

NORTHWEST FIRE DISTRICT



Prevention Services

Program Appraisal

for the upcoming 2025-2026 fiscal year

In partial or complete fulfillment of the following CFAI Criterion and Performance Indicators (core competencies identified in **bold**): Category 5 Criterion A & C, Category 9 Criterion A, and **9C.3**

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EXECUTIVE SUMMARY

The Northwest Fire District Prevention Division focuses on improving life safety and reducing property loss through innovative Community Risk Reduction (CRR) services that include code compliance, permitting and plans review, inspections/risk assessments/preplanning, and fire investigation. These community risk reduction services exist to provide enhanced mitigation efforts in detection, reporting and control of fires. Detection is addressed as part of the adopted code relating to the design and installation of detection equipment and is administered during the plan review processes and code compliance inspections. The reporting and control of fires is coupled with the regional public safety communications center that receives and notifies NWFD response resources to extinguish and investigate fires. Annual general occupancy inspections and updates to the NWFD comprehensive risk assessment process are completed throughout the year and include fire and non-fire risk mitigation efforts. Prevention services are included and evaluated annually as part of the CRA-SOC. Results of the risk assessment are being implemented into NWFD community risk reduction programs.

DIVISION PURPOSE

The Prevention Division exists to identify, educate, and ensure compliance with the currently adopted fire code, and to determine the origin and cause of the more technical fire incidents.

Community risk is reduced by the identification and implementation of proper safety practices that aid in eliminating all types of hazardous conditions that pose a threat to life, property, and the environment. The goal of the NWFD Prevention Program is to aid in CRR in the Northwest Fire District through the establishment of community partnerships, information dissemination, code development, education and enforcement, planning, review, and active involvement in the community.

DIVISION ADMINISTRATION

The Prevention Division is currently comprised of the following positions and personnel:

- Division Chief/Fire Marshal (1) – responsible for the overall management, budget development and administration of the Prevention Division.
- Deputy Fire Marshal (2) – responsible for directing day to day program activities of Prevention Services personnel related to occupancy inspections, risk assessments, fire investigations and plan review.
- Fire Inspector (1) – responsible for performing technical reviews and approvals of construction, fire, and life safety plans to ensure compliance with adopted codes and requirements.

- Fire Inspectors (6) – responsible for performing basic to advanced technical fire inspections and investigating fires to determine origin and cause.
- Administrative Assistant (1) – responsible for providing general clerical and administrative support to the Prevention Services division.

COMPLIANCE STATUS WITH FEDERAL/STATE/LOCAL REGULATIONS AND CODES

Prevention Services is governed and guided by various federal, state, and local regulations that establish minimum requirements for providing a reasonable level of life safety and property protection from the hazards of fire, explosion or dangerous conditions in new and existing buildings, structures, and premises. These codes and regulations also serve to protect firefighters and emergency responders during emergency operations. Under ARS Title 48, Chapter 5, Article 1, the Northwest Fire District, as it relates to the Prevention Division, has the power to:

5. Enforce the fire code adopted by the district, if any, and assist the office of the state fire marshal in the enforcement of fire protection standards of this state within the fire district including enforcement of a nationally recognized fire code if expressly authorized by the office of the state fire marshal.

6. After the approval of the qualified electors of the fire district voting at a regular district election or at a special election called for that purpose by the district board, as appropriate, or at any election held in the county that encompasses the fire district, adopt the _____ fire code, which is a nationally recognized fire code approved by the state fire marshal. The words appearing on the ballots shall be "should _____ fire district adopt the _____ fire code, which is a nationally recognized fire code approved by the state fire marshal--yes", "should _____ fire district adopt the _____ fire code, which is a nationally recognized fire code approved by the office of the state fire marshal--no". The code shall be enforced by the county attorney in the same manner as any other law or ordinance of the county. Any inspection or enforcement costs are the responsibility of the fire district involved. The district shall keep the code on file, which shall be open to public inspection for a period of thirty days before any election for the purpose of adopting a fire code. Copies of the order of election shall be posted in three public places in the district at least twenty days before the date of the election, and if a newspaper is published in the county having a general circulation in the district, the order shall be published in the newspaper at least once a week during each of the three calendar weeks preceding the calendar week of the election.

7. Amend or revise the adopted fire code, including replacement of the adopted fire code with an alternative nationally recognized fire code, with the approval of the office of the state fire marshal and after a hearing held pursuant to posted and published notice as prescribed by section 48-805.02, subsection A. The district shall keep three copies of the adopted code, amendments and revisions on file for public inspection.

14. *Adopt resolutions establishing fee schedules both within and outside of the jurisdictional boundaries of the district for providing fire protection services and services for the preservation of life, including emergency fire and emergency medical services, plan reviews, standby charges, fire cause determination, users' fees or facilities benefit assessments or any other fee schedule that may be required.*

17. *Enter into intergovernmental agreements or contracts as follows:*

(a) Enter into an intergovernmental agreement with another political subdivision for technical or administrative services or to provide fire services to the property owned by the political subdivision, including property that is outside the district boundary.

H. If a district's fire code requires the use of a fire watch, an employee who works at the building in which a fire watch is required may serve as the fire watch. A person who is designated as a fire watch shall be equipped with the means to contact the local fire department, and the person's only duty while keeping watch for fires shall be to perform constant patrols of the protected premises. The district shall provide the fire watch with printed instructions from the office of the state fire marshal and may provide a free training session before the person's deployment as the fire watch begins.

I. For the purposes of this section, "fire watch" means a person who is stationed in a building or in a place relative to a building to observe the building and its openings when the fire protection system for the building is temporarily nonoperational or absent.

The prevention division maintains records under the State of Arizona's record retention laws outlined in the: *Arizona State Library, Archives and Public Records, A Division of the Arizona Secretary of State General Records Retention Schedule Issued to: All State and Local Agencies Fire Fighting and Prevention Records, Schedule Number GS-1024.* [GS-1024.pdf \(azlibrary.gov\)](https://azlibrary.gov/GS-1024.pdf)

INTERNAL PROGRAMS

The Prevention Division operates three internal programs: new and existing development plans and permitting, general life safety and code compliance inspections, and fire investigations. Each of these programs can be divided into subsets of smaller, more specific tasks, each with their own initiatives towards accomplishing the District's mission of "saving lives, protecting property, and caring for our community".

Building and fire codes exist to provide a set of minimum standards relating to the construction, occupancy and operation of buildings and structures. Compliance with these codes primarily serves to protect the health and safety of the public and first responders but also helps to protect properties against physical and economic damage resulting from poor or unsafe design and construction work-practices.

Permitting and plan review are the first steps of code compliance and are essential to ensure properties are designed and constructed in accordance with the provisions allowed by the agency's adopted fire code. The Permitting and Plan Review Program is managed by a Division Chief who oversees two Deputy Fire Marshals (DFM) and an Administrative Assistant. A DFM supervises a Fire Plans Examiner who completes technical plan reviews. Prior to issuing permits, pre-construction meetings may be held, based on building complexities, to discuss requirements and expectations to identify potential problems before plans are submitted for review. Early identification of issues helps to eliminate costly construction errors and potentially deadly mistakes. Through the plan review process, construction documents are assessed for compliance with adopted codes, standards and regulations related to or affecting all construction activities and regulated operations. Outcomes of the plan review process will affect not only a building's construction and fire protection features, but also the ability of firefighters to perform emergency operations, for the life of that building. Permitting and plans review are guided by Standard Operating Procedure #402: Processing Permits, & Standard Operating Procedure# 403 Plans Review Procedures which incorporates the adopted version of the ICC, IFC, and local amendments.

Inspections are another vital part of the code compliance process and encompass the largest percentage of work performed within the Division each day. The "Own Your Zone" Inspection Program was developed to manage the inspection needs of the District. Own your zone assigns geographical areas, known as "zones", to individual Fire Inspectors for the purpose of performing all types of inspections. The Program also serves to provide a single point of contact to address the needs of community members, business owners and fire personnel. The Division Chief is responsible for the overall program's management with two Deputy Fire Marshals supervising inspectors who are responsible for organizing and managing the inspections required within their respective zones. The agency RMS system (ImageTrend) organizes and tracks zone inspections on a quarterly schedule. Types of inspections include annual inspections of existing occupancies; code complaints and deficiency repairs; performance and acceptance testing of fire protection equipment and systems; inspections of new commercial construction, existing tenant improvements and new single-family residences; inspections of properties, developments, and sites. Inspection functions are guided by Standard Operating Procedure (SOP) #400: Fire Inspection Procedure that incorporates the adopted version of the ICC IFC and local amendments.

The fire investigation service exists to ensure all fires and explosion incidents occurring within the District, and the circumstances leading up to those events, are investigated to determine origin and cause. The Division Chief is responsible for the overall program's management with two Deputy Fire Marshals supervising Inspectors who

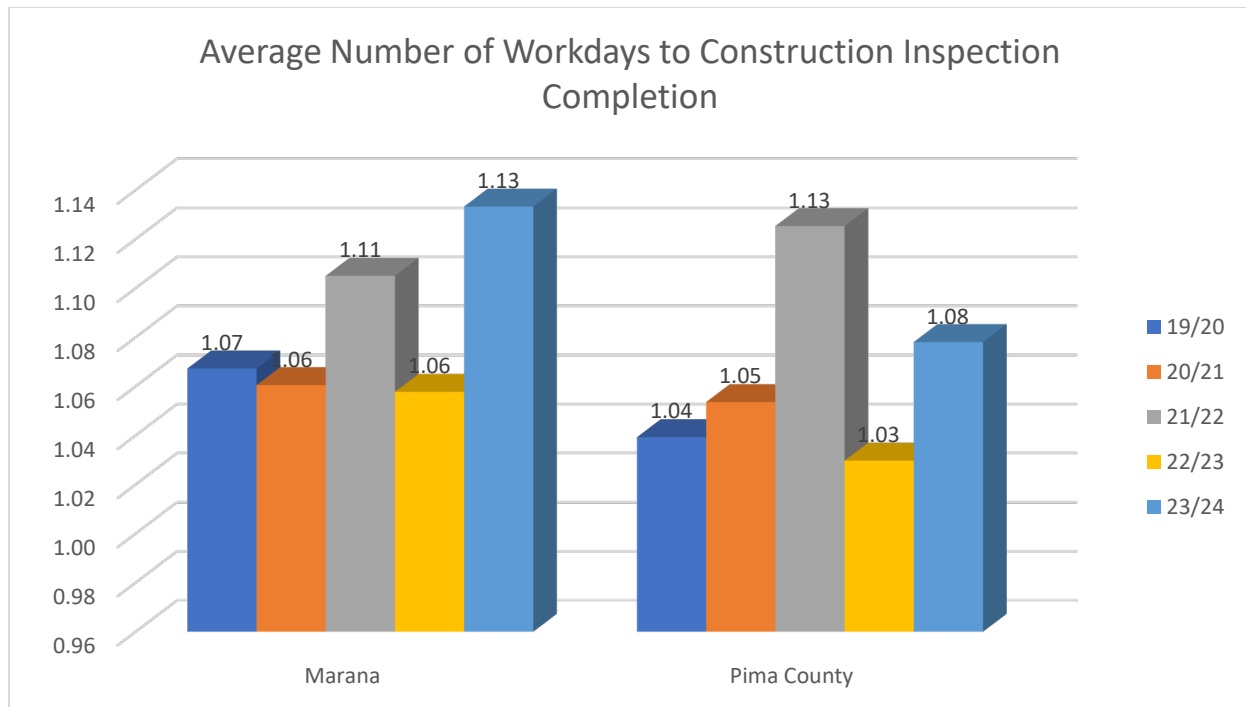
are responsible for fire origin and cause investigations. The Program operates with seven full-time employees assigned to the Prevention Division trained in AZ Fire Investigation I-IV. Investigative functions are guided by Standard Operating Procedure #401: Fire Investigations Procedure that incorporates the most current edition of NFPA 921: Guide for Fire and Explosion Investigations.

