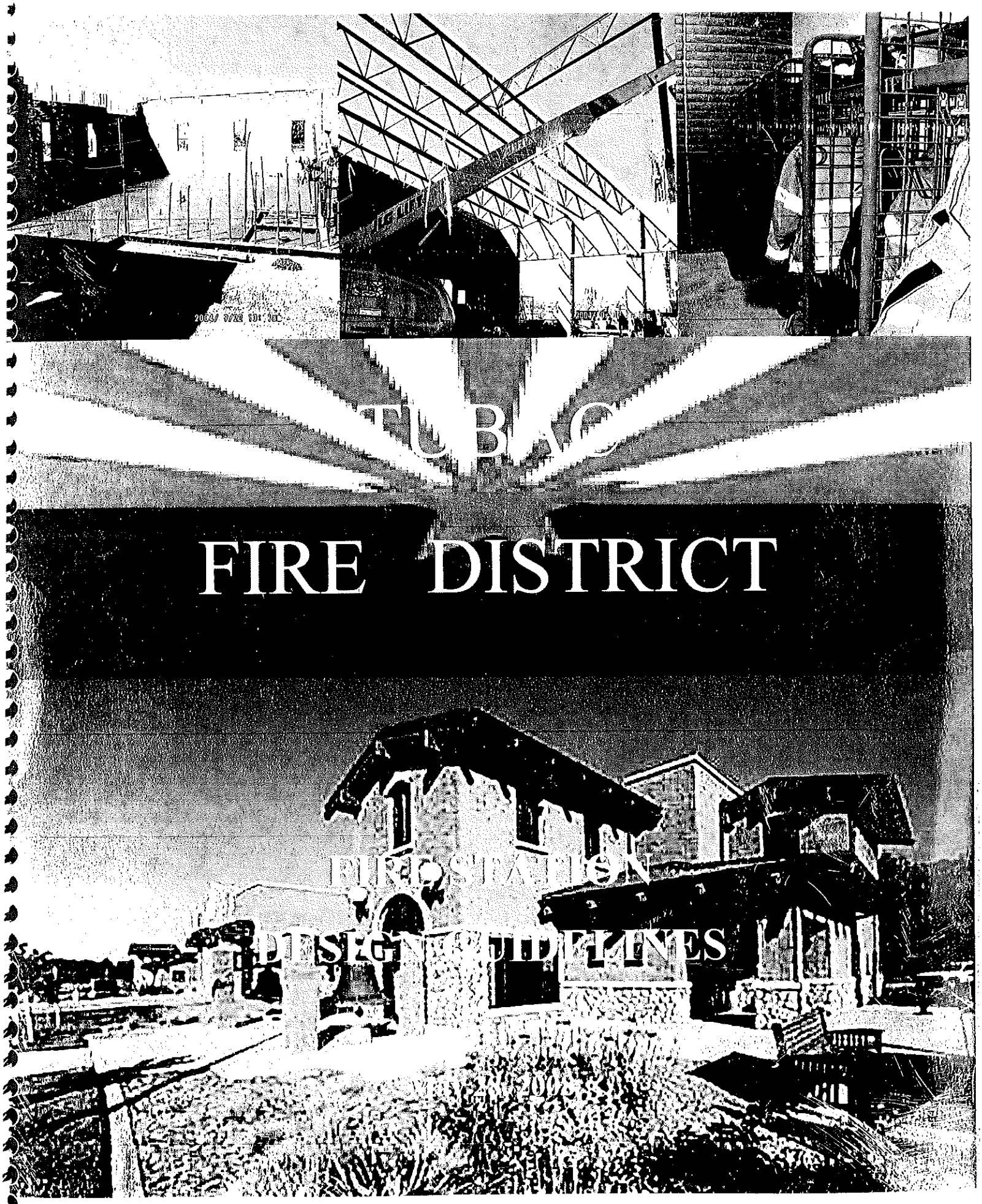

FIRE DISTRICT

DESIGN GUIDELINES

CONTENTS

INTRODUCTION

This report contains information that was gathered from staff and members of the Tubac Fire District; the purpose of which was to solicit ideas and gather information on future fire station design. It is intended to serve as a guideline to assist the Tubac Fire District and design team members in future fire station design and construction projects.

The information reflects basic criteria that members of the Tubac Fire District felt are important to their station design and operational capabilities. As the district works through the design process, it will be important to expand on these basic ideas in order to provide a fully functional station environment that will meet the district's needs of today and into the future.

