

DRAFT Long Term Facility Improvement Plan
Facility Needs Assessment
Logical Project Model
Resource Model

Prepared by

Dreiling Terrones **Architecture**

for

Northern Sonoma County Fire Protection District

January 15, 2026



Draft Version 2.0

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This document and the Plan it describes is a work in progress. It presents information that is continually changing as all the parts of the Plan are developed and all the various interactions are mapped and stabilized.

Key components of the Plan are not fully developed yet and these components, when complete, will affect and likely modify, every part of this plan.

Further input from the District, the Community and continued synthesis by DTA and its consultants will modify this Plan as it progresses.

We invite the Community to review Plan contents as work proceeds and we invite any comments and questions.

We also ask all readers to appreciate the dynamic nature of planning and design and the methods we use to discover, systematically, the right answers.

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Introduction

The Northern Sonoma County Fire Protection District, in response to growing needs and evolving community demands, is embarking on a long-term facility planning and implementation effort. This effort will seek to make important improvements to existing District facilities, add additional facilities in key areas of need, and provide a framework for ongoing assessment and evolution of both District needs and improvement strategies for the physical plant.

This effort is a direct result of the 2024 – 2029 Strategic Plan and associated Implementation and Management Plan, both released in November 2024. These Plans were informed by an extensive community engagement effort that captured a wealth of Community Knowledge and Community Goals, and was expanded by the wisdom and knowledge of all District personnel.

That effort will seek to address present and future needs, envision District growth over the next 25 years, and guide District and Community decision makers in addressing the details of Plan implementation.

In recent years, numerous projects have been identified as necessary to support growing demands and, in some cases, to meet existing demand. Rather than initiate separate projects as needs arise, the District has chosen to take a long view and assess long term needs and goals as a whole in order to better inform both near term and future projects.

The Plan presented here represents:

- An assessment of present, future and envisioned Needs.
- A synthesis of those Needs into a series of Logical Projects.
- An analysis of likely project costs over the long term so that long term Resources can be identified and pursued.
- A Resource Development strategy to address both near-term and future project funding requirements.
- A likely implementation sequence of key projects.

Long Term Facility Planning

Large entities such as School Districts, Fire Districts, multi-campus corporations and private farm compounds include numerous sites, buildings and an ongoing list of physical demands, both for maintenance and new construction. Even a single household has a to-do list somewhere that outlines needs and reflects progress at meeting those needs.

A Long Term Facility Program is simply an organized structure of needs and resulting projects, limited by available resources and delivered over an extended time period.

In public settings where communities have a keen interest in how money is spent and in how key services are provided, it is necessary to ensure all project undertakings make sense and reflect a wide array of opportunities, constraints and changing political influences. In such settings a Long Term Facility Plan and its resulting Program becomes a guiding document that will be used for years to inform ongoing facility decisions.

A proper Plan and Program will be updated periodically as projects are completed, as “next” projects are initiated, and as needs and goals evolve. Ideally a Facility Plan is a living tool that is used as a guide for years (or decades) as needs and desires evolve.

The Public Facility Puzzle

Public agencies, especially Public Safety Agencies, deliver valuable services to highly demanding communities. These services are defined and informed by a complex symphony of goals, desires, expectations, codes, resource limitations, engineering realities and a constantly changing political climate. Increasingly, liability for failure to provide services drives organizational planning and resource allocation. Public agencies continually update procedures and practices to ensure proper delivery of desired services. This means change is constant and sometimes surprising.

As part of this symphony of expectations, public facilities are expected to be some of the most substantial, durable and often iconic buildings in our communities. This makes them both solid and expensive. They require high levels of planning and a high commitment of resources to build. This means they tend to last a long time. Proper public buildings are typically designed for primary service lives of 75 to 100 years.

Thus we are faced with the task of building expensive buildings that endure while remaining highly responsive to needs that may change overnight.

This is not, of course, an impossible puzzle. It’s one that requires serious planning and a commitment to accurate long-term vision. For public agencies with multiple sites, multiple facilities of varying ages and a constant need for new facilities, facility planning must always embrace the big picture, both geographically and over time. It needs to look over the horizon as far as possible, while continually balancing present needs with likely future needs.

The Structure of the Plan

The present Plan includes a series of Components that collect needs, propose an initial project model, assemble likely costs, and identify likely resources. These components are arranged in a logical order that reflects the path of study and consideration taken to arrive at useful recommendations for the path forward.

- Component **1** **District Strategic Plan**
- Standalone document incorporated by reference into Facility Plan.
 - Captures both raw and synthesized community input.
 - Fundamental to-do list for District. Includes numerous bits of direct / indirect guidance for Facility Plan.
 - Updated every 5 years independent of Facility Plan. Updates will likely inform Facility Plan.
- Component **2** **District Management / Implementation Plan**
- Standalone document incorporated by reference. Synthesis of Strategic Plan content into more specific actions and needs organized by sensible categories.
 - Capable of informing a wide range of management decisions over the plan period.
 - Includes goals for the District physical plant.
 - Provides raw outline of likely physical projects.
- Component **3** **Facility Needs Assessment**
- Assembles known needs/goals into functional format.
 - Organizes needs by site and category, and develops Needs Scenarios as prelim project structure.
 - Includes review and development with District Staff.
- Component **4** **Logical Project Model**
- Represents all Needs as Logical Projects that can be effectively modeled for cost and schedule. Logical Projects represent real world projects in which mobilization, escalation and other factors are represented.
- Component **5** **Resource Model**
- Assembles cost data for Logical Projects so that long term Resource Demands can be modeled.
 - Assembles a Resource Development Model that identifies likely long term resources that exist or can be developed as Logical Projects unfold.

The present Plan is intended to support two key efforts:

Long Term Facility Improvement Plan

Create a Long Term Plan that identifies current District goals and desires, and establishes a vision for realizing those goals and desires. The Plan is dynamic. It allows for evolution of goals, changing contexts and variability in resources. It serves as a stabilizing tool for efforts that will extend for years or decades.

The community plays an ongoing role in supporting and updating the plan.

Near Term Project Plan

Identify near term projects that reflect the most important District and Community interests. Create a method for initiating projects on an ongoing basis. Establish methods for final project design, regulatory approvals and construction procurement.

Long Term Facility Improvement Plan

1,2 Strategic Plan

Raw Needs
District Goals
Community Goals
Vision

3 Needs Assessment

Refined Needs
Extensive Research
Needs Synthesis

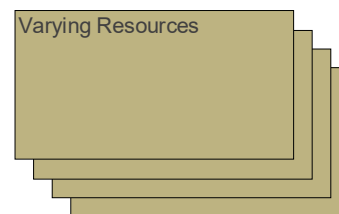
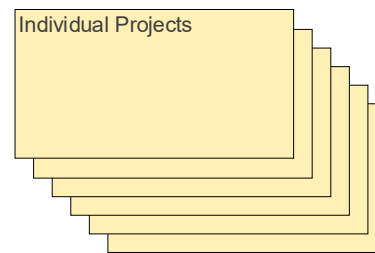
4 Logical Project Model

Logical Projects
Resource Priorities
Schedule Priorities

5 Resource Demand

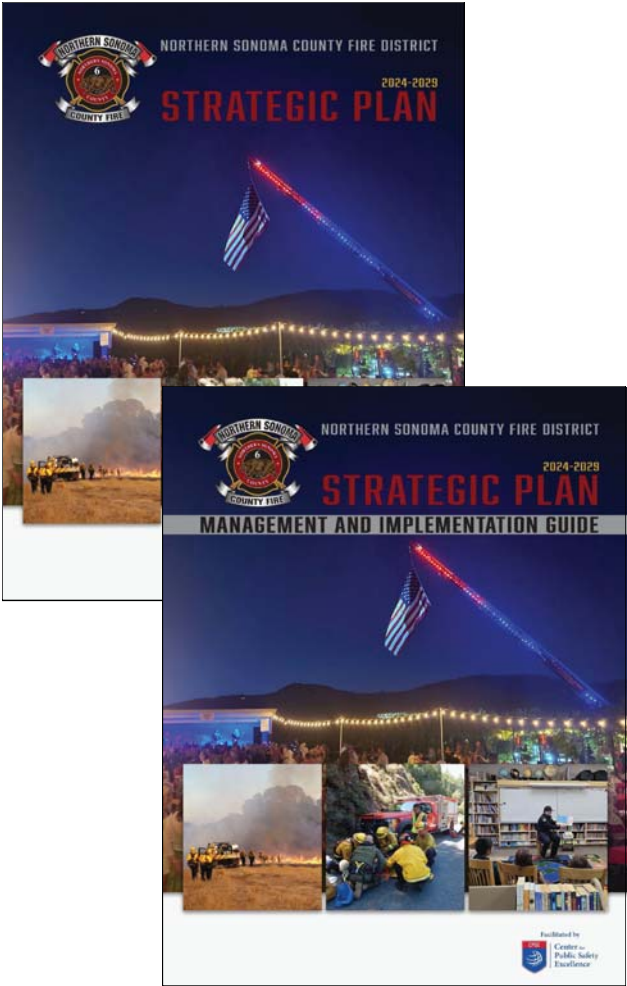
Preliminary Cost Estimates
Resource Demand Model
Resource Development
Resource-driven Schedule

Near Term Project Plans



Long Term Facility Plan

Component 1,2 District Strategic Plan



In 2024 the Northern Sonoma County Fire Protection District (the District) contracted with Dreiling Terrones Architecture (DTA) to prepare a Long Term Facility Needs Assessment. The District had just completed updates to its Strategic Plan and the associated Management and Implementation Guide.