All fire or explosion incidents that are unable to be investigated at the engine company, fire officer level, garner a response of a primary and a secondary investigator within one hour. Based upon the nature of an investigation, support and assistance is called in from law enforcement and other agencies, as needed.

Educationally, Fire Investigator training is aligned with the requirements of NFPA 1033: Standard for Professional Qualification for Fire Investigators, and all investigators are required to complete the Fire Investigation I-IV training series administered by the Arizona Chapter of the International Association of Arson Investigators (AZ-IAAI). Education, training, and experience are documented in a comprehensive professional development plan for fire investigators that outlines all the job performance requirements listed in NFPA 1033.

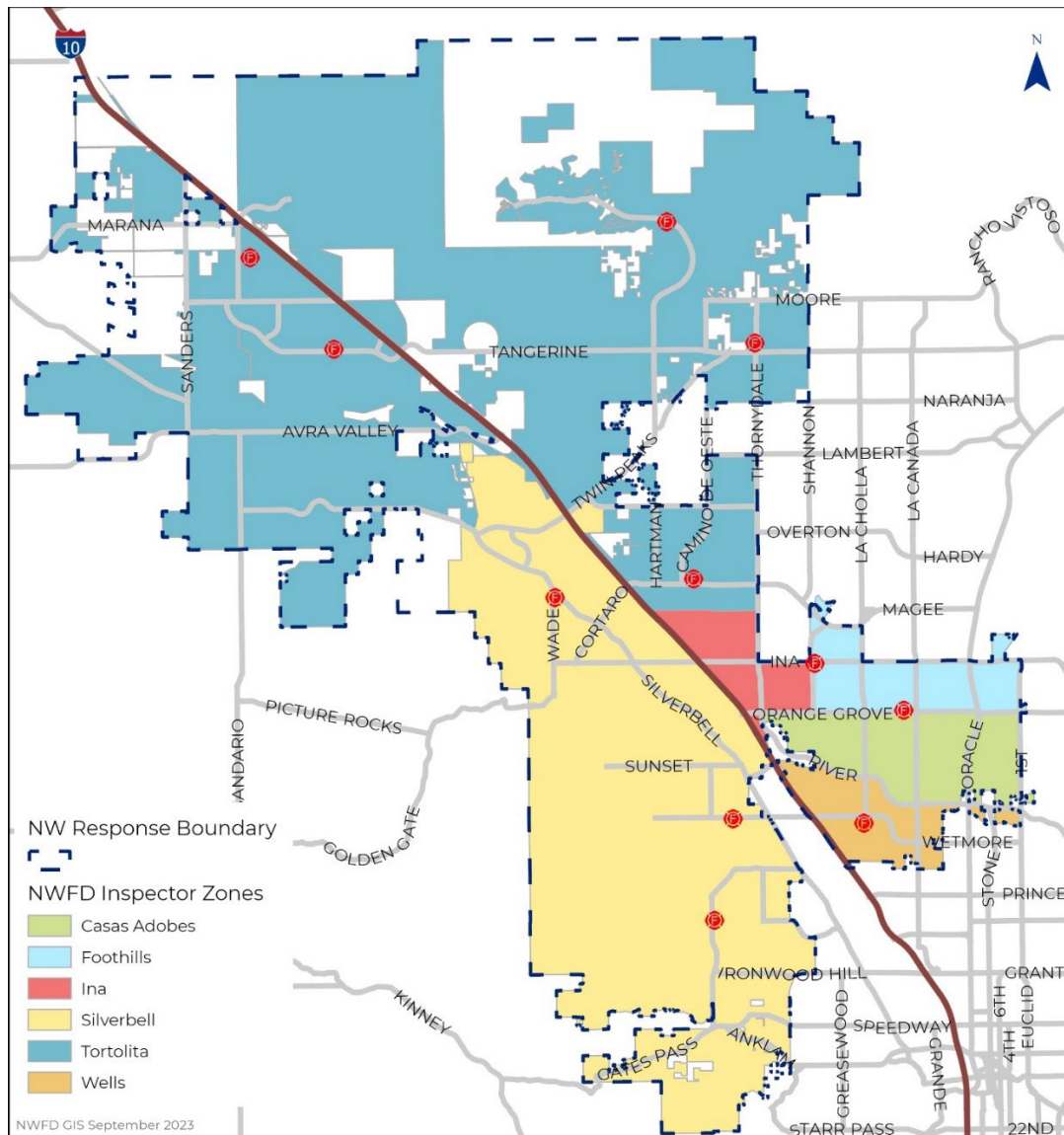
Commercial Fire Sprinkler	4.7	5.6	5.3	5.6	5.7	5.4
Commercial Kitchen Cooking Oil Storage Systems		2.0				2.0
Commercial Kitchen Suppression	3.5	5.6	3.7	5.3	3.1	4.0
Development Plan	2.5	16.4	19.2	13.4	11.5	13.8
Final Plat	6.3	13.2	14.7	14.9	11.2	13.0
Fire Apparatus Access Road - Modification					1.0	1.0
Fireworks/Pyrotechnics	4.3	7.0	5.2	4.4	4.0	4.8
Gas Detection Systems	8.1	5.3	7.4	5.4	3.2	5.9
Gate	1.4	4.0	2.5	5.2	3.5	3.7
Hydrant Flow Test		2.5	1.0		5.5	2.5
Occupancy Compliance				3.0	2.6	2.8
Residential Final Plat				16.3	9.0	13.4
Seasonal Sales	3.0	6.0	4.2	3.4	5.0	4.1
SFR Fire Sprinkler	2.5	4.9	5.6	3.8	5.2	4.4
Solar		8.0			2.3	3.8
Special Event	1.0				2.0	1.5
Special Systems				2.0	4.0	3.0
Spray Booth					8.0	8.0
Tent	4.1	4.1	5.0	4.6	5.3	4.7
Tentative Plat	12.3	17.4	11.3	16.2	9.9	12.2
Underground		3.0	2.6	2.3	2.8	2.6
Water Systems with Hydrants	5.2	8.3	7.9	9.7	7.6	8.1
Average Total	6.0	7.7	6.1	5.8	5.4	6.1

Once permitting and plans reviews are complete, the next step is to perform construction inspections of the completed work to ensure compliance with the adopted fire code. Contractors contact the Prevention Division to schedule construction inspections with a goal to have all construction inspections completed within two working days.

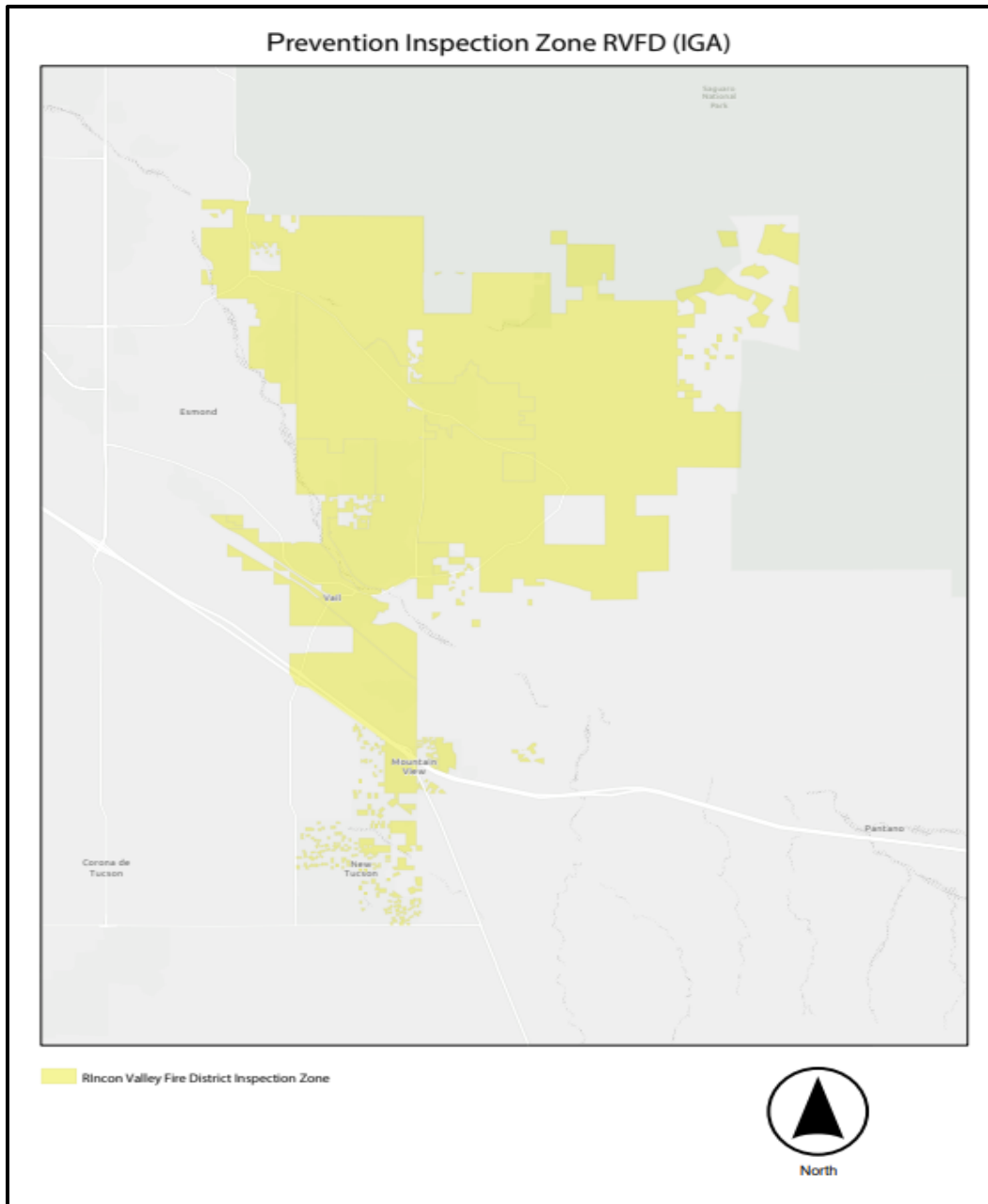


The goal of the Prevention Division's Occupancy Inspection Team is to perform a minimum of one fire and life safety inspection in every commercial occupancy annually. Inspection statistics gathered in the District's ImageTrend RMS have shown that one Fire Inspector can reasonably be expected to complete between 750 and 850 annual occupancy inspections, construction inspections, code complaints and fire investigation duties. Given this information and the number of commercial occupancies (2905 in FY23/24) located within the District's jurisdiction of responsibility which includes the IGA with Rincon Valley FD, the District was divided into six inspection zones of comparable size. Each zone is assigned an individual Inspector who is responsible for performing all the various types of inspections that occur within that geographical area. Composition of the inspection zones is as follows and a map is attached to this document for reference:

- The "Silverbell Zone" has **493** occupancies served by stations 332, 334 and 335.
- The "Ina Zone" has **527** occupancies served by stations 333 and 338.
- The "Foothills Zone" has **507** occupancies served by Stations 330 and 333.
- The "Casas Adobes Zone" has **570** occupancies served by stations 330 and 333.
- The "Wells Zone" has **482** occupancies served by station 331.
- The "Tortolita Zone" has **326** commercial occupancies and the largest concentration of new construction in the District. An **average of 31.75** construction inspections were performed each month during FY23/24. This brings the total zone inspections to 707.