ACKNOWLEDGEMENTS

I would like to thank Fire Chief Kevin Keeley and Louis Chaboya, Special Projects Coordinator, for their assistance in ensuring that the members of the District had the opportunity to participate in this process; and to all of the members of the Tubac Fire District who shared their ideas and participated in our discussions. Their willingness to do so will result in better designed emergency service facilities.

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DESIGN AND CONSTRUCTION PROCESS

The overall design and construction of a fire station involves numerous steps and can take considerable time to complete. A full commitment of time and adequate resources will need to be allocated.

Once the need for a fire station has been established, one way to address the design of the station is to establish a *building committee*. A building committee is generally appointed to determine many of the details required in developing a facility design and to oversee the design/construction process. The initial meeting held on April 9, 2008, was a significant first step. Information that was gathered covers a majority of the basic design needs that were identified as being important to the District.

Following the selection of an architect, the actual design process will be carried out by the design team, composed of the architect and other experts in building design.

In isolating the design portion from the construction process, it is important to understand how the *District*, the *building committee* and the *design team* interact. These interrelationships, described below, show how each group works together in designing a station:

1. **The *District administration* and/or *governing board* decide on the need for a station based on District operations and community expectations. A District official, such as the Fire Chief or a member of his staff, may appoint a *building committee*.**

2. **The *building committee* may conduct all or part of the needs assessment to determine requirements for the station design. The building committee's primary responsibility is to oversee the design and construction process by interacting with the design team.**

3. **The *design team* prepares the detailed station design based on the requirements of the District and through interaction with the District administration and/or building committee. The design team translates the District needs and requirements into a specification from which the contractor can build the station.**

While the above description represents one possible relationship between the groups involved in designing a fire station, there are several variations of this process. In some cases, departments may depend on outside specialists or consultants. The specific process for how the District, architects and construction engineering firms interact to develop a specific station design varies.

An example of this process is embodied by the following steps:

1. **Determination of District fire/EMS needs;**
2. **Determination of project constraints;**
3. **Development of the preliminary station layout (schematics);**
4. **Determination of the type of team needed to carry out the project (types of groups to be involved);**
5. **Determining financial constraints; and**
6. **Implementation of the development plan.**

Of course, depending on the groups involved and the formality of each group's involvement, this process can vary tremendously. Nevertheless, the following guidelines apply:

- **In all cases, the design process should start with a needs assessment of the community, the District and your expectations.**
- **District administrators should endeavor to provide its citizens the best facility for the available budget in terms of meeting the priorities established in the needs assessment, particularly those related to safety and health.**
- **The location of the structure in conjunction to the communities' growth and response times, plus the**

enhancement of total coverage with existing or neighboring stations is a paramount feature in the new station's design.

- **Initial layouts should be proposed based on previous successful designs or as affected by factors for the facilities location and function.**
- **Details should be handled by a team of individuals representing various areas of expertise as related to the design project.**
- **Financial constraints should be determined and compared with preliminary estimates of total development costs.**
- **The actual development plan should encompass all of these elements with the objective of completing a design which meets all identified needs and constraints.**

The planning phase of a fire station is a complicated task and requires close cooperation between all parties involved, particularly in the early stages in which District station needs are defined.

NEEDS ASSESSMENT

The first consideration of station planning should be a needs assessment of the community and District for listing specific requirements for the station in terms of:

- **Station capabilities;**
- **Equipment (i.e. apparatus) accommodations, and**
- **Personnel safety and health.**

The meetings held with staff and members of the District provided an excellent beginning to establishing what those needs are. As you move through the planning process, these needs can be revised as more information becomes available and as you identify additional issues that need to be addressed. The District's own history with existing station capabilities, equipment and personnel accommodations can point to the design issues which work and those which do not. Again, the

information gathered during our meeting has established a sound basis from which to work.

BUILDING COMMITTEE

As an interface between the District and the design team, the building committee can fulfill an important function in ensuring that the District needs are met. The degree of autonomy provided the building committee will depend on District preference. The design or redesign of existing facilities can have several different groups involved in the building committee providing representation for various groups, including:

- **District administration or staff**
- **Line personnel**
- **Special consultants, among others**

The Tubac Fire District proposes to have the following representatives serve on their building committee:

Fire Station Prototype and renovations:

- **Special Projects Coordinator, Louis Chaboya**
- **Battalion Chief Genaro**
- **Fire Captain**
- **Firefighter/EMS**
- **MWT Consulting**

Administration Facility:

Ms. Brenda Holbrook, Chief Financial Officer – In addition to the above building committee members, Ms. Holbrook shall serve as a member of the building committee for the new administration facility.

