unit shall be capable of hanging up for a minimum 2.25 seconds to avoid triggering a hook-flash.
11. Unit shall include two auxiliary outputs and one auxiliary input that are opto-isolated from the telephone line to 1,000 volts. Outputs shall be activated, providing a dry contact closure, either automatically when Emergency Phone is activated or manually by guard keypad operation. Input shall allow unit to be activated by any device or switch that provides a contact closure.
12. Incoming and outgoing volume shall be adjustable separately.
13. Unit shall be capable of automatically notifying attendant of location via programmable 6 digit ID.
14. Unit shall be capable of silent monitoring.
15. Unit shall utilize tone dialing.
16. When call is finished, unit shall automatically shut off.
17. Unit shall answer any call placed to it from any other telephone.
18. Two levels of programmable passwords shall be available.
19. Unit shall be varistor lightning suppressed and full wave polarity guarded.
20. Unit shall have parallel tip and ring connected to an RJ-11 connector for quick installation.
21. Unit shall be compatible with Talk-A-Lert® diagnostics/base-station package, model ETP-TAL.
22. Unit shall comply with Part 68 of the FCC rules for the United States.

D. ENVIRONMENTAL

1. **Speaker:** The unit shall be a 3.5" square, RoHS compliant, outdoor rated speaker with an ambient operating temperature range of -67°F (-55°C) to +185°F (+85°C). The speaker shall be capable of withstanding a total immersion for 96 hours and operating without any deterioration of sound quality. The speaker cone shall be constructed of a corrosion resistant material. The speaker shall be constructed of a neodymium magnet and a solid aluminum voice coil and shall be adequately protected from ferrous and non-ferrous particles via a special sealed design.
2. **Microphone:** The unit shall be 6mm in diameter, aluminum construction, RoHS compliant, with an IP57 type enclosure to protect from dust and water. The microphone shall have an operating temperature range of -40°F (-40°C) to + 158°F (+70°C). The microphone shall operate within ±3db of initial sensitivity, (after 6 hours of conditioning at +25°C) after being placed in a chamber at +40°C and 90±5% relative humidity for 240 hours.

3. **Push Button/Switch:** The push button and the switch shall be a single assembly unit with an operating temperature range of -67°F (-55°C) to +185°F (+85°C). The push button and the switch shall be constructed of an aluminum alloy. The enclosure design shall be watertight as per IP68S, 1m rating. The push-button and the switch shall provide tactile feedback.
 4. **Faceplate (Phone):** The faceplate shall be constructed of 12 gauge, 304 grade stainless steel with enhanced corrosion resistance.
 5. **Keypad:** The unit shall have a heavy die cast zinc construction with a marine quality chrome plating on the bezel and buttons. The keypad shall have an operating temperature range of -22°F (-30°C) to +212°F (+100°C) and 95% humidity (non- condensing). The keypad shall be highly resistant to SO₂, O₃ and oxidation. Silicone pad gasket shall seal out dust and other foreign contaminants.
- E. ELECTRICAL
1. Unit shall include six vandal-resistant, oval-head, undercut spanner mounting screws to mount flush into Talk-A-Phone or Cal Poly ITS Telecomm approved equal flush mounting sleeves, free-standing Tower Mounts, Pedestal Mounts, Surface Mount Accessories and Wall Mounts.
- F. MOUNTING
1. Unit shall include six vandal-resistant, oval-head, undercut spanner mounting screws to mount flush into Talk-A-Phone, or Cal Poly ITS Telecomm approved equal flush mounting sleeves, free-standing Tower Mounts, Pedestal Mounts, Surface Mount Accessories and Wall Mounts.
- G. OPTIONS
1. Unit shall be available with Intelli-Voice or Cal Poly ITS Telecomm approved equal, Location Identifier as model ETP-400V.
 - a. Message shall transmit as soon as call is answered.
 - b. Message shall be repeatable upon request of operator.
 - c. Message duration shall be programmable as 5, 10 or 16 seconds.
 - d. Location identifier message and duration shall be programmable from remote location.
 2. ETP-AUXIN-KIT shall include a battery and battery holder to power the auxiliary input.
- H. COMPLIANCE
1. Unit shall be certified to UL Standard 60950.
- I. WARRANTY
1. Equipment shall be warrantied against any defects in material and workmanship, under normal use, for a period of twenty-four months from date of installation. In the event system is found by manufacturer to be defective within the warranty period, manufacturer shall repair and/or replace any defective parts, provided the equipment is returned to manufacturer.
- J. MANUFACTURER
1. The Manufacturer shall be Talk-A-Phone Co. (773) 539-1100, 7530 N. Natchez Ave, Niles, Illinois 60714, www.talkaphone.com or Cal Poly ITS Telecomm approved equal