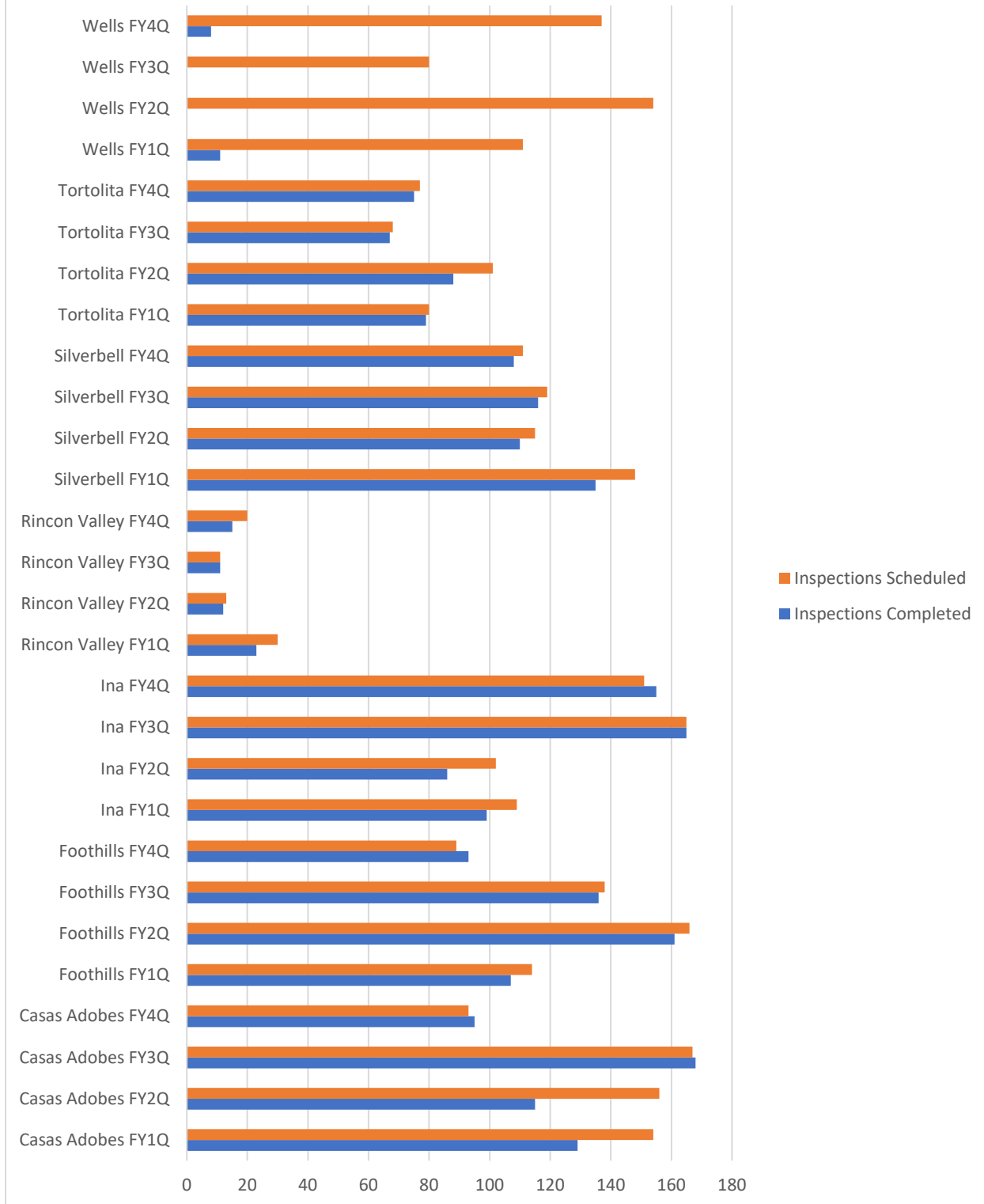


In July 2019, Northwest Fire District entered into an Intergovernmental Agreement (IGA) with the Rincon Valley Fire District to provide Fire Prevention services to include general and construction inspections, plan review and fire investigations. In doing so, a seventh zone designated as the "Rincon Zone" was created. This zone is comprised of 74 existing commercial occupancies and in **FY23/24**, an **average of 49.08** construction inspections have been performed in this zone each month, **589 total**. The Rincon Zone has not been assigned to a single Inspector but rather responsibilities have been divided amongst current personnel.



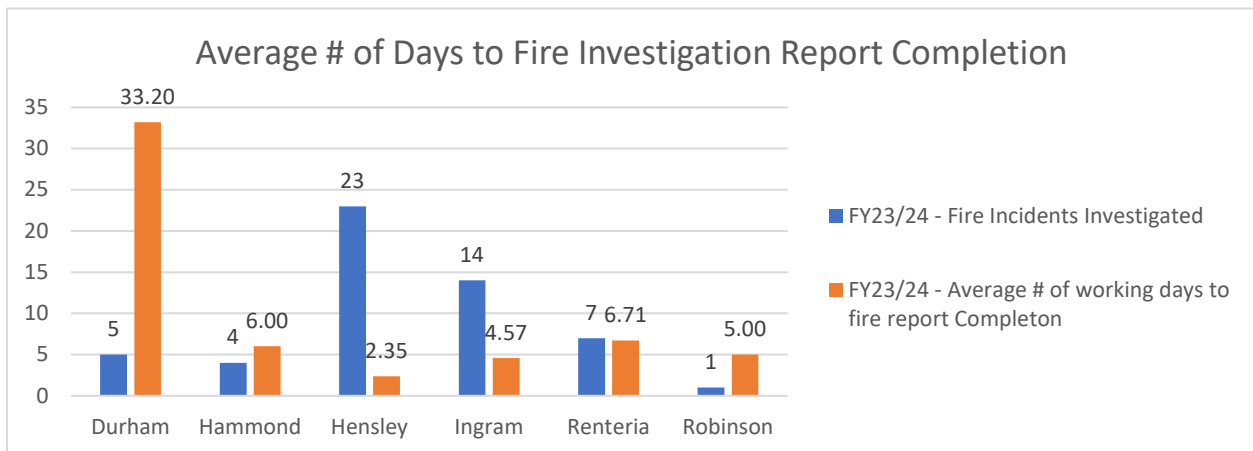
Evaluation of the general inspection program shows a **73% completion** rate for the fiscal year 23/24. The gap in baseline to the agency's 100% competition goal is the result of staffing attrition and hiring/training of new and existing members. The Division is fully staffed as of early FY24/25 and progressing through the training requirements to meet the general life safety inspection goal for the future.

FY23/24 General Occupancy Inspections Scheduled v. Completed



The goal of the Prevention Division's Fire Investigation Team is to complete all cause and origin fire investigations within ten business days. The FY23/24 fire report completion prevention division **average is 6.7 working days** from incident until report completion. Fire Investigation report completion variables include:

- Delays while awaiting private insurance fire investigation determination.
- Law Enforcement and Coroners' reports.
- Law Enforcement criminal investigations.



One overall outcome goal that the Prevention Division tracks is annual fire incident value saved and civilian casualties. The goal is to realize a 90% property value (structure and contents) save rate annually in the Authority Having Jurisdiction (AHJ). The metric is reflective of all the work that goes into permit and plans review, inspections (construction and occupancy), and fire investigations, as well as the functional attachments to other areas of the organization that have an effect on the value saved outcome. **In FY23/24, NWFD saved 97% of property value** during fire incidents with **ten (10) civilian casualties** of which **four (4) were deaths**.

FY	Pre-incident Property & Contents Value	Pre-incident Property & Contents Lost	Property and Contents Value Saved	Value Saved %
FY19/20	\$ 21,487,810.10	\$ 3,124,457.00	\$ 18,363,353.10	85% ¹
FY20/21	\$ 26,424,308.03	\$ 4,139,807.00	\$ 22,284,501.03	84% ¹
FY21/22	\$ 89,529,584.98	\$ 7,880,453.00	\$ 81,649,131.98	91%
FY22/23	\$ 67,589,016.00	\$ 8,526,641.00	\$ 59,062,375.00	87%
FY23/24	\$ 114,278,231.00	\$ 3,213,391.00	\$ 111,064,840.00	97% ¹

¹ Property Value Saved data entry training was deployed for FY21/22 to provide for more consistent data entry along with procedure 404 outlining the fire loss calculation standards.

PERFORMANCE MEASURES IN DEVELOPMENT:

The Prevention Division will evaluate for the transition into the NERIS reporting system and the benefits that the new USFA system provides.

The Prevention Division will evaluate for the goal of tracking lives saved during fire incidents. The NFPA has looked to begin the tracking on this metric. The agency is awaiting further guidance from the NFPA.

The Prevention Division is working on performance tracking efficiencies within the ImageTrend RMS system and inputting data to aid in future outcome-based monitors.

CURRENT DIVISION GOALS/OBJECTIVES AND STATUS

- Explore stipend pay for ICC plan review positional assignment(s).
- Succession planning that provides for ICC certification training opportunities in ICC Plans Examiner.
- Obtain full budgeted staffing levels and provide training to the level of Fire Inspector II and Fire Investigation I-IV certification level.
- Complete submitted plans reviews within an average of ten (10) working days.
- Complete a minimum of one (1) fire and life safety inspection in every commercial business annually.
- Complete fire investigation reports within ten (10) business days of the investigation's conclusion.

STRATEGIC PLAN CRITICAL TASKS DISCUSSION

- Critical Task: *Conduct fire and life safety inspections that include providing Community Risk Reduction (CRR) educational literature and occupancy risk assessments in all businesses and homes (at homeowner request) in the jurisdiction.*

~This task's completion is tracked in the Imagetrend RMS and is predicated on availability of personnel to complete all the required general life safety inspections within the jurisdiction. Staffing for the Division is full as of October 24' and a training/credentialing focus is the top priority to develop the members acumen to complete the annual inspections required within their assigned inspection zones.