The Strategic Plan addressed a wide range of operational and management goals for the District. It included substantial input from the community. This input revealed both a high level of satisfaction with present District performance, as well as a long list of new concerns that reflect the changing expectations of the community with regard to safety, emergency response and, most importantly, our relationship with wildland fire.

While much of the Strategic Plan addressed operational issues, there was also consideration of key physical needs within the District. Some of these were directly stated needs for various aspects of the physical plant. Others were implied as resulting physical responses to operational needs. Direct statements about new remote fire stations were included along side statements about improved recruitment and retention, items which also inform physical plant responses.

The following Long-Term Facility Plan seeks to address the physical elements of the Strategic Plan. It does not include operational and management plans. It is concerned with the physical plant only. It does, however, represent much knowledge about operational and management goals, methods and future expectations so that the prescribed physical efforts are responsive to present and, to the extent possible, anticipated future needs.

Long Term Facility Plan

Component **3**

Facility Needs Assessment

Operational Needs

General Fund:

Services
Staffing
Maintenance
All Recurring Costs

Physical Plant

Capital Fund:

Construction
Long Term Maint
Land Purchase
High Cost Equipment
Project Management /
Design / Engineering

The Strategic Plan and the Management / Implementation Plan outlined a wide range of needs and goals. These addressed both operational / cultural needs as well as physical needs. The Plan itself captures hundreds of inputs and revealed several basic trends that were consistent with our initial observations and the various narratives we have heard over the years. There were few surprises. This was true in part because the District is well engaged with its community and there is a high level of interest on the part of many regarding the services already provided by the District.

A majority of the knowledge embedded in the Strategic Plan addressed operational and cultural needs, things that may be supported by aspects of the Physical Plant but are **not** the subject of this study.

Our focus is on the **Physical Plant** and specifically on two categories of need:

- The items that directly address physical plant needs.
- The items that address operational needs but can be interpreted as having implications for the physical plant.

While the content of the Strategic Plan ranged far and wide, there are three primary and very general trends that emerged and can be identified as substantial categories of needs. Each have important implications for the physical plant. These are:

- Recruitment / Retention
- Improved Primary Service Capabilities / Improved Support Services Capabilities
- Substantial Growth in Wildland Fire Service Demand

These reflect both the direct content of the Plan and DTA's efforts to interpret and supplement that knowledge through research, actual site and facility reviews, and our own conceptual design inputs.

Key Trends in Needs Factors

Presently the District is seeing growth in needs and demands as a result of several key trends. These trends reflect the following:

Actual Growth Physically larger District as consolidation trends continue

Service Demand Growth Changing demands on the part of the community

Service Provision Growth Expanded menu of services based on District vision

Operational Growth Larger District workforce serving the broader array of services

Facility Age Physical aging of some facilities

Facility Purpose Changing purposes of some facilities

Geographic Factors Increased WUI populations

Public Interest Larger public interest in selected categories of services, especially wildland fire

While both substantial and incidental projects have occurred in direct response to past needs, the size of the District and the present complexity of needs warrants a wider and longer view of future facility planning.



Needs Assessment Tasks

As part of the Needs Assessment, DTA performed the following key tasks:

- Full review and interpretation of the Strategic Plan, including some extractive analysis to identify subtle trends in public comments.
- On-site review of all District physical plants with consideration of recognized and emerging needs across the District. Each facility was reviewed in the context of its location in relation to the whole District, to adjacent resources in other Districts, and as potential responses to known needs that did not have a location-specific criterion.
- Interviews with all District Staff: Casual conversations at appropriate sites to listen to specific interests and concerns, rehearse possible changes or additions to the physical plant, and differentiate key aspects of NSCFPD culture that will more precisely inform facility needs.
- General review and interpretation of a wide range of current trends in Fire Service facility design, including close scrutiny of emerging trends to differentiate between truly valuable innovations and those that may be flashy, but also risk early obsolescence.
- Focused research on context-based factors such as population projections, service response times and the relationship between public expectation and practical capability.
- Architectural synthesis: analysis and synthesis of all collected needs data as part of a pre-conceptual design effort by DTA in working with key District Staff.

External Context Driving Needs

Three primary External Context factors were derived from the Strategic Plan as “needs drivers,” meaning factors exposing potential needs and influencing the identification and priority of those needs.

These factors are:

- **Population**
- **Service Demand**
- **Wildland Fire Response Demand**

Below are summaries of relevant external context factors that affect District needs. They reflect research of various external sources, internal analysis and calculations, and include recommendations regarding the extent to which they should inform Needs Assessment and ongoing project identification and design.

Population

Population growth is a common driver of service demand growth. Historically it has resulted from massive suburban expansion around most cities in the U.S., with recent WUI settlement patterns exacerbating demand in semi-rural and semi-wild areas.

Presently all growth projections for Sonoma County indicate no significant growth factors affecting the District specifically. Growth is anticipated around existing cities, mostly in the south County areas. WUI growth will continue but not at a significant rate. WUI impacts have already been accounted for since substantial WUI expansion has already occurred, and response patterns and expectations have been established.

Since all cities in Sonoma County have Urban Services Boundaries, excess suburban expansion beyond existing city limits is not expected. For the District this means primary population growth will occur in Cloverdale. Geyserville will experience internal growth but not at a substantial rate.

Population growth in rural and semi-wild areas will result from property subdivision at a limited rate as many areas of the County have minimum parcel sizes that limit sprawl inducing subdivision.

Population growth is also affected by key demographic patterns, primarily related to age and internal birth rates. As with many rural and semi-wild counties in California, older people own a majority of parcels. A substantial portion of these owners do not have heirs that wish to occupy these lands. This group often represents in-migration to the District (and County) but does not necessarily increase general population numbers substantially. Instead, many of these simply replace people who have moved out of the District for various reasons.

Birth rates are lower when these demographic trends are present, so growth from internal increases also does not affect District needs at a high level. The general trend across the U.S. is for young people to move toward cities and more populated areas and away from rural areas. This occurs across most socioeconomic categories and directly affects population patterns in rural and semi-wildland areas.

Service demands are increased where populations are older or aging. Primary drivers are increased medical calls and increased awareness of risks in general. These items are addressed below under Service Demands

External Context Factors

Household Growth 2050

17% growth in county households

9% in north county

2% of total Bay Area projection

- Primarily occurs in existing cities, south county
- Non-substantial growth in rural, WUI.
- Primarily retirement, labor, internal retainable growth (babies)
- Not enough to drive Station demand alone (new areas of increased density)
- Enough to affect Service Demand slightly

Population

Plan Bay Area 2050

updated: 1/21/2021

County	Households			Percent Growth	Share of Regional Growth
	2015	2050	Growth		
San Francisco	366,000	578,000	213,000	58%	16%
San Mateo	265,000	394,000	129,000	48%	9%
Santa Clara	623,000	1,075,000	453,000	73%	33%
Alameda	552,000	847,000	295,000	54%	22%
Contra Costa	383,000	551,000	169,000	44%	12%
Solano	142,000	177,000	35,000	24%	3%
Napa	50,000	56,000	5,000	10%	0%
Sonoma	188,000	220,000	32,000	17%	2%
Marin	109,000	146,000	37,000	34%	3%
South Sonoma	64,000	83,000	19,000	30%	1%
Central Sonoma	88,000	98,000	10,000	11%	1%
North Sonoma	36,000	39,000	3,000	9%	0%
	188,000	220,000	32,000		

