

## Please follow all instructions:

1. Use only the currently posted version of all Forms from:  
[www.cor.net/fire/permits](http://www.cor.net/fire/permits)
2. Download this document to your computer;
3. Open the downloaded document in Adobe Acrobat Reader DC or other compatible PDF software:
  - If needed, download and install the free *Adobe Acrobat Reader DC* from:  
<https://get.adobe.com/reader/>
  - Do not complete the Forms in a web browser unless you can digitally sign them there.
4. Tab or mouse through the Forms to complete each field - all applicable information is required:
  - Some fields contain a drop-down box from which a selection can be made.
5. Digitally sign each Form after completion by clicking on the signature field and following the prompts:
  - Do not "lock" the document.
6. Submit documentation of the minimum qualifications of the system designer and lead installation personnel, including both of the following:
  - A valid FCC-issued general radio operators license; and,
  - Certification of in-building system training issued by a nationally recognized organization, school or a certificate issued by the manufacturer of the equipment being installed.
7. Other Supporting Documents:
  - Engineering Assessment Report or Preliminary Assessment Report; and,
  - Battery and signal attenuation drop calculations (if applicable); and,
  - Manufacturer's datasheets for significant components of the proposed system (control modules, risers, etc.) with the specific models proposed identified; and;
  - Existing systems: Provide a copy of the most recent annual ERCS inspection report (IFC 510.6.1).
8. Save the completed *Application Form* and email it with supporting documents:
  - Email to [firepermits@cor.gov](mailto:firepermits@cor.gov);
  - In the subject line, enter:
    - *New Permit Application*; OR,
    - The existing permit number and type of resubmittal, e.g. *20-023 Resubmittal*, in the subject line.



## Emergency Responder Radio Coverage (ERRC) System Permits Guidelines

[Revised 12/14//2021 – Significant changes are in red.]

This Policy may not include all requirements. Applications are reviewed in the order submitted.

The assessment report and recommendation from the vendor must be submitted to the Fire Marshal's Office for review. Systems are not required when the engineering evaluation predicts the system is not needed and the qualified vendor performs verification testing validating the results. If the engineering evaluation or the verification test fails to produce the minimum required signal strengths, as outlined in the IFC, a system will be required, and the permitting process must be initiated. The City of Richardson radio network for public safety operates under a 800 Mhz, P25 Phase 2 system.

The ERRC is a life safety system and must be accepted before the Certificate of Occupancy will be approved. The following benchmarks are provided to help reduce potential delays in the occupancy of the building:

1. Submit a completed permit application, with all required documentation outlined in this policy, to initiate the review process.
2. Work may commence after Permit issue.
3. A final inspection shall be conducted to ensure adequate radio signal is provided without interference and/or signal oscillation.
4. All work shall comply with current codes and standards that apply:
  - A. 2018 International Fire Code, as amended and adopted by City of Richardson ord. 4374
  - B. 2019 edition of NFPA 1221, **2022 edition** of NFPA 72, 2017 edition of NFPA 70/NEC

### GENERAL REQUIREMENTS FOR ALL SYSTEMS

1. **PERMIT IS REQUIRED:** Unless exempt or otherwise approved, a permit is required before commencing installation or modification of Emergency Responder Radio Coverage System regulated by the 2018 International Fire Code, §105.7.6. This *Policy* applies to the following systems:
  - Distributed Antenna System (DAS)
  - Automatically Activated ERRC
  - Bi-directional Amplifier (BDA)
  - Wired Communication System
2. **EXEMPTIONS:** [No permit, submittals, or acceptance test required. Appropriate Service Tag is required.]: System Repairs, Annual Testing or Maintenance;
3. **PERMIT AND INSPECTION FEE:**
  - A. No permit fee applies.
  - B. First inspection and one reinspection are free - for each subsequent inspection, a fee of \$100 will be assessed.
4. **QUALIFIED VENDORS:**  
Hold current FCC General Radio Operators License and certificates of training from the manufacture for the equipment being installed.
5. **VARIANCES:** "Variance Application" \* is required where systems do not comply with applicable Codes and Standards.
6. **SUBMITTAL CHECKLIST (MINIMUM REQUIREMENTS):**  
Failure to provide minimum elements will result in a delay in the permit review process:
  1. Emergency Responder Radio Coverage System Application.
  2. Engineering Assessment Report or Preliminary Assessment Report.
  3. Manufacturers cut sheets for all major equipment (control modules, risers, etc.), clearly indicating which models will be utilized.
  4. Fire Alarm riser diagram, including power connection and conductor type and sizes (if applicable).
  5. Battery and signal attenuation drop calculations (if applicable).
  6. Existing systems: Provide a copy of the most recent annual ERRC inspection report. (IFC 510.6.1)