- *Critical Task: Update the Knox Box program to align with regional partners and maximize accessibility for nondestructive entry into community businesses and homes.*

~This task's completion will be ongoing as budget money allows. Purchasing of new systems are planned to migrate apparatus mounted units into the newer and regionally aligned digital Knox key system but a full one-time implementation is not cost feasible at present. Small gains in this critical task as budget money provides will be the current plan.

- *Critical Task: Adopt and implement the 2024 International Fire Code with local amendments and complete the backend RMS infrastructure and regional partner alignments to support frontline deployment of updated fire code related services.*

~The 2024 IFC code has been reviewed and agency specific amendments have been developed in alignment with our regional partners. The State of Arizona Fire Marshals Office has approved the NWFD specific amendments. An implementation timeline for July 1st, 2025 has been agreed to in alignment with area building officials, and fire board presentation/adoption with public comment period is slated for the second quarter 2025.

- *Critical Task: Implement a collaborative automatic aid pre-incident planning program to reduce unknown occupancy risks to response personnel.*

~FirstDue software cost have been captured in the agency dispatch agreement. Automatic aid partners are on the same program with cross jurisdiction ability to view pre-incident plans. Current data migration and staff training is on the horizon for go live in 2025.

CURRENT ISSUES

Staffing for the Prevention Division is an ongoing challenge. The Division needs to credential the individuals through training and certification opportunities and develop them into the Fire Inspector II position. With limited opportunities to get the required classes, credentialing and certification take a long time. On the development side, new developments have plateaued with the associated permitting and plans reviews that will ultimately require construction inspections. The division's workflow, while functional, does not allow for continuous quality improvement and has taken a training centric focus to bring new members up to the baseline positional expectations.

UPCOMING FISCAL YEAR GOALS/OBJECTIVES – INCLUDE RELATIONSHIP TO STRATEGIC PLAN GOALS/OBJECTIVES AS APPROPRIATE

Goal 1: Innovate to provide the highest quality services to meet our mission.

Objective 1A: Integrate and invest in community risk reduction programs, recognizing our community's crucial role in appropriate support and engagement to prevent emergency response.

- *Critical Task: Conduct fire and life safety inspections that include providing Community Risk Reduction (CRR) educational literature and occupancy risk assessments in all businesses and homes (at homeowner request) in the jurisdiction.*
- *Critical Task: Update the Knox Box program to align with regional partners and maximize accessibility for nondestructive entry into community businesses and homes.*
- *Critical Task: Adopt and implement the 2024 International Fire Code with local amendments and complete the backend RMS infrastructure and regional partner alignments to support frontline deployment of updated fire code related services.*
- *Critical Task: Implement a collaborative automatic aid pre-incident planning program to reduce unknown occupancy risks to response personnel.*

TRAINING

CURRENT YEAR TRAINING ACCOMPLISHMENTS FOR DIVISION STAFF

Program Appraisal Training Accomplishments/Needs

Current Fiscal Year (23/24) Training Accomplishments for Division Staff

- AZIAAI Advanced Arson Conference (3 Employees)
- IAAI Expert Witness Testimony Program (1 Employee)
- EMT/CEP CEUs (8 Employees)
- Arizona Building Official Conference (1 Employee)
- ImageTrend Conference (2 Employees)
- Fire Service Leadership I - III (2 Employees)
- BlueCard Incident Command Program (1 Employee)
- Captains Certification Program – Fire Officer I & II (1 Employee)
- AZ State Fire Inspector I (1 Employee)
- AZ State Fire Inspector II (2 Employees)

- AZIAAI Fire/Arson III (1 Employee)
- AZIAAI Fire/Arson IV (1 Employee)
- IAAI International Training Conference (2 Employees)
- EduCode Training Conference (2 Employees)
- Provided in-house prevention instruction for the following programs:
 - NWFD Engineer Certification Program (40-Hour Fire Protection Systems Class)
 - NWFD Captains Certification Program
 - Regional Introduction to Fire Investigation Class

UPCOMING FISCAL YEAR COMPLIANCE RELATED TRAINING NEEDS

- Maintain Preferred Provider status for Northwest Fire through the ICC
- ICC 2024 code adoption and potential training to meet the ARS statute and ISO code adoption requirement.
- CPSE peer assessor and accreditation manager training (x3), excellence conference, etc.
- ESRI conference for geospatial data analysis compliance.
- ImageTrend training and CEUs

UPCOMING FISCAL YEAR JOB TASK RELATED TRAINING NEEDS

Fiscal Year (24/25) Training for Division Staff

- AZIAAI Advanced Arson Conference (3 Employees)
- AZIAAI Fire/Arson I (2 Employee)
- AZIAAI Fire/Arson II (2 Employee)
- EMT/CEP CEUs (8 Employees)
- Arizona State Fire School (3 Employees)
- AZ State Fire Inspector I (2 Employees)
- AZ State Fire Inspector II (1 Employee)
- Arizona Building Official Conference (3 Employee)
- Reid Technique for Interviewing and Interrogation (3 Employees)
- IAAI Expert Witness Testimony Program (1 Employee)
- ICC Permit Technician Training (2 Employees)
- ImageTrend Conference (3 Employees)
- NFPA 1072 HazMat FRO Course (1 Employee)
- ICC Fire Inspector I (2 Employees)
- ICC Fire Inspector II (3 Employees)
- EduCode Training Conference (3 Employees)
- IAAI-FIT Examination (2 Employees)
- IAAI-CFI Examination (2 Employees)

- IAAI International Training Conference (2 Employees)
- CPSE excellence conference (2 Employees)
- FirstDue, pre-incident planning conference (2 Employees)

PROGRAM SELF-ASSESSMENT

THE PROGRAM SELF-ASSESSMENT CONSISTS OF THE CURRENT ACCREDITATION CORE COMPETENCIES AND PERFORMANCE INDICATORS THAT DESCRIBE, APPRAISE, AND LIST A PLAN FOR YOUR DIVISION. THESE CORE COMPETENCIES AND PERFORMANCE INDICATORS ALONG WITH THE CURRENT ISSUES IDENTIFIED, ARE THE FOUNDATION FOR DEVELOPING UPCOMING GOALS AND OBJECTIVES.

CFAI STRATEGIC RECOMMENDATIONS: N/A

Category 5: Programs

This category represents the community risk reduction program for the organization and community served. The intent is to define, develop, execute, and measure the program as it relates to enforcement, education, economic incentive, engineering technology and emergency response (The 5-E's of community risk reduction). The program is a direct output of the Community Risk Assessment or Standards of Cover document. The program, while tracking traditional performance metrics, should focus on outcomes that identify the impact within the community. The key elements used to evaluate these services are: adequacy, deficiency, effectiveness, methods, and results of programs. For purposes of accreditation, these terms are defined within the glossary.

The agency's mission, goals and objectives should determine the applicability of all the listed programs. The agency should decide the relevancy of each criterion in its self-assessment manual. For criteria in Category 5 that are not applicable to the agency, the agency should briefly explain why it does not provide this program.

Category 5

Criterion 5A: Prevention Program

The agency operates an adequate, effective and efficient program as identified in the Community Risk Assessment and Standards of Cover. The approach is comprehensive and includes both prevention and mitigation strategies such as life safety, hazard risk reduction, plan review, code compliance, and the detection, reporting and control of fires and non-fire risks. The agency should conduct a thorough risk assessment as part of activities in Category 2 to determine the need for specific prevention programs.

Summary

The Northwest Fire District strives to improve life safety through innovative Community Risk Reduction programs and services that include preventative code enforcement, plan review, public education, and fire investigation. In addition, the community risk reduction effort includes detection, reporting and control of fires. Detection is addressed as part of the adopted code regarding the design and installation of detection equipment and is applied and enforced during plan review processes and code enforcement inspections. The reporting and control of fires aspect of community risk reduction is described in the District's CRA-SOC.

In early 2022, NWFD began a comprehensive risk assessment process that included not only fire but non-fire risks. The risk assessment was completed in 2022 and is included as part of the CRA-SOC. Results of the risk assessment are being implemented as resources allow into the community risk reduction programs.

CC 5A.1 The authority having jurisdiction has an adopted fire prevention and building code(s).

Description

The Northwest Fire District (District) Prevention Services Division has adopted and amended the 2018 International Fire Code (IFC), including all referenced standards through resolution 2019-027 by the Northwest Fire District Governing Board on June 25, 2019. The adopted fire code serves both the Town of Marana and unincorporated Pima County, located within District boundaries, and both jurisdictions have adopted the 2018 International Building Code (IBC). Pima County has amended Section 101.4.5 of the IBC with the following language: "REVISE section by DELETING the paragraph and REPLACING it with the following: The provisions of the International Fire Code shall apply whenever referenced in this code or as deemed necessary by the Building Official. Enforcement of the Fire Code shall, however, be relegated to the fire jurisdiction having authority or to the designated responding fire department."

In accordance with Arizona Revised Statutes, Title 48, Special Taxing Districts, Section 48-805, the Northwest Fire District has the authority to enforce the adopted fire code throughout the District, which is located within the boundaries of both the Town of Marana and unincorporated areas of Pima County.

Appraisal

The adoption and utilization of the ICC fire code, a nationally recognized set of standards, continues to serve the District well by providing a set of minimum

requirements to apply towards protecting the health, safety, and general welfare of the public as well as first responders through preventing and abating hazardous conditions in new and existing buildings, structures, and premises. Amendments to the Fire Code address situations and circumstances unique to the District or region.

Plan

The District will continue to utilize the ICC fire code in fire prevention and work with area partners to maintain Fire Code Alignments. The process for adopting and amending future codes will be done in conjunction with our strategic partners in the Town of Marana, Pima County, and surrounding fire districts and jurisdictions to better serve the community. An adoption plan for the ICC code on every other revision cycle is scheduled when the 2024 ICC fire code is released.

References

Res. No. 2019-027 International Fire Code 2018 Ed

NWFD-2018-IFC-Amendments-Adopted-062519

CL_-_Ordinances_-_10-16-2018_-_REGULAR_-_2018-030___-

Arizona Revised Statute § 48-805

CC 5A.2 The code enforcement program ensures compliance with applicable fire protection law(s), local jurisdiction, hazard abatement and agency objectives as defined in the community risk assessment/standards of cover.

Description

The Prevention Division ensures compliance with all fire protection laws and local amendments. The District adheres to the 2018 International Fire Code (IFC) and locally adopted amendments within the Town of Marana and Pima County areas where the District has jurisdiction. NFPA 1300 guides the occupancy risk assessment process with data captured through ESRI's field maps application. NFPA 1730 guides the Prevention Division in plan review, inspection and code enforcement, and fire investigation. Arizona State Statutes, Title 48, B, 5, provides the legal authority to enforce the District's code compliance program. The District's goal is to have 100% of plans reviewed to ensure fire code compliance and 100% of occupancies inspected and risk assessed annually.

Appraisal

The Prevention Division's permitting and plans service is staffed with NFPA 1030 trained and ICC-certified plan examiner personnel who review construction plans for code compliance in accordance with the general provisions in NFPA 1730 and ICC 2018 Fire Code, (including site access, utilities, building construction, life safety systems, equipment, storage and use of hazardous materials, etc.) for all projects within the District, including new buildings and existing tenant improvements before the start of construction. Deficiencies and additional requirements are addressed, discussed, and resolved during the permitting and plan review process. The District reviewed **1196 plans in the fiscal year 2023/24**. Current staffing levels and training requirements have allowed the agency's goal to be achieved.