2.02 RADIUS EMERGENCY PHONE TOWER

A. GENERAL DESCRIPTION

1. The unit shall be a highly vandal-resistant free-standing steel emergency phone tower mount, model ETP-MT/R, no substitutions, with a flashing LED blue light and a lighted faceplate. The tower shall house an ADA-compliant communication device manufactured by Talk-A-Phone Co. or Cal Poly ITS Telecomm approved equal.
2. The LED blue light shall be continuously lit and shall flash for the duration of a call when emergency button is pressed on the communication device. The communication device shall be capable of activating optional peripheral devices.

B. CONSTRUCTION

1. The unit shall be constructed of 0.25" thick steel and weigh approximately 340 lbs.
2. The tower shall measure 12" W x 10" D x 108" H with a 2" radius on each corner.
3. A multi-coat, rust-inhibitive coating shall be applied to withstand prolonged exposure to harsh environments and be **painted safety blue**.
4. An internal base plate shall be fully welded within the tower 2" above the tower base. The base plate shall be fabricated of 0.75" A-36 steel. There shall be a 4" diameter center hole for wiring access and four 1" diameter holes for anchor bolt clearance.
5. Tower shall have a wiring access opening measuring 9" H x 6.75" W, located 15" above the base of the tower. The opening shall have a flush cover plate with a wall thickness of 0.25", held in place by two 10-24 countersunk, tamper-resistant spanner screws.
6. An opening shall be cut in the front of the tower for flush-mounting any 400-series or 500-series Talk-A-Phone, or Cal Poly ITS Telecomm approved equal, emergency phone. The lower edge of the opening shall slope down 30° from rear to front, making the edge difficult to use as a shelf yet convenient as a writing surface.
7. The word "EMERGENCY" shall be emblazoned on all four sides in 3.25" high **reflective white letters** (custom lettering, sizes and colors must be available).

C. LIGHTING

1. Atop the tower shall be a flashing LED blue light.
 - a. The blue light shall be a 7.8 watt high efficiency, all-LED construction light. The unit shall retain 70% of its initial lumens after 50,000 hours of operation. The unit shall be lit at all times.
 - b. The blue light shall have a rating of 209 lumens (peak) and automatically flash 78 times per minute when the emergency phone call is placed and continue flashing until the call has been completed.
 - c. The polycarbonate refractor/housing shall have a prismatic pattern to increase visibility at greater distances.
 - d. Refractor housing shall further be enclosed in a clear polycarbonate security enclosure which shall be integral to the tower.
 - e. The unit shall have a concealed ultra-bright LED assembly to illuminate the emergency phone faceplate at all times. LEDs shall have a lifetime of 100,000 hours.

D. ELECTRICAL

1. The communication device shall require no external power. It shall be powered by the phone line or a PBX extension.
2. The lighting shall require a 96-132VAC dedicated electrical circuit. Circuits on timers, switches or with other loads shall not be acceptable.
3. All lamps and fixtures shall be UL, ETL, C.S.A. listed. All electrical components shall be hard wired and concealed within the tower. All wiring and electrical fixtures comply with the standards of the National Electrical Code, UL and C.S.A.

E. MOUNTING

1. The tower shall include 24 inch J-bolts for mounting into a 24" x 24" concrete foundation, depth to vary according to local regulations and other site-specific considerations. J-bolts shall protrude approximately 5 inches from the surface of the foundation.
2. An optional mounting kit shall be available for mounting into above the ground locations such as parking decks, where access to a concrete base is available from both above and below.

F. COMPLIANCE

1. Tower shall be certified to UL Standard 60950.

G. WARRANTY

1. Tower shall be warrantied against any defects in material and workmanship, under normal use, for a period of five years from date of installation. In the event system is found by manufacturer to be defective within the warranty period, manufacturer shall repair and/or replace any defective parts, provided the equipment is returned to manufacturer.

H. MANUFACTURER

1. The Manufacturer shall be Talk-A-Phone Co. (773) 539-1100, 7530 N. Natchez Ave, Niles, Illinois 60714-3804, www.talkaphone.com. or a Cal Poly ITS Telecomm approved equal.