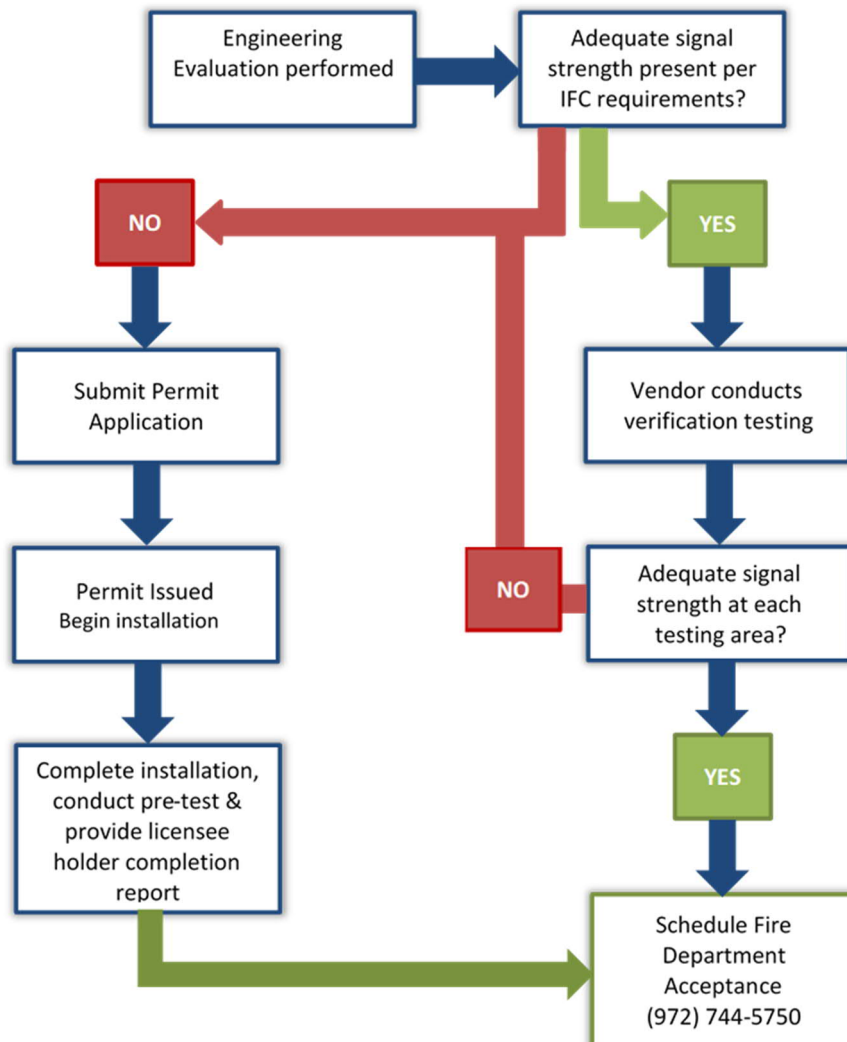
### EMERGENCY COMMUNICATION SYSTEMS INSTALLATION REQUIREMENTS

The design professional and qualified vendor are responsible for ensuring the system meets the requirements of the 2018 IFC [as amended and adopted by ord. 4374], NFPA 1221, and the FCC.

1. Monitoring:
  - A. Automatic supervisory and trouble signals shall sound an audible signal at a constantly attended location. Automatic signals shall include:
    - 1) Loss of normal AC power
    - 2) System battery failure
    - 3) Malfunction of donor antenna(s)
    - 4) Failure of active RF-emitting device(s)

- 5) Low-battery capacity at 70-percent reduction of operating capacity
  - 6) Failure of critical system components
  - 7) Communications link between fire alarm system and ERRC
2. Other installation requirements:
- A. Standby Power provisions shall adhere to IFC 510.4.2.3;
  - B. Bi-Directional Distributed Systems (BDA) shall be of Class A so only the Public Safety frequencies are being amplified in accordance with IFC 510.4.2.1;
  - C. Systems shall be equipped with Oscillation Prevention in accordance with IFC 510.4.2.4. An oscillation alarm at the BDA shall send a supervisory signal to the supervisory station for immediate action by the building owner;
  - D. Systems shall be monitored by a fire alarm control unit that monitors the conditions outlined in IFC 510.4.2.5. The supervisory signal shall be a non-latching signal at the fire alarm control unit;
  - E. Riser coaxial cables and all other cables shall be rated as riser cables and shall be routed through a rated enclosure per NFPA 1221.
  - F. All components of the system shall meet the requirements of NFPA 1221, 9.6.
  - G. All critical areas of the building as outlined in NFPA 1221 section 9.6.7 shall be provided with adequate radio coverage;
  - H. The system shall be powered by a branch circuit, secured with breaker lock, with red marking next to the breaker.
  - I. At the completion of the system testing, a completed copy of a Record of Completion shall be provided at the control module and to the Fire Marshal's Office;
  - J. Contractor shall provide documentation to the property owner outlining the maintenance and testing requirements for the system. All documentation shall be provided in a labeled lockable documents container located at the control module. A copy of the key shall be provided to the owner and a copy located in the Knox Box;
  - K. Required FCC device label shall be affix to all systems. The installing contractor shall be required to provide the labels;
  - L. Donor antenna shall be engineered and maintained so it will not interfere with an adjacent system.