The Prevention Division's inspection service completes construction and occupancy inspections and risk assessments on all new and existing structures to ensure fire code compliance. Requested construction inspections are called into the Prevention Division with a completion goal of two working days (**FY2023/24 avg. 1.11 days** to complete). Existing occupancy inspections are broken into quarterly calendar months with the goal of 100% annual occupancy inspection completion. Code violations, hazards, or deficiencies are presented to the building representative, with a timeline for correction. Follow-up inspections are performed to ensure deficiencies have been corrected. The District conducted **4812 inspections in the fiscal year 2023/24**. The annual risk assessment data process is a newer addition to the Prevention Division workflow, with the completion of risk assessments happening during the yearly occupancy inspection. Current staffing levels and training requirements have allowed the agency's goal to be achieved.

Tracking of the permitting and plans review, occupancy inspection compliance, and code violations are recorded in the ImageTrend RMS system and are meeting the agency's needs.

Plan

The District will continue to meet the provisions of NFPA 1300 by performing annual structural risk assessments during occupancy inspections. The District will continue to meet the provisions of NFPA 1730 by enforcing the currently adopted Fire Code through the ICC with the goal of 100% of plans reviewed and new/existing structural inspections completed annually. A plan to review and engage area partners for the adoption of the 2024 ICC International Fire Code with amendments is in process with and adoption plan for first quarter of 2025 and a go live date of July 1, 2025.

References

ImageTrend Records Management System

NFPA 1300-20

NFPA 1730-19

NWFD CRA-SOC, Section 2, p.34

CC 5A.3 The prevention program has adequate staff with specific expertise to meet the goals, objectives and identified community risks.

Description

The District's Prevention Services are budgeted for eleven (11) personnel: one (1) Division Chief/Fire Marshal, two (2) Deputy Fire Marshals, seven (7) Fire Inspector II, and one (1) Administrative Assistants. The Prevention Division works in three main areas of expertise: permitting and plans, Inspections, and investigations. The goals are to inspect 100% of businesses annually based on "inspector zones," review plans and release permits based on the Town of Marana performance targets (Avg. of 10 working days depending on the complexity of plan review) and have all fire origin and cause investigation reports completed in 10 working days.

Appraisal

The agency's Prevention Division is currently working on training two Fire Inspector Apprentices to the level of Fire Inspector I and training three Fire Inspector I to the level of Fire Inspector II as outlined in the agency's job description. Additionally, the District is pursuing a permit tech position to fill the forecasted vacancy at the administrative assistant level.

The Fire Inspectors are assigned a designated geographical area or "Inspector Zone" and are responsible for business and construction inspections, mitigation of any identified hazards, and compliance with applicable codes and standards. The Inspectors also maintain open communication and act as a liaison between community members, emergency response personnel, and other District stakeholders. The Fire Inspectors report to Deputy Fire Marshals, who are responsible for managing the day-to-day operations of permitting and plans review, code enforcement activities, and fire investigation responsibilities in addition to personnel training, records management, and the development of policies and procedures. The Administrative Assistant works in conjunction with the development service (permitting and plans) to intake, organize, and maintain the efficiency of the construction permit process, including intaking plans and permit fees, entering project and occupancy information into the records management systems (ImageTrend), tracking plan review progress, permit issuance and scheduling

inspections during the construction process. The plans examiners confirm code compliance for construction projects by conducting a comprehensive review of construction documents and collaborating with fire inspectors and building officials during inspection phases. A Division Chief is responsible for the overall administration and management of the Prevention Services Division.

The Division is currently focusing on staff certification training. At a minimum, Prevention Services personnel are all certified by the International Code Council (ICC) as Fire Inspector I, with four having achieved ICC Fire Inspector II certification. Additionally, three individuals are ICC Fire Plans Examiner certified.

The District has been divided into six inspection zones. A seventh inspection zone exists through an Intergovernmental Agreement (IGA) with Rincon Valley Fire District (RVFD). Fire inspector FTE deficiency has resulted in the inability to meet the goal of completing one general fire safety inspection in every existing commercial occupancy (including RVFD occupancies) annually. This deficiency should resolve at full staffing and credentialing levels. The permitting and plans timelines for completing reviews set forth by our building department partners in the Town of Marana are met. Present budgeted staffing levels are sufficient to manage the existing workload affiliated with code compliance along with the added responsibilities of fire investigation duties, including those assumed through the IGA with RVFD.

Plan

Sustained growth within the District, coupled with projected surges in commercial and residential development, will result in the ongoing look to increase service efficiency. The Division continues to train, educate and certify all staff members with the goal of all Prevention Division staff members being certified to the minimum level of ICC Fire Plans Examiner. The first step will be to bring staff members who are not ICC Fire Inspector I or II and IAAI Fire Investigation I-IV certified to that level.

References

Division Chief Job Description

Deputy Fire Marshal Job Description

Senior Plans Examiner Job Description

Fire Inspector II Job Description

Fire Inspector I Job Description

Fire Inspector Apprentice Job Description

Fire Inspector Recruit Job Description

Administrative Assistant I, II & III Job Description

NFPA 1730

5A.4 A plan review process ensures that adopted codes and ordinances determine the construction of buildings and infrastructure (such as hydrants, access, and street width).

Description

The Northwest Fire District has a plan review process that ensures the adopted ICC codes and local amendments are followed to determine if new and existing construction of buildings and infrastructure within the District are met.

Appraisal

The plan review process in place has served to ensure that buildings and infrastructure are constructed in accordance with the adopted 2018 International Fire Code and local amendments. Established plan review completion timelines are met at a goal of ten (10) working days on average **(5.4 days to completion, FY2023/24)** depending on project complexities.

Within the Town of Marana, pre-submittal meetings are held between the Plans Examiner, key personnel within the Development Services Department, Architects, and Engineers. Discussions are conducted about the needs and requirements of proposed project developments. These meetings and open discussions ensure that all aspects of the project follow applicable codes and standards before commencing construction. Access issues, street width, fire flow requirements, and hydrant placement are addressed at this time. Upon completion of the development phase, personnel review construction plans for the buildings and systems and confirm compliance before field inspections are performed as verification.

In Pima County, the plan review process is more challenging. Each morning, the District receives a list of all building permits issued within the county from the previous day via an automated activity report. This list includes all permits issued for Golder Ranch Fire District, Rincon Valley Fire District, and Northwest Fire District. After determining which projects are within the boundaries of NWFD and RVFD, the scope of work is evaluated to ascertain if review and approval are required as it relates to the fire code. For projects requiring review for fire code compliance, the District

emails the customer to inform them they must submit plans to the District for review. A hold is then placed on the permit with Pima County, which will not allow certificate of occupancy releases until both intermediate and final fire inspections have been approved.

NWFD evaluates all processes through the biannual Contractor's Coffee Forum. The Forum provides contractors and engineers an opportunity to discuss and learn of new standards, codes, and policies, as well as have input on changes.

Plan

The Prevention Services Division will continue to seek ways to improve the plan review process to ensure constant communications with the building and planning departments that are active in the community. Opportunities to enhance the code review process within Pima County will continue to be explored. In addition, the District will continue to schedule a biannual Contractors Coffee Forum in October and April to provide contractors, engineers, architects, or members of the public that are invested in community development a forum to receive information and discuss development and life safety related topics.

References

402 Processing Permits

403 Plans Review Procedures

Res. No. 2019-027 International Fire Code 2018 Ed

NWFD-2018-IFC-Amendments-Adopted-062519

Contractors-Guide

5A.5 The prevention program identifies the frequency that occupancies are inspected.

Description

The Northwest Fire District Prevention Division works to complete fire and life safety inspections on all occupancies annually. The District's "Own Your Zone" program, developed and operationalized in 2016, breaks up the more than 1400 locations and 2900 occupancies and associated sites into six (6) zones for annual risk assessment and inspection.

Appraisal

The District's "Own Your Zone" has worked well to identify and track the frequency of occupancy inspections. Once an occupancy receives a fire final inspection and is released by the respective building department's jurisdiction, a certificate of occupancy is issued. The location and associated occupant are attached to a zone inspector's annual inspection schedule in the agency RMS (ImageTrend). Inspection scheduling lists are generated from the agency RMS quarterly, and inspection reports are completed in the RMS system.

Evaluation of the "Own Your Zone" program has shown to be successful. Staffing attritions have challenged the organization to meet its goal of inspecting 100% of occupancies annually. In **FY2023/24, the agency hit 73%** of scheduled occupancies. The gap in goal completion was due to staffing attrition resulting from positional vacancies. Needed training is being performed and the Division is working to operationalize personnel into the Inspection Program.

A new addition to the "Own Your Zone" Model was the inclusion of occupancy risk assessments in FY2022/23. The process is completed by Inspectors during annual occupancy inspections and serves to risk buildings. Risk assessment data is valuable and can be used in the future to determine occupancy inspection frequency if staffing challenges arise. Zone Inspectors are entering data collected during inspections into the RMS system (Image Trend) and ESRI GIS field maps applications.

Plan

The District will continue to utilize the "Own Your Zone" inspection program and schedule/track the frequency of inspections in the agency RMS (ImageTrend) and risk assessments in ESRI GIS. Onboarding and training for members are forecasted in fiscal 24/25 to aid in the inspection program performance. Once fully staffed and trained, an effort to close the gap in inspection frequency and ultimately reach the annual goal of 100% occupancies inspected benchmark.

References

NFPA 1730-19.pdf

400 Fire Inspection Procedures

405 Code Violation Complaint

Zone Inspector Map

5A.6 The agency sets specific, targeted, and achievable annual loss reduction benchmarks for fire incidents and fire casualties based upon the community risk assessment and baseline performance.

Description

The Northwest Fire District has established procedure 404 which outlines the agency's fire loss calculation standards based on the USFA's NFIRS key points, including damage from fire, smoke, water, and overhaul. The agency's adopted fire loss calculator is in alignment with the ICC and captures accurate values based on the ICC methodology and the associated saved values on all fire events. The fire loss calculator is embedded into the agency's RMS system (ImageTrend) and available to responding crews and investigators. The worksheet is updated annually as the ICC adjusts construction costs, and those values are then reflected in the fire loss calculator products.

Monthly, the Prevention Division reconciles the RMS system for all fire calls with an entered loss value associated and calculates the aggregate values for structure and contents values, both lost and saved. Those values are reported to the Fire Board in the monthly board reports with the benchmark of achieving 90% value saved annually.

Monthly, the Prevention Division reports on all civilian casualties (injury or death) associated with fire incidents. The organization's goal is to have no civilian casualties resulting from fire.