Each group will have its own perspective on the design of a station and will want its own specific needs addressed. The constraint faced by each group is the limitation of funds

available for building a station. Roles and objectives of each group represented on the building committee are as follows:

- **The *District administration and staff* should be able to provide a historical overview of what has worked and what has not worked for the District. They will also be keenly aware of how the station must function to meet overall District operational needs.**

- ***Line personnel* who must live and work in these facilities should have an active voice in the design process and will provide the most beneficial information. These individuals know what it takes to make the structure work both functionally and comfortably. These personnel are often the individuals who are quick to point out deficiencies and suggest improvements.**

- ***Consultants* or technical advisors may be retained for any number of reasons to assist during the design process. They may fill some special need or provide a general understanding to help Districts who are not familiar with particulars of fire station design and construction process. They may also be utilized in Districts who might have limited staff available to oversee or coordinate such time consuming projects.**

Facilitating the planning, design and construction of a new fire station facility is a very time consuming process and adequate resource will need to be assigned to oversee such a project; whether that be from internal or external resources, or a combination of both.

Ideally the District should choose qualified individuals to serve on the building committee. The number of individuals sitting on a building committee should be manageable; typically 4-5 persons. While some representatives are likely to be selected owing to their current positions with the District, the District should assign individuals who have some expertise in construction

principles, design techniques and budgets. Careful selection of building committee members will serve to address needs and concerns early in the design process.

DESIGN TEAM

The design team will consist of the architect and other experts who translate specific District station needs and requirements into a set of plans from which a contractor can build a station. In most cases, the design team will at least include other design specialists from outside the District such as:

- **Civil engineer**
- **Mechanical engineer**
- **Electrical engineer**
- **Structural engineer**
- **Interior designer**
- **Contractor**
- **Consultant(s) / Technical advisors**

In most cases, the selected architect will coordinate the services of engineering specialists.

The design team for the Tubac Fire District shall consist of the following members:

- **Fire Chief Keeley**
- **Louis Chaboya, Special Projects Coordinator**
- **BGA, Richard Luckett**
- **Fire Captain (TBD)**
- **Citizen at large (TBD)**
- **MWT Consulting**

The choice of the architect is of critical importance. Architects with no experience in fire station design should be avoided. Good architects are trained to reconcile a department's wish list with the realities of the construction budget and translate the result into a set of plans and specifications that the contractor can

easily use. Overall, the District must feel comfortable in working with the selected architect and have confidence through some demonstrated experience. Some considerations for choosing an architect include:

1. **Experience in the design of public facilities, specifically fire stations;**
2. **Demonstrated successful performance in the design of fire stations;**
3. **Familiarity with government contracts;**
4. **American Institute of Architects (AIA) certification and state/local licenses for working in your area;**
5. **Design team members who are equally qualified within their own respective fields of expertise;**
6. **Recommendations from other departments or organizations with similar operational needs.**
7. **Alternative delivery method experience (if applicable)**

OVERVIEW OF DESIGN CONSIDERATIONS

The design and construction of a fire station is a long and complicated process. A number of different decisions are required and different persons may be involved in those decisions. The factors governing station or facility design vary from department to department and even within the organization itself. However, in all cases, facilities should be designed accounting for all relevant regulations, anticipated growth and an appropriate level of safety and health for the occupants.

Fire station designs have changed over the years. They are being recognized more and more as specialized facilities with their own specific design approaches and needs. Design and facility features differ among fire stations and other types of facilities based on a variety of factors, including:

- **The role of the station**
- **The type of department and expected response level**
- **Specific functions of the facility**

- **Integration with joint or shared facilities**
- **Community restrictions**
- **Future requirements**
- **Available resources**

Differences in station design can occur as a result of slightly different roles of the specific District. Districts with integrated emergency medical responsibilities such as Tubac Fire District have additional station design requirements for accommodating EMS needs. In addition, stations should:

1. **Be in full compliance with federal, state and local regulations, codes and statutes including ADA regulations;**
2. **Meet or exceed the latest edition of the IBC (International Building Code)**
3. **Meet or exceed related NFPA Standards (National Fire Protection Association)**

There are differences in station design depending on type of department, such as paid, volunteer or combination paid/volunteer departments. In a combination department such as TFD, design characteristics must be based on the assumption that firefighters will be responding from the day room, offices, or sleeping quarters to the apparatus. This consideration dictates the layout of the facility in terms of the accessibility of the apparatus bays from these areas. However, at the same time, some separation is required to prevent fumes and noise from encroaching on sleeping areas and other interior living spaces. Furthermore, provisions should be considered to accommodate responding reserve or volunteer personnel such as vehicle parking, turnout storage, etc.