2.03 WALL MOUNT EMERGENCY PHONE STATION

A. GENERAL DESCRIPTION

1. The unit shall be a highly vandal-resistant free-standing steel emergency phone tower mount with a flashing LED blue light and a lighted faceplate. The station shall house an ADA-compliant communication device manufactured by Talk-A-Phone Co. or Cal Poly ITS Telecomm approved equal.
2. The LED blue light shall be continuously lit and shall flash for the duration of a call when emergency button is pressed on the communication device. The communication device shall be capable of activating optional peripheral devices

B. CONSTRUCTION

1. The unit shall be constructed of 0.105" thick stainless steel and weigh approximately 41 lbs.
2. The unit shall measure 10.5" W x 8.1" D x 31.9" H with a 2" radius on each corner.
3. A multi-coat, rust-inhibitive coating shall be applied to withstand prolonged exposure to harsh environments and be **painted safety blue**.
4. The unit shall have a wiring access opening for ease of service. The opening shall have a flush cover plate held in place by 10-24 countersunk, tamper-resistant spanner screws.

5. The word "EMERGENCY" shall be emblazoned on the two sides in 2.0" high *reflective white letters* (custom lettering, sizes and colors must be available).
- C. LIGHTING
1. Atop the tower shall be a flashing LED blue light.
 2. The blue light shall be a 7.8 watt high efficiency, all-LED construction light. The unit shall retain 70% of its initial lumens after 50,000 hours of operation. The unit shall be lit at all times.
 3. The blue light shall have a rating of 209 lumens (peak) and automatically flash 78 times per minute when the emergency phone call is placed and continue flashing until the call has been completed.
 4. The polycarbonate refractor/housing shall have a prismatic pattern to increase visibility at greater distances.
 5. Refractor housing shall further be enclosed in a clear polycarbonate security enclosure which shall be integral to the unit.
 6. The unit shall have a concealed ultra-bright LED assembly to illuminate the emergency phone faceplate at all times. LEDs shall have a lifetime of 50,000 hours.
- D. ELECTRICAL
1. When the emergency phone is used, the communication device shall require no external power. It shall be powered by the phone line or a PBX extension.
 2. The light shall require 96-132VAC standard.
 3. All lamps and fixtures shall be UL, ETL, C.S.A. listed. All electrical components shall be hard wired and concealed within the unit. All wiring and electrical fixtures comply with the standards of the National Electrical Code, UL and C.S.A.
- E. MOUNTING
1. The unit shall be wall mountable with hardware provided.
 2. An optional mounting kit shall be available for pole mounting.
- F. COMPLIANCE
1. Unit shall be certified to UL Standard 60950.
- G. WARRANTY
1. Wall mount unit shall be warrantied against any defects in material and workmanship, under normal use, for a period of two years from date of installation. In the event system is found by manufacturer to be defective within the warranty period, manufacturer shall repair and/or replace any defective parts, provided the equipment is returned to manufacturer.
- H. MANUFACTURER
1. The Manufacturer shall be Talk-A-Phone Co. (773) 539-1100, 7530 N. Natchez Ave, Niles, Illinois 60714-3804, www.talkaphone.com. Or Cal Poly ITS Telecom approved equal.

PART 3 – EXECUTION

3.01 GENERAL

- A. Installation at minimum shall be as specified by the manufacturer.

- B. Do not install emergency phones until after their installation location has been approved by the Cal Poly ITS Telecomm group and the University's Chief of Police or designated Police Department representative.
- C. Any surface mount conduits run in support of an emergency phone installation are to be painted to match the building's finish so as to minimize aesthetic impact. In new construction, surface mount conduit is not allowed.
- D. Electrical circuits used to provide power to emergency phone installations are to be full time, dedicated powered circuits. Electrical circuits that are activated by timer or photo cell or with other loads are not acceptable.
- E. **All access panels for wall mounted units shall be completely accessible with at least 3 feet of clearance for maintenance access.**
- F. The unit shall be ADA Compliant.
 - 1. Installation of the wall-mount unit or pedestal, phone instrument, foundation, and/or mounting hardware shall not violate ADA accessibility requirements.
- G. Post Project Cleanup
 - 1. Remove rubbish, debris, and waste materials and legally dispose of off the Project site.
 - 2. Restore any landscape, concrete, asphalt or aesthetic elements disturbed during installation.

3.02 QUANTITIES

- A. Quantities of system elements shown on the drawings shall be illustrative only and are meant to indicate the general configuration of the work. The Contractor shall be responsible for providing the correct quantities of materials to construct a system that meets the intent of these Specifications and the relevant codes.