Appraisal

Including the ICC fire loss calculator in the agency RMS fire reporting system has worked well to capture data relative to the jurisdiction's realized fires. The collected data is evaluated monthly by the Deputy Fire Marshal responsible for the Fire Investigation Program and validated for accuracy before providing the monthly fire Board Report. The agency realized an **97% value save rate in fiscal year 2023/24 with ten (10) civilian casualties.** This outcome shows that the agency has worked to provide high levels of service to the community in its community risk reduction (CRR) programs and fire suppression but includes the entire organization's efforts to prevent, mitigate, prepare, respond, and recover from all hazardous incidents including fire in our community.

Plan

The District plans to continue tracking fire incident value saved and civilian causality data in the organization's RMS. Additional effort will be made to collect data on annual loss reduction benchmarks to show civilians saved during fire incidents.

References

NWFD CRA-SOC, Section 4, p.163

Procedure 404, Fire Loss Calculation

USFA's NFIRS

CC 5A.7 The agency conducts a formal and documented program appraisal, at least annually, to determine the program's impacts and outcomes, and to measure performance and progress in reducing risk based on the community risk assessment/standards of cover.

Description

The Northwest Fire District implemented its Program Appraisal process in 2018 to align internal compliance with regulating and credentialing authorities to the agency budget and Strategic Plan. The program appraisal process aligns the organization's strategic planning process with the CFAI model's performance measures and ties it together with the organization's budget. The Program Appraisal document template is completed yearly and serves as a formal and documented appraisal of the organizational programs, including the Prevention Division.

Appraisal

The organization's Program Appraisal process has been working well for the Prevention Division as a formal and documented appraisal of the division's activities and plans. The appraisal provides a "tactical level plan" that supports the agency's strategic plan, tracks current goals and objectives, and applies the associated data points followed and validated against the various organizational RMS systems. Data is displayed to represent the current state of a program and evaluate performance. Outcomes are reported to the Fire Board monthly, and the program appraisals are integrated into the budgeting process and presented and approved by the Fire Board during the agency's budget approval process. The division has completed these documents since 2019, with the current document for FY2024/25 being the second program appraisal in the current accreditation cycle for 2023-2028.

Plan

The District plans to continue the program appraisal process as the formal and documented appraisal for all divisions within the organization. Updates to the document will result from changes in credentialing authorities and as the agency works toward continuous quality improvement.

References

Prevention Services Program Appraisal

Criterion 5C: Fire Investigation, Origin, and Cause Program

The agency operates an adequate, effective, and efficient program directed toward origin and cause investigation and subsequent classification of fires, explosions, and other emergency situations that endanger life or property to drive community risk reduction activities. The agency should conduct a thorough risk analysis as part of activities in Category 2 to determine the need for a fire investigation program.

Summary

The Northwest Fire District Prevention Services division administers an effective and efficient Fire Investigation Program to ensure all fires and explosions are investigated for the origin and cause according to the guidelines outlined in the 2024 edition of National Fire Protection Association (NFPA) 921: "Guide for Fire and Explosion Investigations." This is accomplished by adequately developing investigators utilizing standardized training programs, continuing education and certifications, affiliations with other agencies, adopting standard operating guidelines, and recognizing national standards and best practices.

Determination of a fire's origin and the cause is shared between Fire Officers and Fire Investigators based on the fire's complexity, size, and classification. Fire Officers are tasked with determining the origin and cause of small or minor fires classified as unintentional, while fire investigators assume responsibility for investigating all major fires, fires of an intentional nature, or when requested by the Fire Officer. Fire Investigators in the District do not have police powers; therefore, support and assistance are sought from law enforcement agencies as needed.

The Fire Investigation Unit is managed by a Deputy Fire Marshal and operates with full-time employees assigned to the Prevention Services Division trained to conduct fire investigations. The Division's Fire Investigators must attain Fire Investigation Technician (FIT) certification through the International Association of Arson Investigators (IAAI.) Responsibility for fire investigation duties rotates among the investigators every week.

In addition to NFPA 921, fire investigation procedures and processes are directed through the Northwest Fire District Procedure Manual: Chapter 4, Procedure 401, Fire Investigation Procedure which addresses not only actions but dispatch criteria, response protocols, processes, personal protective equipment selection, calling on additional resources and entities for assistance, equipment maintenance, safety, and documentation requirements.

The Northwest Fire District engages with surrounding agencies that have fire investigative personnel monthly to provide training, industry updates, case discussion, resource sharing, and networking opportunities.

CC 5C.1 The agency's fire investigation, origin and cause program is authorized by adopted statute, code or ordinance.

Description

The NWFD Fire Investigation Program is authorized by Arizona Revised Statutes, Title 48, Section 805, (B), 5, which allows fire districts to adopt a fire code. NWFD has an IGA with the Town of Marana and an ordinance within Pima County for fire investigations in the AHJ boundary. NWFD has adopted the 2018 International Fire Code (IFC) with amendments. Section 104.10 of the 2018 IFC authorizes the fire department to investigate the origin, cause, and circumstances of any fire, explosion, or hazardous condition occurring within the department's jurisdiction.

Appraisal

The existing statutory and adopted code provisions within the State of Arizona have authorized the District to conduct fire investigations within the District's legal authority. Historically, this has functioned well in that investigations have been conducted into the origin, cause, and circumstances of all fire and explosion incidents within District boundaries.

Plan

The Northwest Fire District will continue to meet the legal obligations established by the currently adopted fire code. The District will also monitor proposed changes to Arizona Revised Statutes that may affect the District and its ability to perform its duties responsibly. Changes that affect fire investigations will be conveyed to the agency as proposed.

References

Arizona Revised Statute § 48-805

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TOM IGA for Fire Code Services 2022 NWFD

<https://codes.iccsafe.org/content/IFC2018>

Res. No. 2019-027 International Fire Code 2018 Ed

NWFD-2018-IFC-Amendments-Adopted-062519

CC 5C.2 The agency uses a systematic approach based on the scientific method to investigate all fire and explosion incidents. The investigation should determine or render an opinion as to the incident's origin, cause, responsibility and/or prevention to include the damage and injuries that arise from such incidents.

Description

Trained Fire Investigators utilize the scientific method when investigating fires as directed by the Northwest Fire District Procedure Manual: Chapter 4, Procedure 401, Fire Investigation Procedure which incorporates the most current edition of NFPA 921: Guide for Fire and Explosion Investigations. The basic procedures and methodology outlined within this publication rely upon a systematic approach based on the scientific method, which provides an organizational and analytical process necessary for successful investigations. All fires investigated by a Fire Investigator within the District must be reported in written form and then subject to a technical review by the Fire Investigation Program Manager to ensure that proper investigative methodology has been applied. The Prevention Division's goal is to complete all fire investigation reports within ten (10) working days.

Appraisal

The present technical review process for reports has functioned well to ensure the scientific method is utilized for all fire investigations. When a Fire Investigator has failed to adequately document methodology, observations, or support for conclusions, those reports are returned with suggestions for revision or to conduct further research to identify the necessary data to include in the report. There have been rare instances when the proper investigative procedures have yet to be documented, and those situations have been quickly corrected in the review process or through training. The Prevention Division completed fire reports in an **average of 6.7 working days in fiscal year 2023/24**, including the technical review process conducted by the Deputy Fire Marshal over fire investigations.

Plan

The Fire Investigation Program will continue utilizing the current technical review process and ongoing training to ensure investigators consistently use a scientific approach and are familiar with the guidelines outlined in NFPA 921 and NFPA 1033. Professional memberships, publication subscriptions, and certifications must also be maintained as they provide essential communications regarding changes to processes and procedures.

References

NFPA 921-24

NFPA 1033-22

401 Fire Investigation Procedures

404 Fire Loss Calculation

Sample Fire Investigation Report

CC 5C.3 The program has adequate staff with specific expertise to meet the fire investigation, origin and cause program goals, objectives and identified community risks.

Description:

The fire investigation program's goal is to make determinations related to a fire event's origin and cause within the NWFD boundary. Fire investigation reports are required to be completed in ten working days/on average. Based upon the nature of an investigation, support, and assistance is called in from law enforcement and other agencies as needed.

The Northwest Fire District job description outlines the minimum training and certification to be classified as a fire inspector II. Fire Inspector IIs are trained and maintain certification as ICC fire inspector II and IAAI Fire Investigator Technician (FIT) following the completion of Fire Investigation I-IV training. Training and certification credentials are maintained by the employee and verified by the supervisor based on job description requirements during a members annual performance appraisal. The two credentials provided the baseline education and expertise to conduct fire investigations and determine the origin and cause.

In July 2020, NWFD and GRFD fire investigation programs operationalized an automatic aid response to all working fire incidents. The expanded response capabilities are pursuant to the 2018 automatic aid agreement between the agencies.

Appraisal

The NWFD investigation program's required training and staffing have been effective. The Prevention Division is staffed with five (5) full-time members that are IAAI Fire Investigation I-IV, and hold a minimum of IAAI-FIT designation.

NWFD has an automatic aid agreement with GRFD for joint fire investigation response. The agreement provides for a minimum of two Fire Investigators on all working fire incidents located within the jurisdictions and offers a larger response area to gain experience in fire investigation. Based upon the nature of an investigation, support, and assistance is called in from law enforcement and other agencies as needed.

The 2018 automatic aid agreement and 2020 operationalization of fire investigations under that agreement have worked well to increase the number of experienced investigators responding to NWFD incidents and introduced a new resource in the form of trained investigators from the Oro Valley Police Department (OVPD). Development of these types of partnerships was identified in goal #3 of the 2020-2024 Northwest Fire District Strategic Plan and a program goal was achieved as a result of launching this joint response initiative.

Progress continues to be made towards achieving another program goal of obtaining a minimum IAAI Fire Investigation Technician (FIT) certification for each investigator in the division. **Five (5) of the fire investigators are certified as a minimum of an IAAI-FIT (includes one (1) CFI)**, leaving four (4) investigators to become certified.

The last program goal of completing investigation reports within ten business days was met, with fire reports being completed within an **average of 6.7 business days**.

Plan

The Northwest Fire District will continue fostering a collaborative relationship with investigators from Golder Ranch, Oro Valley Police Department, and the Pima County Sheriff's Office through a monthly fire investigator meeting. In addition to building a stronger alliance with other agencies, this meeting will incorporate an educational element each month and serve as a means to disseminate and discuss information about investigation policies, procedures, available resources, and specific incidents.

The goal to obtain FIT certifications for all investigators in the division will continue until all remaining investigators are certified to a minimum of IAAI-FIT.

References

NFPA 921-24

NFPA 1033-22

Deputy Fire Marshal Job Description

Fire Inspector II Job Description

Fire Inspector I Job Description

NWFD CRA-SOC

2020-2024 Strategic Plan

CC 5C.4 The agency conducts a formal and documented appraisal, at least annually, to determine the impacts of the fire investigation, origin, and cause program and its efforts to reduce fires based on community assessment, standards of cover, and measures performance.

Description

The Northwest Fire District implemented its Program Appraisal process in 2018 to align internal compliance with regulating and credentialing authorities to the agency budget and Strategic Plan. The Program Appraisal process aligns the organization's Strategic Planning process with the CFAI model's performance measures and ties it together with the organization's budget. The Program Appraisal document template is completed yearly and serves as a formal and documented appraisal of the organizational programs, including the Prevention Division.