FACILITY DESIGN CRITERIA

Specific functions of the facility must be determined. My recent meeting with members of the District addressed and identified a significant number of those functions and should serve as a basis for future design sessions. Since EMS services are provided by TFD, space must be allocated for decontamination facilities for equipment and personnel along with adequate medical supply storage areas. NFPA has and local health agencies may have requirements for features within these types of structures. Since your facilities are permanently staffed, the occupants' comforts should be addressed. District administration should decide how long the station is to last, what its growth will be, how to use the facility to meet the community needs, and how to look after its occupants.

Geography and climate will affect several aspects of station design. Examples include:

- **Roof design may be dictated by surrounding neighborhood or by county building regulations.**
- **Driveway and apron layout is important as it relates to traffic patterns in the area and surrounding occupancies such as schools, day care centers, major shopping centers, freeway access, etc.**
- **Exterior drainage must be addressed**
- **Consideration must be given to adjacent roadway visibility for apparatus access**
- **Overall space to accommodate the entire station layout; drive through apparatus bays, etc.**
- **Community restrictions**

Most of these aspects will be specific to the given area. The selected architect can help to identify and address these aspects as the design process evolves.

Facility requirements will change with time. This can occur as response needs change or as District functions are added or

deleted. What is built to meet the District's current needs requires periodic reevaluation and possible upgrading to meet the demands of the future. As your services and community expectations grow, so will the need for new and or modified facilities. Flexibility in the station's initial design may provide for special training features and future addition of more personnel and apparatus. In order to meet those challenges, some structures must be designed or redesigned accordingly.

Special training features or props may be incorporated into station design, some of which will be listed later in this report.

The Tubac Fire District and its surrounding area are experiencing significant growth. This growth can be expected to continue either through future development and/or annexations. Therefore, an area of primary concern is that stations should be built to meet that anticipated growth. The District can forecast their growth by looking at past years and projecting where and how much their areas of responsibility will grow. Whenever possible it is better to plan and incorporate anticipated growth features in station design during the initial design phase. Failure to consider these factors may result in having to do so at a later date at additional cost and with significant disruption to station operations. However, it must be understood that available resources will dictate to what extent this can be accomplished.

RESOURCES

Every department would like to build a station which possesses the state-of-the-art equipment and uses the best materials. Unfortunately, most departments are constrained by limited resources and must often make tradeoffs between desired features and practical design needs. Nevertheless, these choices should not compromise personnel safety and must obviously be in full compliance with all applicable codes and regulations. Even though it is difficult to justify, it is also important for design of stations to anticipate future requirements. These requirements

are often in the form of increased functionality or accommodation of additional personnel and/or equipment.

SITE SELECTION

Some of the factors which should be considered when selecting a site for the fire station include:

- **Response times**
- **Area of response coverage**
- **Ability to concentrate District resources**
- **Area for future growth or storage**
- **Locating on-site fuel dispensing equipment**
- **Emergency power needs**
- **Drive through bays are preferred**
- **Apparatus response in more than two directions**
- **Ample parking for personnel and public; public parking and access should be clearly defined and separate from employee parking**
- **Company training needs; adequate space in rear of facility**
- **Communication considerations i.e. towers, antennas, etc.**
- **Avoidance of proximity areas that have significant foot traffic such as day care centers, elementary schools, etc.**
- **Station distance from curb (set back) to avoid potential pedestrian or vehicle accidents**

It will be necessary to have a land survey completed including topography mapping. In addition, an Environmental Report, Archeological Survey and Geotechnical Analysis may be required. Other reviews or studies may be required by Local or County officials.