Bay Area Population Trends

Bay Area Association of Governments

City	2010	2015	2020	2025	2030	2035	2040
Cloverdale	8,690	8,615	11,925	12,440	13,195	13,320	13,635
Cotati	7,615	7,635	7,945	8,490	9,475	9,695	10,770
Healdsburg	11,335	10,445	10,970	11,325	11,895	12,235	12,375
Petaluma	58,075	59,425	60,830	63,455	64,795	65,970	67,390
Rohnert Park	42,840	47,215	47,845	50,220	52,720	53,895	56,050
Santa Rosa	167,220	168,850	173,305	186,445	204,795	213,615	223,060
Sebastopol	7,715	7,250	7,640	8,285	8,905	9,180	9,360
Sonoma	10,795	10,430	10,880	11,235	11,570	11,675	11,905
Unincorporated Sonoma	144,095	138,845	144,500	149,765	155,665	159,425	160,150
Windsor	26,610	25,175	26,170	27,160	28,345	32,550	32,805
	484,990	483,885	502,015	528,820	561,360	581,560	597,505

Population Growth 2040

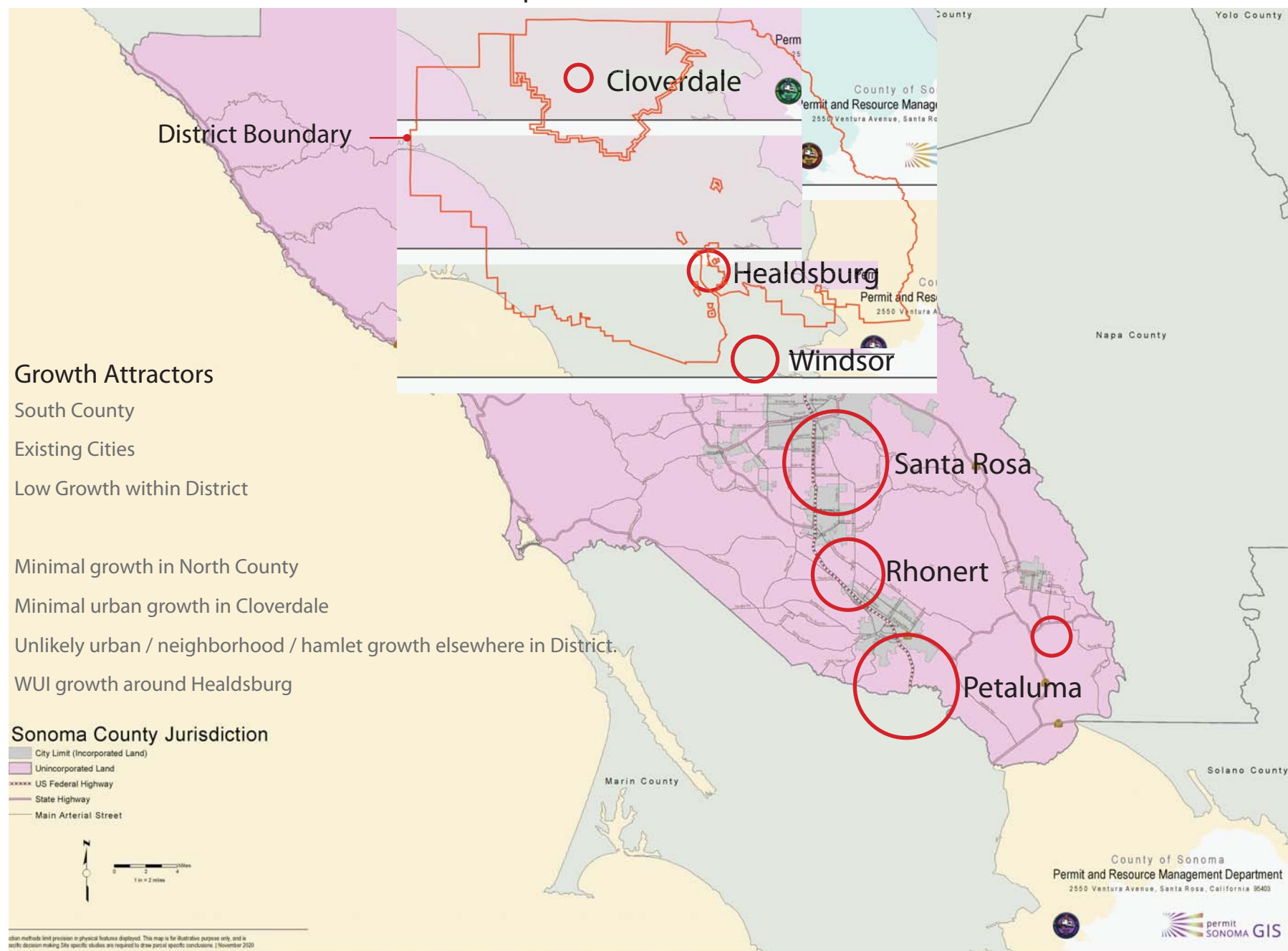
Sonoma Co 68,685

Cloverdale: 1,195

Unincorporated SoCo: 10,385

External Context Factors

Population



Growth Attractors

South County

Existing Cities

Low Growth within District

Minimal growth in North County

Minimal urban growth in Cloverdale

Unlikely urban / neighborhood / hamlet growth elsewhere in District.

WUI growth around Healdsburg

Sonoma County Jurisdiction

- City Limit (Incorporated Land)
- Unincorporated Land
- US Federal Highway
- State Highway
- Main Arterial Street



data methods limit precision to physical features displayed. This map is for illustrative purpose only, and is not to be used for specific decision making. Site specific studies are required to draw parcel specific conclusions. | November 2020

External Context Factors

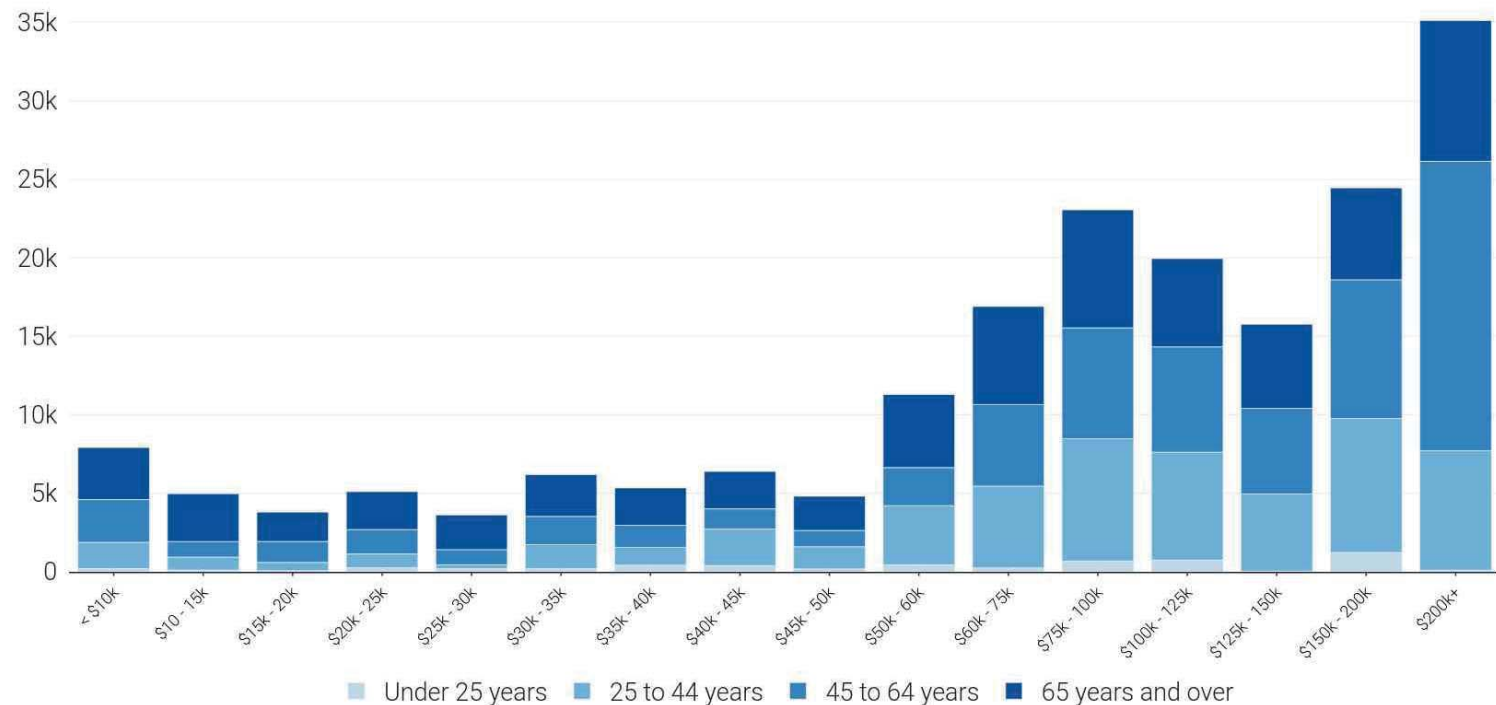
Service Demand

Beyond simple population numbers, the characteristics of the population also affects Service Demand. Sonoma County, and especially the North County, has a high proportion of higher income households.