Appraisal

The organization's program appraisal process has been working well for the Prevention Division as a formal and documented appraisal of the Division's activities and plans. The appraisal provides a "tactical level plan" that supports the agency's Strategic Plan, tracks current goals and objectives, and applies the associated data points followed and validated against the various organizational RMS systems. Data is displayed to represent the current state of a program and evaluate performance. Outcomes are reported to the Fire Board monthly, and the Program Appraisals are integrated into the budgeting process and presented and approved by the Fire Board during the agency's budget approval process. The Division has completed these documents since 2019, with the current document for FY24/25 being the first Program Appraisal in the current accreditation cycle for 2023-2028.

Plan

The District plans to continue the Program Appraisal process as the formal and documented appraisal for all Divisions within the organization. Updates to the document will result from changes in credentialing authorities and as the agency works toward continuous quality improvement.

References:

Prevention Services Program Appraisal

Category 9: Essential Resources

Essential resources are defined as those mandatory services or systems required for the agency's operational programs to function. They should be given the same value of importance as a primary program. Appropriate adjustments may be necessary in the self-analysis to adapt the typical components listed below to the local situation. For example, when reviewing a water supply system, the evaluation may not be limited to conventional resources, such as water lines and fire hydrants, but may include alternative resources, such as tankers (tenders), ponds, streams, lakes, cisterns, etc.

Criterion 9A: Water Supply

The water supply resources are reliable and capable of distributing adequate volumes of water and pressures to all areas of agency responsibility. All areas meet fire flow requirements in accordance with applicable fire flow criteria. An agency seeking prima facie for this criterion should refer to the Commission on Fire Accreditation International Interpretation Guide for the qualifying language.

Summary:

Water supply for fire suppression within the Northwest Fire District is supplied by five different water providers. The water supply resources are reliable and capable of distributing adequate volumes of water for fire suppression activities. Typically, the water providers use 12" mains in the arterial streets, 8" mains in residential streets, and 6" feeds to the hydrants. There are over **4,694 fire hydrants** located within the District, and they are inspected once-a-year by District personnel, as part of the annual hydrant inspection program. The fire hydrants in the District are in accessible locations, with color-coded caps (indicating anticipated flow), and blue reflective street markers where applicable. Hydrant locations are kept current within the ESRI GIS UI, and information provided to the District by the water companies. All District

apparatus with an MDT have access to hydrant locations, and updates are installed during monthly MDT map rollout and when necessary.

There are residential areas in the District that do not have adequate hydrant coverage or have less than optimal fire flow from a hydrant. For those areas, the District has two water tenders strategically located to provide tender shuttle operations. Additional water tenders are available through automatic and mutual-aid agreements from neighboring jurisdictions. The District also uses engine relay-pumping operations when a hydrant is located farther away than optimal from a fire scene.

The District's Prevention and Safety Division performs needed fire flow calculations and assesses hydrant adequacy based on number and location of hydrants during the plan review process for new construction, using the International Fire Code, 2018 edition.

The adequacy of the water systems was evaluated by the Insurance Services Office (ISO) in 2019, as part of the Fire Suppression Rating Schedule and Public Protection Classification Evaluation, and received **33.64 out of a possible 40**, which is included in the agency's rating of **Class 01/1Y**.

CC 9A.1 The agency establishes minimum fire flow requirements for new development in accordance with nationally and internationally recognized standards and include this information in the fire risk evaluation and pre-incident planning process.

Description

Northwest Fire District performs a plan review of new projects and developments to determine compliance with the codified requirements for structure fire flow and fire hydrant placement. NWFD has adopted and applies the 2018 International Fire Code with local amendments. Fire flow requirements for new development are coordinated with the responsible water utility provider. The District reviews all public and private water plans for conformity to standards before approval for installation. Required fire flows are confirmed upon completion of construction by the Fire Inspector assigned to the site. The fire flow requirements determined for new development is not currently incorporated into the pre-fire planning process.

Appraisal

The process of determining required fire flow in accordance with the adopted ICC fire code during the plan review process has been effective. Fire flow is verified by the agency Inspector's on-site water department and building contractors during the fire

intermediate and final inspections prior to the issuance of C of O. The data is not currently captured for use in pre-incident planning and risk analysis.

Plan

The NWFD Prevention Division will continue an active plan review program supporting the minimum fire flow ICC code standards. Ongoing evaluation of existing service areas for the possible addition of water sources will continue. Fire flow information will be looked at for incorporation into the agency's ESRI UI risk assessments and availability to responding crews on MDTs.

References:

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NFPA 24

CC 9A.2 An adequate and reliable water supply is available for firefighting purposes for identified risks. The identified water supply sources are adequate in volume and pressure, based on nationally and internationally recognized standards, to control and extinguish fires.

Description

Except for the areas discussed below, experience has shown that NWFD has an adequate and reliable water supply available for firefighting purposes. Water supply for fire suppression within Northwest Fire District is supplied by five different water purveyors, utilizing over **4,694 hydrants**. The water purveyors rely on groundwater as well as the Central Arizona Project for their water supply and distribute it throughout their system utilizing mains, reservoirs, and booster stations. Each water purveyor maintains their own contingency plan in the event of a service delivery interruption.

All new residential and commercial construction projects have adequate fixed water supply for fire suppression purposes before building commences. Some areas within the District were previously constructed without consideration of any fire code requirements. These areas have been identified through the ESRI UI to have substandard or no fire flow capacities available. Two water tenders have been strategically located throughout the District where this scenario exists. **NWFD's SOG #7134, Water Supplies**, provides all suppression personnel with the guidance to establish a water supply as needed. NWFD conducts annual drafting and tender shuttle training at the company level to insure proficiency in supplying water for fire suppression activities. The District also utilizes relay pumping operations when the

water source is located an extended distance away from the event, per the water supply procedure. All NWFD fire engines carry 20 feet of hard suction hose to make use of alternate water sources if necessary.

Appraisal

Suppression personnel do not have an adequate system in place to know the capacity of the fixed water supply on a fire scene, or the layout of grid systems. Routine hydrant flow-testing was discontinued several years ago at the request of the water companies to minimize the loss of limited groundwater. The hydrant testing process has been transformed into an inspection program, where the suppression crews “touch” every hydrant, inspect condition of the hydrant, and crack the valve to insure water flow. The water purveyors have complex hydraulic modeling programs that are used to determine capacity of the water system. The computer hydraulic modeling has proven to be accurate and efficient and have been verified with physical hydrant tests in some instances.

Plan

The District is currently obtaining hydraulic modeling data from the water purveyors as it becomes available. When hydraulic model data is received the District will update the GIS data making the information available for fire companies in the field. The District will continue to maintain the active programs that ensure all newly developed areas have an adequate water supply. Ongoing evaluation of areas with known inadequate water sources will be conducted to ensure the ability of receiving water supply from alternative delivery sources. Partnerships with the water purveyors continue to encourage system improvements in the older service areas that lack adequate water supply or hydrants.

References

2018 International Fire Code and appendixes

SOG #5801 Hydrant Inspections

SOG #5802 Hydrant Flow Testing

SOG #7134 Water Supplies

9A.3 The agency has a contact list on file and maintains regular contact with the managers of public and private water systems to stay informed about available water supplies.

Description

Northwest Fire District has five water purveyors in the District and maintains open communications with each of the purveyors. Information on new fire hydrant installations, repairs, and/or service, is exchanged through email, oral communication, and GIS web services. The Prevention and Safety Division maintains up-to-date primary contact information for each water purveyor manager. The Fire Alarm Communication Center also maintains a current manager list if a water purveyor must be contacted to either increase water pressure, or for an emergency call out for system repairs.

Appraisal

The current system is adequate but could utilize additional communication and feedback with the water purveyors to participate in the planning of future growth in non-developed areas. The District will need to be involved with any water system improvements that may be planned for the future. We have established these relationships with the different purveyors as well as the two local governments whose areas we provide fire protection (Town of Marana and Areas of Unincorporated Pima County). These government entities have adopted our fire code and invite or defer to us during new development. By doing so the Division is able to apply the current adopted fire flow to guarantee fire flow requirements are met during new development.

Plan

The District's plan is to meet with all five water purveyor managers at least once a year, and as necessary, to discuss ways to provide up-to-date information on system enhancements, pump outages, water flow issues, or repairs/damage that impact the availability of water for firefighting purposes. The Prevention and Safety Division will confirm the information on the contact list is accurate and updated as necessary with Operations and Dispatch.

References

Prevention & Safety Services Water Purveyor Contact Information

9A.4 The agency maintains copies of current water supply sources and annually reviews fire hydrant maps for its service area to ensure they are accurate.

Description

Using ESRI GIS services and inspecting each hydrant once a year, the Northwest Fire District maintains current water supply and hydrant maps. Periodic updates of hydrants are received from the water companies. These are field verified during the District's annual hydrant inspection program. The hydrant and tender areas are found on each Company's MDT to assist in finding the most appropriate hydrant while responding to a fire incident, and/or recognizing the fact that a tender response is required in a specific area.

Appraisal

Current ESRI GIS programs and water supply information for fire operations continue to improve. Each year, new hydrants are added, and information is verified.

Plan

Continue to update the ESRI GIS system to identify and locate new fire hydrants on mapping system.

References

ESRI GIS RISK Map

9A.5 Fire hydrant adequacy and placement are based on nationally and internationally recognized standards and reflect the hazards of the response area.

Description

Within the Northwest Fire District, hydrant locations and water flow are determined by the adopted fire code and evaluated for compliance by the designated Fire Marshal or their designee. Approval of water distribution plans and hydrant locations by the Prevention Division is required by all water utilities before construction begins. The review process considers the building construction type, fire flow calculation area, and occupancy type, to determine the fire flow requirements. Certain properties and/or areas of the District were built prior to an adopted fire code or were annexed in by the District and may not have had to meet the minimum fire codes at the time they were constructed.

Appraisal

Northwest Fire District has adequate hydrants available to provide the minimum required fire flow for many of the commercial properties. There are a limited number of commercial areas that are deficient due to existing non-compliant construction.

For all new construction projects, hydrant adequacy and placement are subject to review and approval by the Fire Marshal.

A small portion of the residential areas within the District are at a greater risk for lack of water due to several possible factors including: a lack of organized development building codes, no fire code at the time of construction, no organized pre-approved infrastructure plans, or no public water distribution system in place. These are known areas, and will have a water tender response where necessary, for supply and/or tender shuttle operations.

Plan

Northwest Fire District will continue to monitor new construction projects for hydrant placement through the Prevention & Safety Division's plan review and approval process.

In the areas that were built without fire codes prior to becoming part of the District, efforts will continue to pursue funding through grants or District budget allotments to install new hydrants in areas that currently have no or limited hydrants available.

References

2018 International Fire Code, Appendix C

9A.6 Public fire hydrants are inspected, tested, maintained, visible and accessible in accordance with nationally and internationally recognized standards. The agency's fire protection-related processes are evaluated, at least annually, to ensure adequate and readily available public or private water.

Description

Since 1992, the Northwest Fire District (NWFD) has had a fire hydrant inspection program to ensure all public fire hydrants are inspected, tested, maintained, visible and accessible in accordance with NFPA and AWWA standards.