**3. PERMIT PROCESS FLOWCHART:**





# Emergency Responder Radio Coverage System

## Construction Permit Application

Richardson Fire Department

300 N. Greenville Avenue, Richardson, TX 75081

Telephone: 972-744-5750 Fax: 972-744-5796 www.cor.net/fire

[Created 10/21/2020]

Fire Department Permit Forms and Information are available at [www.cor.net/fire/permits](http://www.cor.net/fire/permits).

### APPLICATIONS THAT DO NOT COMPLY WITH THE FOLLOWING MAY NOT BE REVIEWED:

E-mail this COMPLETED Form and supporting .PDFs to [firepermits@cor.gov](mailto:firepermits@cor.gov) with the original Application/Permit Number [if applicable] and submittal type in the subject line [E.g.: *New Permit Application* or *20-123 Resubmittal*].

- Select "Highlight Fields" if available to show the fields in this form;
- Use ONLY the current version of all Forms;
- Comply with ALL instructions and guidelines;
- Submit a separate Application for each address/suite#;
- COMPLETE and CORRECT address must match Building Permit or Certificate of Occupancy;
- Forms must be complete, correct, readable, and signed;
- Submit ONLY documents applicable to the proposed work

Submittal Type [Initial, Resubmittal, Renewal, Modification, or As-builts]:

<b>TYPE</b>	SUBMITTAL TYPE: _____ Except "Initial Application" - enter the original FIRE DEPT. Application/Permit Number: _____
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"Project" is the property and owner/agent of the property [E.g. Property Manager, Construction Manager, etc...]:

<b>PROJECT</b>	PROJECT NAME [name of business or property]: _____ PROJECT CONTACT TYPE: _____
	PROJECT CONTACT (A PERSON): _____ CONTACT'S PHONE: _____ CONTACT'S E-MAIL: _____
	PROJECT COMPLETE AND CORRECT ADDRESS [Include direction, e.g.: N. S. E. W., and suite #, if applicable]: _____
	BRIEF description of Scope and Area of Work Proposed [E.g New System, Upgrade, Replacement]: _____

"Applicant" is the PERSON RESPONSIBLE FOR ALL WORK UNDER THE PERMIT:

<b>APPLICANT</b>	APPLICANT'S FIRM: _____ FIRM'S PHONE: _____
	FIRM'S MAILING ADDRESS [Include City, State and Zip]: _____
	APPLICANT'S NAME: _____ APPLICANT'S TITLE: _____ DIRECT PHONE: _____ APPLICANT'S E-MAIL ADDRESS: _____

A construction permit is required for installation of or modification to emergency responder radio coverage systems and related equipment. Maintenance performed in accordance with the International Fire Code is not considered to be a modification and does not require a construction permit.

Indicate the type [Technology] of proposed system:

Check box if the system will be supervised by the building's fire alarm system - a fire alarm construction permit is required.

Submit the following with this Application:

- Documentation of the qualifications of the system designer and lead installation personnel, including both of the following:
  - A valid FCC-issued general radio operators license; and,
  - Certification of in-building system training issued by a nationally recognized organization, school, or the manufacturer of the proposed system.
- Technical report(s) evaluating the emergency responder radio coverage at the affected premises, prior to installation of the proposed system.

**Applicant has reviewed & complied with all guidelines and instructions and all information is complete and correct.**

**APPLICANT'S SIGNATURE\*** [Must be signed by the Applicant named above.]

**DATE**

\*Approved digital signatures have verifiable "digital certificates". [See "[What is a digital signature?](#)"] Pasted/inserted & typed signatures are NOT approved. If you cannot digitally sign: Print this page, sign in ink, scan signed document and submit as .pdf. Do NOT "lock" Form when digitally signing.

- - - OFFICE USE ONLY - - -

PERMIT #: _____	BLDG. PERMIT #: _____
DATE ISSUED: _____	CC or Check #: _____ PERMIT ISSUED BY: _____
NOTES: _____	