Ages are generally distributed evenly among households of varying income levels. Minor variations are indicated in the chart below. Since there are a high proportion of higher income households this necessarily means there are higher actual numbers of older people. Older populations generate a higher level of emergency calls, primarily medical.

Sonoma County, CA households distribution by income bracket and age group

Number of households, by income brackets & age groups



Source: U.S. Census Bureau, American Community Survey (ACS) 2022 1-Year Estimates

Neilsberg

Service Demand is affected by a number of factors, from physical conditions of the District (geography, settlement patterns, transportation patterns) to demographic factors beyond population growth. The age and socioeconomic patterns of the resident population in the District have important effects on both the frequency and character of service calls and background demands.

Below is a general outline of key factors affecting Service Demand and their implications for the District. These factors affect Needs in two categories:

- Present** Where Service Demands generated by these factors are not presently being met.
- Future** Where changes to these factors will likely increase Service Demands in the future.

District Type NSCFPD is a unique District. It is primarily a rural / wildland District with Urban demand areas in key locations, both inside and immediately outside the District.

As such, it maintains both urban and wildland emergency capabilities, serving both urban and rural constituencies. For this reason many of the potential needs that might be triggered by Service Demand issues are also met by the Wildland Fire capabilities of the District. A strong wildland fire response translates to a stronger ability to access wider areas of the District to meet other needs.

Population Growth Since population growth projections are low, and growth locations are predictable, Population Growth will have limited effect on Service Demand.

Likely growth in Service Demand will be incremental, and will include medical calls and other emergencies primarily in urban and suburban areas already well-served in response both to growth and demographic trends.

Refer to Level of Service below.

Size of District (beyond Cloverdale) The physical size of the District is a key factor in Service Demand. Physical size not only includes the population factor, but geographic factors that affect needs in many ways. Population factors in the District were addressed above and we have already seen that growth does not generate a significant Demand increase.

Geographic factors are significant in the District. Served populations are distributed widely, though service densities fall off quickly the further we travel away from towns and cities. Positively, most residents occupying remote lands are also well-acclimated to the discipline of such lifestyles, and their service demands tend to reflect alignment with that discipline. Key components of such demands are primarily related to Wildland Fire.

External Context Factors

Service Demand

Size of District (cont)	The District has adapted well to present demands and generally serves all needs adequately. The exceptions (and the majority of requests made by the public) are related to Wildland Fire. These have implications for transportation, increased District facilities, and increased operational capabilities. The physical plant aspects of Wildland Fire demands are addressed in the next section.
The Cloverdale Factor	The potential consolidation with the Cloverdale Fire Protection District should have limited effect on Service Demands with regard to the physical plant. The Districts already share some resources through agreement, various cooperative actions are already common, and the Cloverdale District facilities are fully functional and well-positioned. There is a stated need for an Outpost Station in the River Road area that is already being considered by Cloverdale. Such a facility is consistent with this Plan.
Transportation Infrastructure	Transportation capabilities within the District are generally defined by the extent and condition of both public and private roads. Since the District is not a transportation agency, there are no transportation elements in the present Plan. Most transportation needs will be addressed operationally and may affect Level of Service capabilities (below). The primary improvements available are operational, and affect remote public roads and private roads substantially. Such improvements include vegetation management and the improvement to back country access for wildland fire management.
Level of Service (LOS)	Level of Service is generally measured by Response Times as they relate to travel distances, and by Response Capability (meaning types of response supported by particular staff and equipment). NFPA sets general standards for response times and classifies Demand Zones based on population density. NFPA also identifies ideal staffing levels as well as completion standards: meaning the calls where response time and staffing levels can be met.

NFPA 1720 Table 4.3.2 Staffing and Response Time

Demand Zone	Demographics	Staffing	Response Time (min)	Percentage of Completion
Urban	> 1,000 people / s.m.	15	9	90
Suburban	500 -1,000 people / s.m.	10	10	80
Rural	< 500 people / s.m.	6	14	80
Remote	Travel distance ≥ 8 mi.	4	no min	90
Special Risks	Determined by Authority Having Jurisdiction (AHJ)		tbd	

- LOS Needs: Actual** Presently the District is meeting all LOS requirements. The key factor in this capability is the extent to which the District serves rural and remote lands. Such lands necessarily tolerate longer response times due to lower population densities and more geographic dispersion.

While the public may seek higher levels of response when they choose to occupy remote locations, it is well understood that many urban services decline with greater distance from urban centers.
- LOS Demand Increase: Actual (population, demographics)** Actual Service Demand increases related to population and demographics will grow at the rate population grows, as well as at the rate population ages. As stated earlier, these factors are low in magnitude and are not anticipated to generate actual needs other than incremental operational requirements.

The physical plant already accommodates these with the exception of EMS capabilities. Current EMS providers are located in Cloverdale and Healdsburg. Adding EMS physical facilities at an intermediate location can provide enhanced response as demands for EMS grows.
- LOS Demand Increase: Perceived** There is also an increase in Service Demand related to changing cultural preferences. Community tolerance for hardship is generally decreasing and that means demand for broader services with shorter response times even in rural and remote areas is continuing to grow.

The growth of this type of demand is very hard to predict as it is often influenced by external factors, such as an event located elsewhere that gains national attention, triggering demands for new responses that may or may not be warranted. Much of this kind of demand affects operational capabilities more than physical plant. However, it is this kind of demand that may seek more stations in more locations.

Fortunately, this is also an area where the physical response to the critical demand increase (wildland fire) can also address these demand increase.

NSCFPD Response Times

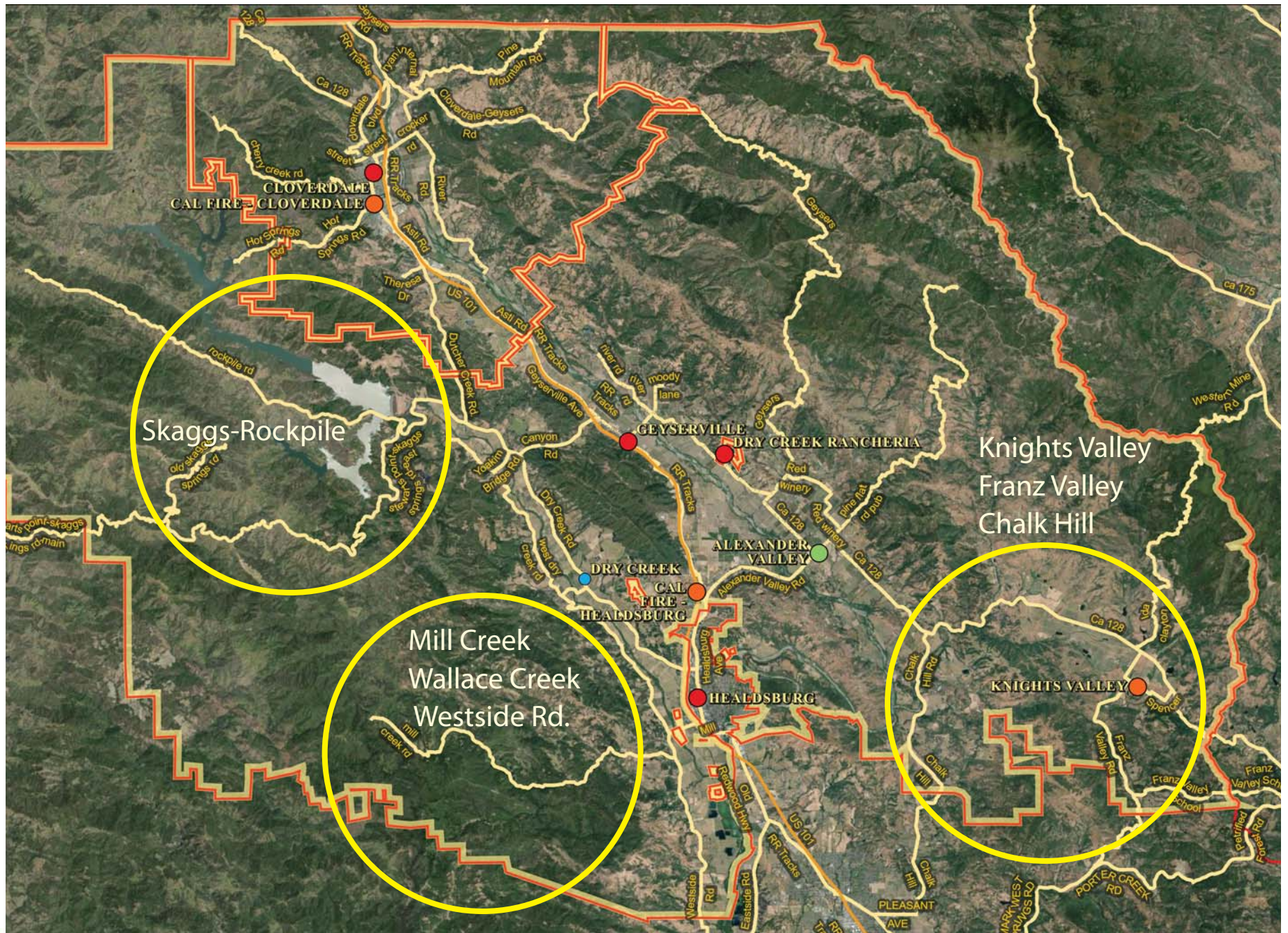
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	Demand: Rural	Travel Distance	Reponse Time (min)	Code 3 Response	K
General response time from Geyserville to areas of rural population. These times reflect travel to centroids of known rural and remote areas. These times do not include travel time to actual sites, as a majority of sites are "remote".	Knight's Valley	18.7 mi	32.44	CAL	1.7
	Mill Creek	14.8 mi	25.81	HBG	1.7
	Westside Rd	12 mi	21.05	HBG, SCFD	1.7
	Skaggs /Rockpile	13.4 mi	26.11	SCN, HBG	1.9
	Geysers	14.9 mi	31.94	SCN	2.1