EXTERIOR DESIGN CONSIDERATIONS

Some of the exterior design considerations should include:

- **Design as a 35-50 year building**
- **Use of long lasting, low maintenance materials such as CMU block, stucco or other long lasting low maintenance exterior materials.**
- **Sloped roof lines; flat roofs and scuppers should be avoided if at all possible. Metal roof preferred**
- **Employee parking should include spaces for two full crews (to accommodate shift change)**
- **Employee parking should be secured in a separate area from public parking;**
- **Perimeter security should be provided by means of masonry wall or masonry/wrought iron fencing**
- **Electrically operated remote control gates provided at entrance to employee parking,**
- **Low maintenance landscaping; landscaping may be dictated by neighborhood requirements**
- **Front and back apron areas should be reinforced concrete; front apron should be deep enough to accommodate longest unit housed in the station**
- **Employee covered patio area directly off of kitchen/dining area**
- **Enclosed garbage can or dumpster area**
- **Adequate exterior lighting; exterior lighting may be dictated by local neighborhood limitations, etc.**
- **On-site fueling capabilities:**
  - **Josephina – Diesel Fuel Only**
  - **Station 1 (administration) Diesel and gasoline fuel**
- **Back-up power generator**
- **Hose drying rack capabilities**

INTERIOR DESIGN CONSIDERATIONS

- **All facilities should be constructed to meet all appropriate building codes including Americans with Disabilities Act (ADA)**
- **The principle concern for interior walls is their durability. Masonry-based construction should be used in areas subject to rough use such as the apparatus bays**
- **Gypsum wall board on metal studs is common for other spaces**
- **Finishes need to be appropriate for usage of the particular space; areas of rough usage should include a spray glaze or gloss or semi gloss paint**
- **In wash room and laundry areas, ceramic or concrete walls and floors should be used**
- **Semi gloss paint can be used in other areas. Flat paint is generally less durable and therefore not appropriate**
- **Acoustical types of ceiling enhance noise reduction; acoustic ceilings come in a wide variety of styles and sizes and provide easier access to ceiling spaces**
- **Floor materials should be selected based on durability and maintenance considerations; sealed concrete floors are preferred for certain areas of the facility. It is preferred that there be no carpeting.**
- **Ceramic tile may be appropriate for entrance foyers and restroom floors, walls and shower areas**
- **Heating, ventilation and air conditioning systems make up a sizeable portion of the construction, operation and maintenance budget of a fire station and should be carefully selected**
- **Only quality appliances designed for commercial use should be used; the architect and mechanical engineer can recommend adequate units for the particular application**

In addition, the following concerns exist for general station ventilation:

- **Rapid removal of both exhaust fumes and combustible vapors in apparatus bays**
- **Prevention of fumes and vapors from reaching interior living areas or the compressor inlet for filling SCBA breathing apparatus**
- **Achieving this removal of contaminants may include direct ventilation and source capture methods**

SPECIFIC SAFETY AND HEALTH CONSIDERATIONS

There are a number of safety and health considerations that must be addressed in designing and constructing a new fire station or in a remodel of an existing station. They include:

- **Electrocution/Shock prevention**
- **Slips and falls**
- **Explosions such as refueling facilities, welding tanks, etc.**
- **Vehicle accidents around station, i.e. backing**
- **Falling objects**
- **Exposure hazards such as hazardous materials, diesel exhaust**
- **Smoke (cigarette)**
- **Infectious materials/biohazard**
- **Noise pollution**
- **Natural disasters**
- **Fires**
- **Theft/burglary**
- **Vandalism/violence**

Most of these concerns can be addressed by incorporating some common sense and following a number of already established regulations and codes. The design team can assist with this process. One specific concern that is all too often overlooked is the issue of diesel and vehicle exhaust in the apparatus bays and surrounding areas.

Nature of Hazard

Diesel engines, used in fire apparatus, produce a mixture of toxic particles and gases as the result of the combustion process. An analysis of general diesel engine exhaust has revealed a variety of extremely toxic substances at significant concentrations, including;

- **Oxides of Nitrogen**
- **Carbon Monoxide**
- **Volatile Organic Compounds**
- **Polyaromatic Nuclear Aromatics**

Without going into the details of each of these byproducts, they all contribute to an unhealthy environment and some are known documented carcinogens. Much of the diesel is invisible including the smaller soot particles; this means that exposure cannot always be detected. Furthermore, diesel exhaust can penetrate into clothing, furniture and other items with which firefighters have routine contact, where it can be later released after initial exposure or absorbed into the firefighters' skin. Continued exposure to diesel fuel emissions has been linked to cancer and other serious health disorders.