3.03 INSTALLATION

- A. PEDESTAL INSTALLATION
 - 1. Installation is to include a dedicated 1¼" conduit with pull string and wire for Telecom. This conduit is to connect directly to an in ground hand hole located within 6' of the pedestal. The hand-hole is then to connect to the nearest existing telecommunications infrastructure. Refer to project drawings for specific connection location.
 - 2. Cabling serving pedestal phones will require entrance protectors at each end. See section 27-11-13 for details.
 - 3. Installation is to include a dedicated ¾" (minimum) conduit for electrical service. This conduit is to connect directly to an in ground hand hole located within 6' of the pedestal. The hand-hole is then to connect to the nearest existing electrical infrastructure. Refer to project Drawings for specific connection location.
 - 4. Electrical circuit shall be continuously enclosed in conduit for its entire run until it terminates in an outlet or junction box inside the pedestal.
 - 5. No conduits shall enter the top or side of a pedestal mount phone enclosure. Conduits shall only enter the bottom of the enclosure.
 - 6. The telecom hand-hole shall include a ½" x 8' ground rod to bond the pedestal, anchors, conduits and concrete reinforcing metal with a #6 AWG bare copper conductor.
 - 7. Hand-holes shall not be located within the ADA path of travel for the pedestal.

8. Approved Manufacturer: Jensen Precast Product with Lid or Cal Poly ITS Telecomm group approved equal
9. Footings & Mounting
 - f. Pedestals must be solidly anchored to a foundation with embedded steel $\frac{3}{4}$ " by 24" j-bolts with 5" of exposed thread.
 - g. Foundation must be at minimum 24" in diameter and 36" deep.
 - h. Foundation shall be finished at grade. Unit shall mount one-half inch above the concrete to allow air movement.
 - i. Foundation construction shall meet all applicable state and local codes.
 - j. Installation in a pre-poured deck shall utilize a purpose built through bolt kit provided from the manufacturer.
 - k. Installation shall not rely on the use of drop in anchors.
 - l. All steel reinforcing rods in the footing shall be bonded together with a #6 AWG bare copper wire. Leave a 3' stub of grounding wire next to the embedded signal conduit for attachment to planned pedestal.
 - m. Follow all manufacturers' written recommendations for installation.

B. WALL MOUNT INSTALLATION

1. Installation is to include a dedicated 1 $\frac{1}{4}$ " conduit with pull string and wire for Telecomm connections. This conduit is to lead directly to the nearest existing TR/ER or cable tray. Refer to project drawings for specific connection location.
2. Installation is to include a dedicated $\frac{3}{4}$ " (minimum) conduit for electrical service. Refer to project drawings for specific connection location.
3. No conduits shall enter the top or side of a wall mount phone enclosure. Conduits shall only enter the back of the enclosure.

3.04 GROUNDING & BONDING

A. PEDESTAL MOUNT PHONE

1. Pedestal is to be grounded with a #6 AWG copper ground wire. Wire is to be terminated on the provided grounding stud in the tower, and terminated on the ground rod in the accompanying signal hand hole.
2. All entrance protectors located inside the tower shall be bonded to the grounding stud using a #6 AWG copper ground wire.
3. Bond all metal components of the pedestal, including the whip from the steel reinforcing in the footing, to the grounding rod.
4. Follow all manufacturers' written recommendations for installation. Installation shall be in accordance with all applicable codes and ADA standards.

B. WALL MOUNT PHONE

1. Ground the metal enclosure with a #12 AWG copper grounding wire to the provided electrical ground.
2. Follow all manufacturers' written recommendations for installation. Installation shall be in accordance with all applicable codes and ADA standards.

- C. Refer to Section 27-05-26 for additional details.

3.05 TESTING

- A. Testing shall require a demonstration of a call from each device proving proper functioning of all accessories and visual notification devices. Each demonstration shall be in the presence of the Cal Poly ITS Telecomm group representative & designated representative of the Cal Poly Police Department.

3.06 ACCEPTANCE

- A. Upon receipt of the Contractor's testing documentation, the Cal Poly ITS Telecomm group representative will review/observe the installation and randomly request tests of the device as installed. Once the installation and testing has been completed and the Cal Poly ITS Telecomm group representative is satisfied that all work is in accordance with the Contract Documents, the Cal Poly ITS Telecomm group representative will notify the Contractor and/or Cal Poly Project Manager in writing or via email.
- B. All install locations, product configurations, and or graphics must be approved by the Chief of Police or his/her designee of the Cal Poly University Police Department and the Cal Poly ITS Telecomm group.

3.07 RECORD (AS-BUILT) DRAWINGS

- A. The Project Record Drawings shall show the types, locations, jack numbers and assigned phone numbers of installed equipment.

END OF SECTION

DOCUMENT VERSION CONTROL

REVISION	DATE	AUTHOR	REASON
1	02/20/2014	R. VOLK	INITIAL DOCUMENT DEVELOPMENT
	02/20/2014	DW & MH	PRIMARY REVIEW COMPLETE