External Context Factors

Service Demand

- Response Reliability** Response reliability measures the ability to respond effectively to a single event with adequate staff and equipment. The District provides highly reliable responses for most single-event demands.
- A problem for any District is the ability to respond to multiple events simultaneously. This problem is recognized in the various standards that allow for more response variability when multiple events are occurring. Cooperative agreements among other Districts ensure multiple response efforts and disaster response is addressed effectively regardless of location.
- NSCFPD routinely supports and is supported by neighboring Districts for more complex response requirements.
- Response Distribution** Response distribution measures the locational array of physical and operational capabilities throughout the District. In a District such as ours, there are many remote areas not immediately served by physical sites. While this is normal and fully compliant with all standards, the perception of remoteness does have an effect.
- This is another area where the demand increase in response to wildland fire will also address distribution concerns.
- The Strategic Plan included a new staffed station somewhere in the southeast corner of the District partly for this reason.
- The map at right indicates three areas where facilities and resources are light and, if addressed, could improve Response Distribution.
- These areas are:
- **Skaggs Springs / Rockpile Road**
 - **Mill Creek, Wallace Creek and Westside Road**
 - **Knights Valley, Franz Valley, Chalk Hill**



External Context Factors

Wildland Fire

Wildland Fire patterns in Sonoma County are well understood and well documented. It is not necessary to repeat the familiar litany of larger, more frequent fires here. Most people in Sonoma County have had direct or near-direct interactions with actual fires in recent years.

What is important about Wildland Fire with regard to Facilities Needs is the distinction between two broad categories of Wildland Fire Management:

Actual Fire Management Fire fighting and fire management during a fire event.

Preemptive Fire Management Fuels management, forest health and wildland fire planning.

Actual Fire Management

This is fire fighting. Beyond urban and structure fires (and LOS for all other response needs), assessing District wildland fire capabilities includes consideration of all local and regional assets. Fire fighting during a large event is fully cooperative. No individual District is expected to have full capabilities for handling large events in isolation. Such capability is operationally impractical due to the resulting redundancy and would be economically wasteful.

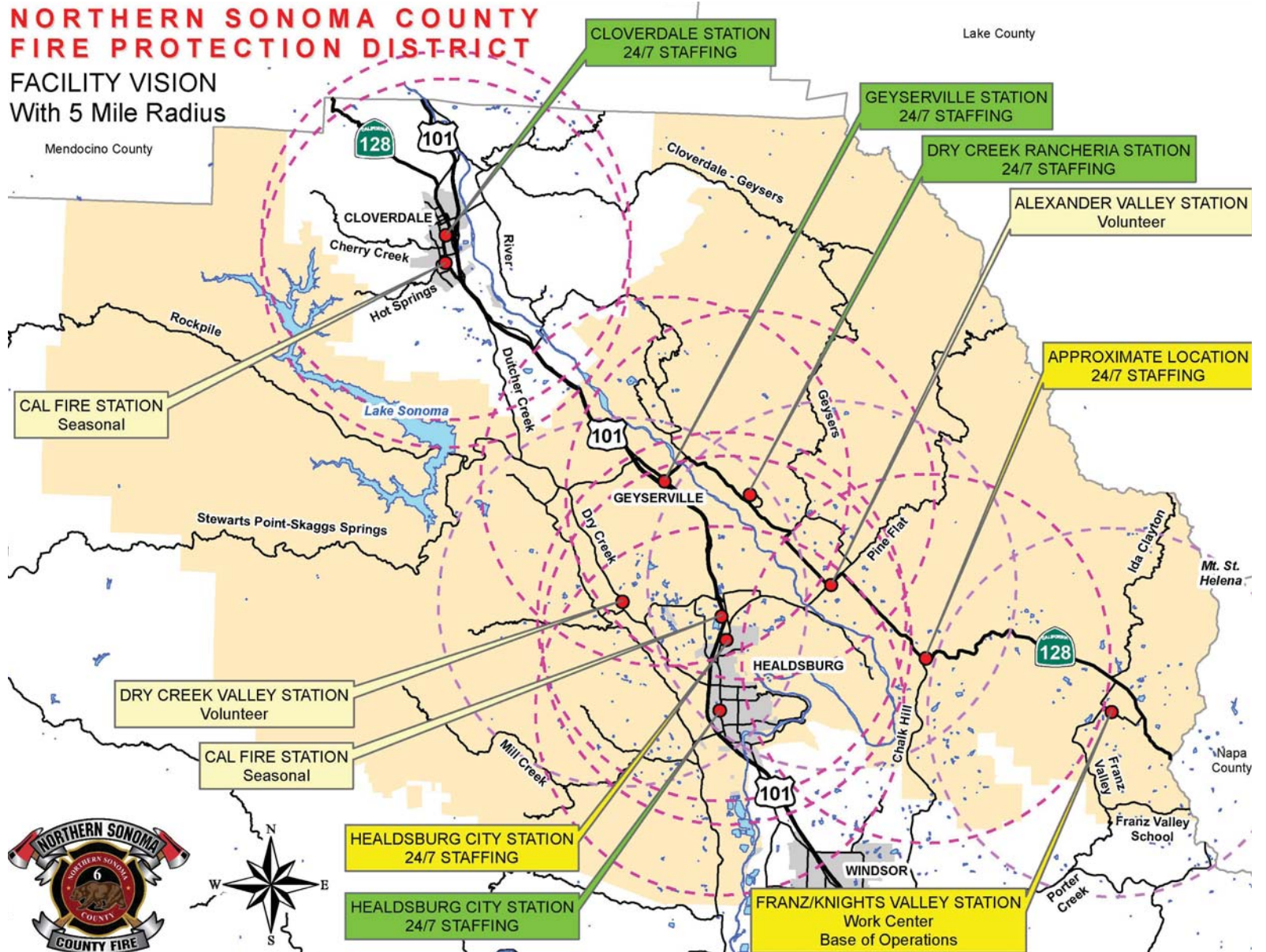
Present capabilities in the District include:

CalFire Stations Multiple CalFire stations within District boundaries and more in adjacent areas

Neighboring Districts Cloverdale, Healdsburg, Sonoma County, Napa County, Lake County, Mendocino County, Dry Creek Rancheria, among others

CalFire Air Attack Santa Rosa, Ukiah

The District, based on this cooperative model, has adequate capabilities for most direct needs. Public perception may generate additional needs. There is much public misunderstanding about wildland fire fighting, the necessity to differentiate between fire fighting and rescue operations, and the visible confusion that results from “fighting” fires at long distances from actual fire fronts.



External Context Factors

Wildland Fire

Primary needs related to actual fire management focus on operational capabilities, equipment and the ability to increase seasonal presence in key areas.

The facility component of these needs are limited to:

Outpost Stations Equipment placement and temporary staffing / housing in locations close to areas of high wildfire risk.

Increase in Shifts Adding shifts generates needs for increased residential housing at existing stations, outpost stations and future fully staffed stations.