Both the National Institute for Occupational Safety and Health (NIOSH) and the U.S. Occupational Safety and Health Administration (OSHA) have declared human exposure to diesel exhaust as a potential occupational carcinogenic (cancer-causing) hazard through toxicological studies. Previous studies have involved the measurement of diesel exhaust emissions at selected fire stations. These studies indicated that the most significant source of firefighter exposure to diesel exhaust was from the exhaust remaining in the station after the engine start. Some variations in the results were identified, based on differences in climate, station design, number of runs per tour and whether the firefighters smoked or not. The conclusion was that *".....prudent public health practices would require that steps be taken to limit firefighter exposure to diesel emissions."*

With this said, the District should incorporate into their station design features an *exhaust extraction system* in the apparatus bays to remove diesel exhaust emissions before they escape into the building; thus eliminating or limiting any exposure risk to employees. There are a number of quality systems and devices on the market today that address and satisfy this concern. The design team can suggest what the various options are that are available.

TUBAC FIRE SPECIFIC DESIGN CRITERIA

Currently the Tubac Fire District has two fire stations from which they operate. Each is staffed 24 hours a day with a three person crew.

The equipment compliment is as follows:

2- Engines (1 ea. station)
2- Type 6 units
1- Type 3 unit
2- Ambulances (I ea. station)
1- Water tender
1- Air/light unit
1- Rescue

0- Reserve engines
2- Reserve ambulances

It is the desire of the Tubac Fire District to add two (2) additional fire stations throughout their district and to design each of those stations to accommodate up to 6 persons per 24 hour shift. In addition, it is the District's desire to relocate Fire Station 1 to a new site that will also incorporate new administrative facilities. The funding to construct these facilities would come from bond funds which are yet to be secured. The district is anticipating having a bond initiative placed on the November 2008 ballot.

The following criterion has been identified by members of the Tubac Fire District for consideration during the design phase of future station projects.

Apparatus Bays

- **3-bay minimum / drive through preferred**
- **"Double depth" / provide adequate space between, behind and in front of vehicles**
- **Consider providing space for future vehicle needs such as Ladder Trucks, Light, Rescue, Hazardous Materials response vehicles.**
- **Consider Reserve apparatus space needs**
- **Maximum height- head clearance above high point of apparatus**
- **Minimum bay door size of 14' x 14' w/ automatic door openers including remotes**
- **Bay doors to automatically close after apparatus leaves station (set on timer)**
- **Integral colored concrete floors**
- **Provide area for "rehab" supplies such as vending machine, refrigerator, freezer; i.e. ice, bottled water, etc)**
- **Provide floor drains; drench drains preferred**
- **Provide exhaust system**
- **Overhead power source (shore power) @ each bay location (vehicle battery charger, etc.)**
- **Air compressor w/ air fill locations conveniently located (To air up tires, etc.)**
- **Adequate storage areas for paint, station maintenance, firefighting equipment, public education materials and other supply storage needs; consider mezzanine**
- **Phone and data lines strategically located**
- **Heated**
- **Evaporative cooling**
- **"zoned" lighting**

Decon Area / Room

- **Provide decontamination area off of apparatus bays and near rear access to building**
- **Include deep sink for cleaning medical equipment, etc.**
- **Provide hands free faucet operation; foot valve or sensor activation**
- **Emergency eye wash and shower**
- **Concrete floor with drain**

Radio Battery Charging Station

- **Area wired for multiple portable radio battery charging**
- **Typically located adjacent to or just off of apparatus bays near area(s) of ingress and egress to / from living space**

Mop Sink Areas

- **Provide separate mop sink areas; one in apparatus room area and one for living area**

Laundry Room / Facility

- **Commercial extractor (future)**
- **Residential type washer / dryer**
- **Concrete floors with floor drain**
- **Storage locker for cleaning solutions / supplies**

Hose Storage Area

- **Provide adequate fire hose storage area (wall mount)**

Medical Supply Storage Area

- **Store EMS supplies including O2 bottles, etc.**
- **Consider climate controlled (If necessary)**

Shop Area

- **Provide tool storage, work bench**

SCBA Compressor Room / Area

- **Provide separate room for self contained breathing apparatus compressor**
- **Adequately sized for specific compressor type**
- **Sound insulated**
- **Provide area for SCBA bottle storage (how many?)**

Storage / Supplies

- **Provide adequate storage room(s) for station, EMS supplies, FF equipment, office, hose, cleaning supplies, tables and chairs, etc.**