Hydrant inspections are conducted by response companies and include confirming accessibility (clearing vegetation and verifying hydrant is not too low), condition (caps/gaskets on and in good repair) and opening to confirm absence of debris and verify access to water. Until 2015 hydrant inspections were done on paper, in 2016 the record's management was transferred to GIS using AGOL (ArcGIS on-line, an ESRI hosted product). Field crews document inspections (and needed repairs) via iPhones with all data (location, assigned station/shift, any known issues, inspection status and hydrant status) being captured in a single data layer. In 2020, the Program was moved

to Operations (previously the Hydrant Program was under Essential Services), and some minor changes were made to the data design to clarify expectations for the crews and allow for improved records management. Additionally, a concerted effort was made in the beginning of 2020 to meet with and discuss the repair process with each major water company. These meetings resulted in NWFD obtaining each water company's unique hydrant ID which improved the hydrant reporting process and eliminated confusion over which hydrant required repair. More importantly it allowed for the rectification of datasets (between NWFD and each water company) annually. This process included verifying records, deleting hydrants no longer in service, confirming water company and unique ID for hydrants added in the field and adding in any newly installed hydrants from the Water Company records.

Appraisal

Using each water company's asset ID greatly improved the accuracy of our data, so hydrants were reported accurately and in a timely fashion. The Division was also able to add hydrants that were in service but not in District records. Another improvement was establishing an improved workflow with all water companies to report hydrants and document repairs that had been made. All of this has increased the number of hydrants being repaired.

Previously all hydrants were marked as "needing an inspection" at the beginning of year. Beginning in 2020 hydrants that had been reported to water companies and were awaiting repair were marked as "unavailable" for inspection. This ensured crews were not inspecting a hydrant that was already known to need repairs and was a common complaint.

Numbers

- 2019 total hydrants: 4,244
- 2019 hydrant inspections: 4,244
- 2019 hydrants reported and repaired: 64
- 2019 hydrants reported and not repaired: 163
- 2020 total hydrants: 4,407
- 2020 hydrant inspections: 4406
- 2020 hydrants reported and repaired: 103
- 2020 hydrants reported and awaiting repairs: 108
- 2020 data rectification added 30 hydrants to be inspected in 2021
- 2021 total hydrants: 4,535
- 2021 hydrant inspections: 4,535
- 2021 hydrants reported and repaired: 195
- 2021 hydrants reported and awaiting repairs: 6

Break down of hydrant ownership by Water Company

- Tucson Water: 51%
- Marana Water: 22%
- Metro Water: 18%
- Oro Valley Water: 3%
- Private: 4%
- Flowing Wells Irrigation: 2%
- Other: 1%

Plan

NWFD will continue with crew hydrant inspections and tracking through the ESRI GIS platform. The Senior GIS Analyst will continue to report on hydrants requiring repair to the various water purveyors and follow-up with verification inspections once repairs are reported as complete.

References

NWFD CRA-SOC, p.18

ESRI GIS Risk Map

SOG #5801 Hydrant Inspection procedures

SOG #5802 Hydrant Flow Testing

9A.7 The agency identifies, plans and trains for the possibility of a water supply system failure, including fire hydrants with insufficient capacity and areas where fire hydrants are unavailable or in accessible.

Description

The District has identified areas that do not have hydrants and have added water-tenders to fire assignments in those areas. The City of Tucson's Dispatch Center has these areas loaded in the CAD program so that the dispatch of tenders is automatic in these areas.

The two NWFD water tenders carry 2,750 to 3,000 gallons of water, and engines carry 500 gallons of water. On a first alarm assignment for a working residential fire in a non-hydrant area, first alarm units will bring at least 4,000 gallons of water to the scene and as much as 5,000 gallons, before starting a tender shuttle supply operation if necessary. Additionally, any company or command fire officer can add water tenders to an assignment if there is any doubt that there is a reliable, patent water

source available at or near the incident address. Relay pumping is preferable, if possible, prior to initiating a tender shuttle due to additional coordination required for a shuttle. Relay pumping is the first option up to approximately 3000' from a hydrant.

When performing plan reviews for new projects, the Prevention Division determines if there is sufficient fire flow available for the development. If not, as an alternative to deficient water supply, an automatic sprinkler system may be required; this may also be augmented by a water tank of sufficient size to sustain a required sprinkler flow for a 10-minute period following activation. The NWFD SOG Manual has a detailed procedure regarding tender shuttles specifically designed to provide water supply solely, or to augment insufficient water supply sources. Besides the two tenders that the District maintains, additional tenders are available through mutual and auto aid agreements from adjacent Districts.

Appraisal

The District's plans for implementing and accessing alternative water sources are adequate. Tender shuttle and relay pumping drills are held annually for all companies.

Plan

Maintain the current programs to establish a water supply from alternative sources. The District also needs to continue to fund hydrant installations to reduce the areas that do not have hydrants. Continue annual water tender shuttle and relay pumping drills on a regular basis internally and with mutual and auto aid partners. Review and update the hydrant buffer zone analysis to identify areas to reflect newly installed hydrants and current water tender need zones.

References

NWFD CRA-SOC, Appendix p.212, ISO Rating Letter

NWFD CRA-SOC, Section 4, p.155, Mobile Assets lists available tenders

SOG #7134 Water Supply

9A.8 The agency has operational procedures in place outlining the available water supply and reviews those procedures as part of their documented review policy.

Description

The District has procedures in place that address the utilization of available water supply. The Water Supply and Tender Shuttle procedures describe the procedures

associated with the utilization of available water supply. Additionally, other SOG's associated with fire ground operations, such as the use of attack lines, also address the utilization of available water supply. The NWFD SOG Manual has a detailed procedure regarding tender shuttles specifically designed to provide water supply solely, or to augment insufficient water supply sources. Besides the two tenders that the District maintains, additional tenders are available through mutual and auto-aid agreements from adjacent Fire Districts.

Appraisal

The District's SOG's for the utilization of available water supply are adequate. In addition, tender shuttle and relay pumping drills are held annually for all companies, as part of MCS training. In June 2020, Northwest Fire responded to a very large compost fire that lasted for several days and included multiple agencies and a continuous tender shuttle. The frequency and quantity of drills that incorporate the mentioned water supply drills are documented in the District's Fire Rescue 1 record keeping software. Currently Northwest Fire District, Golder Ranch Fire District and Tucson Fire Department participate in quarterly company readiness drills that are coordinated by each agencies Training Division.

Plan

The Operations and Training Divisions will continue to coordinate and/or schedule more drills to incorporate the listed SOG's. The NWFD Steven J. Piechura Training Center provides the ability to easily incorporate these operations as part of District-wide MCS drills. In addition, the water tender shuttle and relay pumping drills will need to occur both internally and with the District's mutual and auto-aid partners.

References

SOG #7134 Water Supply

FINANCE BUDGET DEPARTMENT ID:

Department Finance ID #	Department(s)
2100	Prevention Services

ANNUAL OPERATING BUDGET REQUEST

\$1,350,101

PROGRAM ECONOMIC EFFICIENCIES IDENTIFIED DURING PREPARATION OF PROPOSED BUDGET

1. Analyze providing a plans examiner stipend to the Fire Inspector II position that promotes succession planning and depth at that position so as to not have to pay a third party for plans review services.

CAPITAL ITEM REQUEST DISCUSSION

1. VOC Detector replacement. The new detector is in good working order but would need to be included in the CIP for the future.
2. Scene lighting batteries every 3 years. This item could be a grant award to consider under the Federal Assistance to Firefighters Fire Prevention And Safety Grant Program administered by FEMA.
3. Scene lighting replacements every 5 years. This item could be a grant award to consider under the Federal Assistance To Firefighters Fire Prevention And Safety Grant Program administered by FEMA.
4. Knox Box upgrades to align with regional partners.

LINE-ITEM DISCUSSION

N/A

PROPOSED FISCAL YEAR 2025-2026 BUDGET

Account	Account Name	2023-24 Actual	2024-25 Adopted Budget	2025-26 Proposed Budget	Variance	Comment
2100 - Prevention Services						
51110	Salaries	\$ 114,093	\$ 120,328	\$ 126,693	\$ 6,365	Step Increase
51120	Hourly	\$ 686,279	\$ 778,683	\$ 745,896	\$ (32,787)	Retirement Attrition
51150	Overtime	\$ 18,205	\$ 24,669	\$ 20,000	\$ (4,669)	
51190	PTO Paid Out	\$ 21,313	\$ -	\$ -	\$ -	
51211	Medical Insurance	\$ 123,760	\$ 136,728	\$ 146,190	\$ 9,462	Premium Increase
51212	Dental Insurance	\$ 5,392	\$ 5,312	\$ 5,225	\$ (87)	
51213	Vision Insurance	\$ 1,222	\$ 1,254	\$ 1,232	\$ (22)	
51215	PSPRS-Cancer Insurance	\$ 300	\$ 300	\$ 250	\$ (50)	
51216	Life Insurance	\$ 458	\$ 462	\$ 462	\$ -	
51218	STD Insurance	\$ 2,110	\$ 2,253	\$ 2,064	\$ (189)	
51230	Social Security	\$ 20,778	\$ 22,617	\$ 25,018	\$ 2,401	
51231	Medicare	\$ 11,616	\$ 13,393	\$ 12,883	\$ (510)	
51250	PSPRS	\$ 163,110	\$ 182,199	\$ 146,662	\$ (35,537)	Retirement Attrition
51251	ASRS	\$ 41,953	\$ 47,344	\$ 50,834	\$ 3,490	
51280	Deferred Compensation	\$ 3,906	\$ 6,312	\$ 7,927	\$ 1,615	
51290	PEHP	\$ 7,709	\$ 9,237	\$ 8,885	\$ (352)	
Total Personnel		\$ 1,222,203	\$ 1,351,091	\$ 1,300,221	\$ (50,870)	
52139	Operational Equipment	\$ 815	\$ 425	\$ 425	\$ -	
52140	Operational Supplies	\$ 856	\$ 1,265	\$ 1,265	\$ -	
52148	Small Tools & Instruments	\$ 276	\$ 375	\$ 375	\$ -	
52160	Dues, Memberships & Subscriptions	\$ 3,474	\$ 3,990	\$ 3,990	\$ -	
52162	FPS Certifications	\$ 1,113	\$ 2,850	\$ 2,850	\$ -	
52170	Travel & Per Diem	\$ 11,836	\$ 23,500	\$ 23,500	\$ -	
52177	Meals & Entertainment	\$ 285	\$ 900	\$ 900	\$ -	
52180	Training	\$ 9,990	\$ 15,575	\$ 15,575	\$ -	
52198	Books & Periodicals	\$ 2,012	\$ 1,000	\$ 1,000	\$ -	
Total Non-Personnel		\$ 30,655	\$ 49,880	\$ 49,880	\$ -	
Total Prevention Services 2100		\$ 1,252,859	\$ 1,400,971	\$ 1,350,101	\$ (50,870)	

SUPPORTING DOCUMENTS, TABLES, CHARTS, ETC

N/A

REFERENCES

N/A