Increased training capabilities, primarily for wildland fire management.

Key Tactical Features Water stockpile / placement capabilities in remote areas.

Identification and support for staging / incident management at key locations.

Established areas of refuge in remote areas.



Preemptive Fire Management

Communities are becoming increasingly aware that much of our present fire problem is related to forest health and, particularly, the long term accumulating effects of excess fire suppression over the last 120 years. While fires have been present continually over that period, fire frequency has been reduced in many areas, resulting in excess fuel buildup of dead and living material.

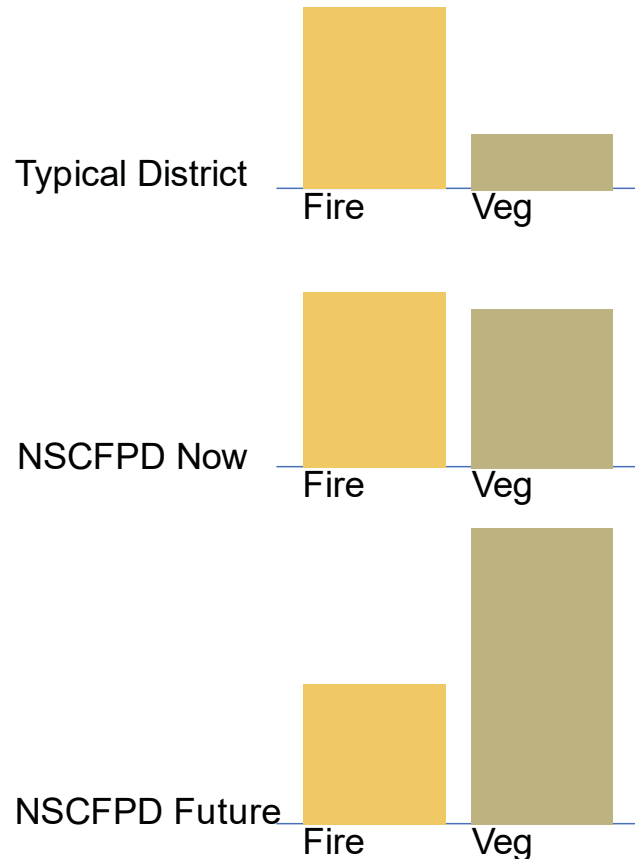
This is also a narrative that need not be fully repeated here. Sonoma County is already familiar with this idea and its operational consequences.

Resulting action, however, is severely lacking. Actual progress on vegetation management is not occurring at the rate it should, and the fire deficit continues to grow.

NSCFPD has emerged as a leader in addressing vegetation management at institutional scales. It has embraced fuels management at a scale not typically seen in local Fire Districts. A search of web resources describing local fire district veg management will invariably point back to NSCFPD.

Fire District of the Future

As awareness of the veg management need grows, and as evidence continues to emerge that forest health is one of the key methods of large fire management, it is expected that fuels staff will exceed fire fighting staff by a large margin.



Veg Management in the District includes the following components:

- Fuels Crew** Active fuels management on public and private lands utilizing dedicated fuels staff and equipment.
- Fuel Crew HQ** Dedicated facility for Fuels Crew operations, equipment and administration.
Presently occurs at Alexander Valley Station.
- Fuels Management Planning** Robust fire planning efforts addressing needs in the District as well as County-wide needs.
- Education and Outreach** Demonstration through action, partnerships and direct engagement with landowners in areas of critical need.

This is the single largest growth category in the District. The present operational plan includes the development of multiple crew “modules,” each capable of delivering whole projects. Modules will have staggered schedules so crews are available seven days a week, allowing projects to continue through weekends.

Crews require training, management and “back of house” features. More crews mean more equipment. The present equipment kit is robust and is planned to grow. Equipment requires housing, service and long term maintenance at higher levels than fire fighting equipment.

Fuels management operations occur seven days a week, every week throughout the year. It is ongoing full time employment utilizing all resources at high levels all year long. Vehicles and tools go out every day and are used hard. This generates substantial facility needs.

This requires a substantial facility that will be comparable to a large staffed fire station absent the residential capability. And, in fact, there are residential needs associated with the fuels crew: temporary housing facilities at remote locations where commute distances are long, or where overnight managements needs are present.

Since fuels operations occur all over the District, and potentially all over the County via Measure H, there are remote facility needs emerging. The need for fuels crew satellite facilities was identified by Staff. Satellite locations are needed to provide secure temporary equipment placement, staff parking (in a park-and-ride scenario), and even overnight sleeping capabilities as a means to reduce commutes, simplify logistics and put more hours into actual fuels work.

The present facility at Alexander Valley is unable to fully serve present needs. It has no capability of meeting growth needs in this area.

Assembling Needs

Needs Methods

Assessing facility Needs is a synthetic effort. It collects various data, performs various analytics and interprets results with the goal of generating a valuable list of measurable, buildable needs. It starts with blank paper and begins assembling a shopping list of things the District wants or needs. These are differentiated from the Strategic Plan in a key way: they are physical responses only, things to be built.

The Needs Assessment is thus the first exercise of design. It is the first step in project design, occurring at some time before actual projects are identified.

As a design effort it includes observation, interaction with District Staff and community members and detailed review and analysis of existing facilities, functional capabilities, technical fitness, maintenance conditions, code compliance, and other items that measure general physical plant health and fitness.

Needs Assessment Methods

Category	Description
Staff and Community Input	Knowledge collected from Staff interviews, community workshops, incidental interactions and organizational history. Includes focused workshops with Staff to gather their opinions about what's missing, what works, what may need correction. Includes ongoing interaction with Staff in the context of other projects.
Direct Facility Observation	Site visits, building inspections and review of existing documents to assess opportunities, deficiencies and general value of existing facilities. Includes multiple visits to all sites, walkthroughs with key staff, observation of operations and processes, and ongoing collection of anecdotes, complaints, and ideas while on site. Includes ongoing observations while visiting sites for other projects.
Needs Synthesis	Identification of needs based on preliminary programming / design considerations by DTA. This effort includes our reaction to the above inputs, our knowledge of general needs patterns for public facilities, and preliminary levels of conceptual design in response to various emergent opportunities.
Typological Research	Collection and interpretation of emerging knowledge, opinions and precedents in similar facility design. Includes detailed review of comparable facilities, both old and new, and presentation of samples to key Staff to stimulate reactions, opinions and deeper consideration of similar needs within the District.

Needs are categorized to clarify their value and relative importance. This supports overall assessment and translation of Needs into Logical Projects. The categories below represent logical categories that can assist in determining priorities, matching needs with funding sources, and can help the District make important decisions when resource availability may limit project scope.

Category	Associated Strategic Plan Goals	Description
Service Demand	Recruitment / Retention	Facility expansion and improvements supporting increased public demand for Services. Includes genuine population growth, stated demands by the community, and accepted trends in cultural demand evolution. Addresses all services including emergency / urban / structure fire response, medical response, community education and general community services.
	Service Capabilities	
	Wildland Fire Service Demand	
Recruitment and Retention	Recruitment / Retention	Improvements directly related to firefighter health, safety and general quality of life factors. Addresses physical plant improvements, training facilities, human factors components throughout the physical plant.
Operational / Functional Improvements	Service Capabilities	Physical Plant improvements directly related to operational needs.
	Wildland Fire Service Demand	
General Maintenance of Capital Assets	Service Capabilities	General building maintenance and incidental improvements to address recruitment / retention. Addresses deferred maintenance, physical plant improvements related to program evolution, incidental discretionary improvements.
	Recruitment / Retention	
Equipment Acquisition In Support of Projects	Service Capabilities	Substantial equipment purchases directly related to other improvement categories.
	Wildland Fire Service Demand	
Fire Prevention	Wildland Fire Service Demand	Facility expansion and improvements directly related to improved capacity for wildland fire management and prevention.

Assembling Needs

Sites

As an initial model all Needs data is organized by District Sites. Since projects will eventually occur on physical sites, the Site model is valuable and likely reflects the ways the District and Community already organize their concerns in their own minds. District Sites include the following:

Geyserville	Station 1, entire site, all needs
Cloverdale*	Station 1 and potential future facilities
Forestry Center	New site and multiple facilities. Includes potential Forestry Satellites
Chalk Hill / Knights Valley	Several candidate sites and associated needs
Alexander Valley	Existing site with potential site expansion
Dry Creek/West District options	Existing Dry Creek site, potential additional sites

Several of these sites are “virtual” in nature as there are remaining decisions to be made about specific locations, land acquisition and other choices that can only occur after further design and analysis.