Turnout Storage Room

- **Provide a separate well ventilated room**
- **Adequate size to accommodate turnout storage racks; one for each employee assigned to station plus an additional 3. individual locker to include lockable door**
- **Turnout storage racks should *not* be in apparatus bays to avoid contact with diesel fumes. However, it can be accessed from apparatus bays**
- **Room should be separated from living quarters**
- **Space should be free from sunlight**

Lobby Area

- **Secured from rest of station**
- **ADA compliant w/ restrooms**
- **Small triage room directly off of lobby to accommodate blood pressure readings, etc.**
- **911 phone line (exterior)**

Lobby Area (con't)

- **Area for fire district literature display**
- **Storage area for literature**
- **Close proximity or direct access to community/meeting room**

Community / Training Meeting Room

- **Provide community/ training meeting room off of lobby area.**
- **To include small sink, counter and access to public restroom(s)**

Exercise Room

- **Separate from apparatus bays**
- **Size to accommodate equipment needs**
- **Ceiling fans**
- **Wire for wall mounted TV/Music**
- **Windows / natural lighting**
- **Water drinking fountain in or nearby**
- **Consider ceiling height and wider doors for equipment move in / out**

Kitchen

- **Concrete floors preferred**
- **Commercial or high end residential grade appliances**
- **Gas cooking stove/ovens, 6 burners, hood**
- **Double ovens**
- **Two microwaves**
- **Dishwasher**
- **One large refrigerator; 1 freezer (design area to accommodate 3 refrigerators in future)**
- **3 pantries; 1 for each shift. Shift pantries individually locked**

Kitchen (con't)

- **Plenty of counter space w/ solid counter tops i.e. corian type / with full back splash (*no* Formica)**
- **Commercial grade stainless steel sink w/ high gooseneck faucet/spray nozzle**
- **Commercial grade garbage disposal**
- **Lower cabinets to have pull out shelving**
- **Consider concrete floors / consider floor drain**
- **Filtered water system**
- **Auto gas shut off to gas stove**

Dining Area

- **Sized to accommodate crews at shift change, plus visitors**
- **Directly off of and open to kitchen area**
- **Concrete floors preferred**
- **Wall mounted television**
- **Wall mounted white board**
- **Ceiling fan(s)**

Outside Employee Patio Area

- **Located off of kitchen / dining areas**
- **Private from public; *covered* patio**
- **Plumbed with gas for Bar-B-Q**
- **Plumbed for water and mist system**

Dayroom

- **Open or semi open from kitchen / dining area**
- **Adequate seating arrangement to accommodate full crew plus visitors**
- **Concrete floors / durable**
- **Ceiling fan(s)**
- **Appropriate lighting / lighting controls**
- **Consider big screen**
- **Built-in cabinets for DVD, VCR, music, etc.**

Dayroom (con't)

- **White board**
- **Data and phone**

Communications / Electrical Room

- **Approximate 8' x10'**
- **To accommodate electrical distribution, telephone, radio, computer data lines, station alerting system equipment, etc.**

Bunk / Dorm Rooms

- **Individual bunk rooms; provide additional for future growth**
- **Sound insulated**
- **Extra long beds**
- **Ceiling fan**
- **Study desk**
- **Reading light near bed**
- **Data, phone & TV connections**
- **Natural lighting; windows preferred that open**
- **3 individual lockers or closet areas large enough to store personal items plus bedding**
- **Concrete floors**

Employee Restrooms

- **Separate shower(s) from bath room(s)**
- **Shower / drying areas to include bench type seat**
- **Sufficient number of restroom(s) and showers to accommodate crew**
- **Concrete floors**
- **Tile or FRP walls**
- **Floor drains**

Fire Captains Office / Sleeping Area

- **Provide for privacy**
- **Work station(s) each w/ data & phone connections**
- **Executive work spaces / desks**
- **File cabinet area**
- **Data, phone & TV**
- **Close access to copy and fax machines**
- **Ceiling fan**
- **Windows that open preferred**
- **Personnel Lockers**
- **Sleeping area**

Firefighters Office / Watch Room

- **2 work stations each w/ data & phone connections**
- **Semi divided**
- **Lobby access / window visible**
- **Site to apparatus bays**
- **Mail room / slots for employee mail**
- **Plenty of counter / work space for report writing**
- **Storage space / cabinets**
- **Space for fax, copy machine**
- **Ceiling fan**