*Cloverdale is not presently part of the Program but was included because there is a high likelihood that consolidation may occur within the life of this Program. Additionally numerous joint efforts already occur between the two Districts that may have facility implications.

A key part of the Needs Assessment effort includes organizing all of this data into a Logical Project structure that can be presented as rational, responsive and constructible projects.

The Needs Summaries presented in the Appendix reflect the Site model.

These outlines and their underlying data will inform actual project programs that will be used for final project design as projects are developed over the implementation period.

Several areas of need are not site specific, or may require decisions about final location of facilities (including the likelihood of adding new Sites). For this reason we are using unique names that are clearly identifiable to both Staff and the public, and may not coincide with existing Station numbers.

Sequence

Needs are also tagged for sequence. Once a robust collection of Needs is assembled, the relationships between each Need become apparent.

Some Needs should be met at the same time as other Needs. Some Needs must be met before another Need can be addressed.

In the early stages of design where there is not a lot of detail accumulated, a very simple sequence model is used.

Now Tasks that are needed soon. These may be immediate needs, critical maintenance tasks or items of high priority with the community. They may also be important antecedents: tasks that must happen before another can begin. Land acquisition or temporary housing for a subsequent modernization project are typical examples.

Near Tasks that may be higher priority but can wait while more important ones occur, or tasks of high priority that cannot proceed until a preparatory task occur.

Future Tasks that offer long term value but are not high priorities right now. Often these are tasks for which funding is not guaranteed.

Long Term These tend to be discretionary tasks: things that might be great but not important right now, or not important enough to absorb resources right now. These also tend to be visionary tasks that may require a longer time to develop and to excite the community.

This early assessment of sequence will play a key role in generating the Logical Project model and the resulting Master Schedule, both of which will form the foundation of the Resource Demand Model (how much money is need and when) and the Resource Development Model (how much money can be found).

These models will be organized by sequence and will be collected into four **Tiers** of projects intended to unfold over a 10 - 20 year period.

In the following pages we will present the resulting **Logical Project Model**. The Logical Projects are a key product of the Program and form the structure around which all remaining Program information is organized.

Refer to **Appendix A** for Needs Summaries at each site. These summaries are general in nature and may not display specific items that have been discussed, analyzed or otherwise captured.

More details of each Logical project will be presented in the next section.

Draft Long Term Facility Plan

Component 4

Logical Project Model

The Facility Needs Assessment collected input from numerous sources in an unstructured manner. In order to make use of this data in a productive manner it must be organized into a sensible structure.

Because all needs will be physically addressed via actual construction projects, it is important to start visualizing Needs in the context of projects very early. There is almost no value in assessing Program costs based on Needs without building a structure of actual projects. A substantial portion of Program costs will include project overhead, construction management, logistics and other items that can only be properly quantified in the context of sensible projects.

For these reasons the next key Component of the Program is the Logical Project Model.

Assembling a valuable Logical Project Model involves analysis of the Needs data but it also requires many assumptions about how Needs elements will be grouped. Many early and very fuzzy design decisions have to be made regarding what Needs generate what types of Projects and how those Projects may fit together.

Fortunately, a Logical Project Model remains flexible. While we need this kind of structure early, before serious design work is done, ongoing design work may indicate some reordering, splitting or combining of Logical Projects as the Program proceeds.

The key purpose of defining Logical Projects early is to give us the ability to model costs, resources and schedules, and allow these factors to properly inform ongoing project design. This is the best way to ensure that District goals are achieved in the most efficient and cost effective manner.

1,2 Strategic Plan

- Raw Needs
- District Goals
- Community Goals
- Vision

3 Needs Assessment

- Refined Needs
- Extensive Research
- Needs Synthesis

4 Logical Project Model

- Logical Projects
- Resource Priorities
- Schedule Priorities

5 Resource Demand

- Preliminary Cost Estimates
- Resource Demand Model
- Resource Development
- Resource-driven Schedule

Logical Project Model

The following outline presents several of the lenses through which Needs elements are seen in order to develop a useful Logical Project Model.



Geographic Logic Location is the first factor in differentiating projects for obvious reasons. Projects are most cost effective when work zones are physically related. Small tasks spread over large areas waste resources. Logical Projects are generally aligned with the Site Model presented above.

Construction Logic Projects are differentiated by construction type and construction complexity. They are also differentiated between new construction and renovation, though certain projects may include both.

Projects are also differentiated by size in order to enable a wider range of contractors to participate in District projects.

Planning Logic Projects are differentiated for planning and final design complexity. More complex projects that require a wider collection of consultants, longer approval and procurement periods and, potentially, more difficult construction, are differentiated from simpler projects and tasks.

In some cases, projects that generate high levels of community interest are differentiated from those that are “quieter.”

Resource Types Certain resource types favor certain kinds of projects. When funding sources are known (such as existing bonds, state funding programs, parcel taxes and such) these inform the way we define Logical Projects. As Resources are developed, further project differentiation may occur so that we can better respond to funding opportunities.

Logical Project Model

Logical Project Outline

The table below lists the currently identified Logical Projects. These represent current Project Knowledge. Very little design work has been done, so this model is necessarily a sketch.

It provides, however, critical organization and the ability to accurately begin modeling costs and schedules, and it serves as a means to have more structured collaboration with Staff and Stakeholders. As such collaboration proceeds these projects maybe combined, modified or split into smaller projects.

Logical Project Outline		Needs Categories						1	2	3	4
		Service Demand	Recruitment / Retention	Operational Improvements	Maintenance of Assets	Equipment Acquisition	Prevention Support	Now	Near	Future	Long
Site Project / Components	Remarks										
0 District Management											
0.001	Tier 1 Program Overhead	Overhead, financial consultants, resource costs					■				
0.002	Tier 2 Program Overhead	Overhead, financial consultants, resource costs						■			
0.003	Tier 3 Program Overhead	Overhead, financial consultants, resource costs							■		
0.004	Tier 4 Program Overhead	Overhead, financial consultants, resource costs								■	
1 Geyserville											
1.001	Station 1 Modernization	Additions, alterations to whole facility		■	■	■		■			
1.002	Station 1 Land Acquisition (omitted)	Not required									
2 Cloverdale											
2.001	Cloverdale Station 1-Incidental Modernization	Incidental interior modernization		■		■				■	
2.002	Central Maint Facility-Land Acquisition	Supports Central Maint Facility			■	■		■			
2.003	Central Maint Facility	Shared facility for both Districts	■		■	■			■		
2.004	Cloverdale Station 2-Land Acquisition	Supports Outpost station at River Road	■						■		
2.005	Future Cloverdale Station 2-River Road	Outpost / seasonal station, non-preemptive	■							■	
3 Forestry Center											
3.001	FC-Land Acquisition	Adequate for full FC buildout	■		■			■			
3.002	FC Phase 1: Relocation	Relocation, temp housing at new site	■	■	■			■			
3.003	Forestry Satellites Phase 1	High priority locations			■			■			
3.004	Forestry Satellites Phase 2	Remaining Locations			■				■		
3.005	FC Phase 2: Veg Center	Veg Operations HQ		■	■					■	
3.006	FC Phase 3: Forestry Center	Demonstration / Education Center			■					■	

Component 4 Logical Project Model

The Logical Project Model will be used to organize Resource Demand, array projects over time based on required Cash Flow, and assemble Project Budgets and Schedules.

The Needs Categories indicated are defined on **Page 23**. The Sequence codes indicate the priorities defined on **Page 25** and are used to begin defining both the order in which projects will unfold and the timing of necessary resources to fund such projects.

Logical Project Outline		Needs Categories						1	2	3	4
		Service Demand	Recruitment / Retention	Operational Improvements	Maintenance of Assets	Equipment Acquisition	Prevention Support	Now	Near	Future	Long
Site Project / Components	Remarks										
4 District East											
4.001 KV/CH Land Acquisition	Chalk Hill, Spencer Lane sites	■				■	■				
4.002 Spencer Existing Mods	Deferred Maint, Incidental mods, pending retention		■		■			■			
4.003 Future Chalk Hill Station	Outpost / Staffed Station	■				■				■	
4.004 Spencer Lane: New Training / Opps Facility	Serving various District needs	■				■		■			
5 Alexander Valley											
5.001 AV Land Acquisition (omitted)	Not required										
5.002 AV: Interim FC Mods	Support near term Forestry function if needed	■	■	■		■	■				
5.003 AV: Post FC Mods	Volunteer station: incidental mods	■		■					■		
6 District West											
6.001 DC Incidental Mods-omitted	Not programmed										
6.002 Dry Creek/Lake Sonoma Land Acquisition	Land acquisition for future station	■				■			■		
6.004 Future Dry Creek/Lake Sonoma Station	Future staffed / unstaffed station	■				■				■	
7 Equipment											
7.001 Equip: Veg Opps-not used	not funded in Program										
7.002 Equip: Future Chalk Hill Station	Initial equipment kit	■		■		■	■			■	
7.003 Equip: Future DC/Lake Sonoma Station	Initial equipment kit	■		■		■	■			■	
7.004 Equip: Future River Rd Station	Initial equipment kit	■		■		■	■			■	

Logical Project Model

Logical Projects by Tier

The tables below list Logical Projects by Tier. The projects included in a particular Tier reflect both project priorities (how soon a project is desired) as well as a logical sequence (which projects need to occur before other projects).