Exterior Areas

- **On-site fire hydrant(s) for training purposes and tank refill**
- **Large enough yard area for company training**
- **Clearly defined public access / parking areas**
- **Secured employee parking area separated from public parking. Preferred covered**
- **Perimeter security walls**
- **Storage area for yard maintenance tools, cleaning supplies, wash buckets, etc.**
- **Low or no maintenance landscaping**
- **Concrete apron front and rear**

Exterior Areas (con't)

- **Radio antenna and other exterior communication needs addressed to accommodate wiring into building; i.e. conduits etc.**

Training Prop Considerations

Consider incorporating company training props into building design such as:

- **Laddering**
- **Rappel anchor points**
- **Confined space**
- **Ventilation props**
- **On-site hydrants**

Miscellaneous Considerations

- **Station Alerting System throughout facility**
- **Address unnecessary loud horns, tones, etc.**
- **Utilize alert lighting system**
- **On-site fueling facilities; gasoline and / or diesel depending on station needs/location; above ground double containment**
- **Back-up emergency generator power**
- **P/A system, music**
- **Filtered water system**
- **Community room / S.O. room; possibly off of lobby area**
- **Adequate and sufficient window coverings**

Helipad Site

- **Selected locations to incorporate a helipad site**

Fire Administration

The following reflects input from the Tubac Fire District administration and office staff. It identifies *preliminary* ideas that pertain to fire administration office and space needs.

Computer Requirement

- **Each office or position needs to have computer capabilities, including internet**
- **Some offices may need their own printer**
- **May need to consider networking or server**

FAX Capabilities

- **Can be w/ copier(s)**

Copier(s)

- **Specify which areas need fax and copier capabilities**
- **Main copy machine should be conveniently located**
- **May need to consider multiple copier locations depending on floor plan layout**

Storage for records

- **Provide separate file storage room that is lockable**
- **Provide space for file cabinets for FD forms, etc.**

Storage for office supplies and forms

- **Separate storage room for supplies, forms, and misc. equipment**
- **Accessible to all offices**

Telephones

- **Include phone jack @ each copy machine**
- **Conference capable especially in the conference/meeting rooms**

Room/seating for visitors

- **Chief and BC offices will need private counseling areas**
- **Each office able to seat at least two visitors**
- **Chief & BC offices to seat 6-7 with small table, chairs in addition to required desk and office space**

Chief Office

- **Should accommodate private meetings w/ dignitaries and for counseling sessions**

Battalion Chief Office

- **Should accommodate private meetings w/ dignitaries and for counseling sessions**

Administrative Assistant(s)

- **Provide two separate work spaces; one of which is reception area**
- **These two spaces should be next to each other to facilitate interaction**
- **Reception area should be of adequate size to accommodate two persons (future)**

Wildland Operations/Annexation Office

- **Of adequate size**

Special Projects Office

- **Of adequate size (TBD)**

Other Office needs (Future)

- **Spillman Administrator / Training Officer**
  Will need access to Spillman system (if possible)
- **Communications Office**
- **Fire Prevention Office**
  Meets with public frequently
  Provide space for two individuals
- **Clerical Support Office**

Future expansion

- **Consider incorporating five (5) additional office spaces for future use (may build shell only until needed)**

Provide I.T. Room

Provide Conference Room(s) (identify how many)

- **Seating for at least 12 persons**
- **Conference capable phone system**
- **Audio visual capable**

Training Room(s)/Public meeting room(s) (identify how many)

- **Both should be combined similar to Rio Rico #2**
- **Large enough to seat a total of 200-300; classroom seating**
- **Large meeting area able to be subdivided via bifold dividers**
- **Coffee/refreshment area for training rooms**
- **Audio visual available in all smaller rooms and screen large enough when seated in large classroom configuration**

Restrooms for both conference and training areas.

- **Independent of each other; each to have their own**

Coffee/refreshment areas for the above meeting/training areas.

- **Consider a break room**

Storage room for supplies and equipment.

- **Accommodate chair. Table,, AV equipment storage**

Reception area for public

- **Provide security to rest of complex**
- **Glass divider between public and reception area**
- **Provide area in reception/lobby area for blood pressure readings, etc.**
- **Easy access to apparatus bays**

Provide meeting room(s) for meeting with public; i.e. fire prevention issues, etc.

Provide station library space (admin or station side?)

Offices should have windows as much as possible

Identify who needs private office space or who can share space utilizing cubicles, etc.

Various access points from parking area(s)

Provide separate parking areas for public/employees