The Tiers also reflect likely Resource Development sequences. Refer to Component 5 Resource Model for more detail. Tier contents will remain variable and may change in response to Resource Development efforts. As Resources increase, later projects may be moved forward. Should resources develop later than planned some projects may be delayed.

Tier 1 Projects

Tier 1 projects represent the highest priority projects in the Program. These are projects that respond to the most important needs, primarily Station 1 Modernization and expansion of the Veg Management facilities in response to growth in demand. They also include relatively low cost projects that set the stage for important Tier 2 projects.

These are projects that can proceed quickly with relatively simple design and approval tasks.

Tier 1 projects also represent the likely maximum Resource Demand that can be tolerated by early Resource Development.

	Project Name	Project Description
1.001	Station 1 Modernization	Alterations, additions to existing facility, site alterations, new support building
1.002	Station 1 Land Acquisition (omitted)	Site expansion not required
2.002	Central Maintenance Facility Land Acquisition	Securing adjacent triangle to support feasibility of Central Maintenance Facility
3.001	Forestry Center Land Acquisition	For future central veg management / forestry center
3.002	Forestry Center Phase 1: Relocation	Relocation of existing Veg Ops and temp housing prior to Phase 2
3.003	Forestry Satellites Phase 1	First gen of veg ops satellites at priority locations
4.001	Chalk Hill / Knights Valley Land Acquisition	Securing Chalk Hill and Spencer Lane sites
5.002	Alexander Valley Interim Veg Operation Mods	Minor mods should Veg Ops remain at AV for longer period (optional)

Tier 2 Projects

Tier 2 projects are moderate priority projects that have antecedents in Tier 1 (such as land acquisition).

In some cases, Tier 2 projects require joint participation with Cloverdale. In other cases they may be deleted if certain choices are made in Tier 1 that eliminate their needs.

Tier 2 projects are also chosen because they can wait longer, allowing for more robust Resource Development and funding capabilities.

	Project Name	Project Description
2.003	Central Maintenance Facility	Joint District maintenance facility supporting full size vehicles
2.004	Cloverdale Station 2: Land Acquisition - River Road	Secure site along River Road for future Station 2
3.004	Forestry Satellites Phase 2	Second gen of veg ops satellites as remaining locations
4.002	Spencer Lane Existing Building Mods	Deferred maintenance mods at existing building should District choose to keep facility
4.004	Spencer Lane: New Training / Ops Facility	Training, joint ops, staging and other varied support facilities

Logical Project Model

Tier 3 Projects

	Project Name	Project Description
2.001	Cloverdale Station 1: Incidental Modernization	Minor modernization tasks for existing Station 1
3.005	Forestry Center Phase 2: Veg Operations HQ	Central Veg Operations Center supporting maintenance, equipment housing, admin. and planning
5.003	Alexander Valley: Post Veg Ops Mods	Minor mods to existing station to support use as volunteer station (optional)
6.002	Dry Creek / Lake Sonoma Land Acquisition	Secure site for future station

Logical Projects by Tier

Tier 3 projects are either lower priority than Tier 2 or are dependent on Tier 2 antecedents.

The Cloverdale Station mods are not currently a District project but are modeled in case consolidation happens prior to Tier 3.

The Forestry Center is a substantial project that requires adequate funding.

Tier 4 Projects

Tier 4 projects are generally discretionary projects or projects that are dependent growth and increased demands.

They are substantial projects that will require landowner commitments to resources through bonds, special tax districts or other means. Refer to Component 5 Resource Model for more detail.

	Project Name	Project Description
2.005	Future Cloverdale Station 2: River Road	Future un-staffed station
3.006	Forestry Center Phase 3: Demo-Education Center	Public educational / demonstration components of Forestry center. Assume
4.003	Future Chalk Hill Station	Future un-staffed / staffed station
6.004	Future Dry Creek/Lake Sonoma Station	Future un-staffed / staffed station
7.002	Equip: Future Chalk Hill Station	Initial equipment kit for future station
7.003	Equip: Future Dry Creek/Lake Sonoma Station	Initial equipment kit for future station
7.004	Equip: Future River Rd Station	Initial equipment kit for future station

Logical Project Delivery Sequence

The table below lists Logical Projects by Tier and presents a likely project sequence. This sequence will inform the Master Schedule for all Program projects.

Logical Project Outline Tier Project / Components	Tier 1			Tier 2			Tier 3			Tier 4			
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Tier 1													
1.001 Station 1 Modernization	[Blue Bar]												
1.002 Station 1 Land Acquisition (omitted)													
2.002 Central Maint Facility-Land Acquisition	[Green Bar]												
3.001 FC-Land Acquisition	[Green Bar]												
3.002 FC Phase 1: Relocation		[Blue Bar]											
3.003 Forestry Satellites Phase 1		[Blue Bar]											
4.001 KV/CH Land Acquisition	[Green Bar]												
5.002 AV: Interim FC Mods	[Yellow Bar]												
Tier 2													
2.003 Central Maint Facility				[Blue Bar]									
2.004 Cloverdale Station 2-Land Acquisition			[Green Bar]										
3.004 Forestry Satellites Phase 2			[Blue Bar]										
4.002 Spencer Existing Mods				[Yellow Bar]									
4.004 Spencer Lane: New Training / Opps Facility				[Blue Bar]									
Tier 3													
2.001 Cloverdale Station 1-Incidental Modernization							[Blue Bar]						
3.005 FC Phase 2: Veg Center							[Blue Bar]						
5.003 AV: Post FC Mods									[Yellow Bar]				
6.002 Dry Creek/Lake Sonoma Land Acquisition							[Green Bar]						
7.001 Equip: Veg Opps-not used													
Tier 4													
2.005 Future Cloverdale Station 2-River Road										[Grey Bar]			
3.006 FC Phase 3: Forestry Center										[Blue Bar]			
4.003 Future Chalk Hill Station										[Grey Bar]			
6.004 Future Dry Creek/Lake Sonoma Station										[Grey Bar]			
7.002 Equip: Future Chalk Hill Station										[Grey Bar]			
7.003 Equip: Future DC/Lake Sonoma Station										[Grey Bar]			
7.004 Equip: Future River Rd Station										[Grey Bar]			

Key	[Blue Box]	Building Construction
	[Green Box]	Land Acquisition
	[Yellow Box]	Optional Projects
	[Grey Box]	Requires Long Term Funding Partners

Draft Long Term Facility Plan

Component **5** Resource Model

The Resource Model captures two key parts of the Plan:

Resource Demand How much the present Program costs.

The Logical Project Model seeks to identify everything we need to accomplish. The Resource Demand model seeks to identify all the money we may need to accomplish it.

Resource Development How much money we have or can predictably accumulate over the course of the Program.

The Resource Development Model seeks to identify the widest array of accessible and sensible Resources that might be available to the District.

Because we don't have a simple Resource identified at this time (such as a single General Obligation Bond to fund the whole Program), the Resource Model is necessarily dynamic and highly variable. As with the **Needs Assessment** and the **Logical Project Outline**, the elements of the Resource Model are primarily goals, part of the normal design process in which we develop the scope of our projects as we develop the Resources to fund them.

1,2 Strategic Plan

Raw Needs
District Goals
Community Goals
Vision

3 Needs Assessment

Refined Needs
Extensive Research
Needs Synthesis

4 Logical Project Model

Logical Projects
Resource Priorities
Schedule Priorities

5 Resource Demand

Preliminary Cost Estimates
Resource Demand Model
Resource Development
Resource-driven Schedule

Resource Model

Since this is a long term Program, it's not necessary to have all Resources defined early. It's only necessary to continue a robust design process wherein we build knowledge about what we want as we build knowledge about how much money we have.

The relationship between those two considerations will determine which projects we do first, which projects wait, and which projects may have to change or go away. Both Needs and Resources are highly variable and each will be informed by the other.

The mechanisms we use throughout the Program development effort and for individual Projects as we select them, initiate them and complete them, will shape each side of the Resource Model and deliver the best results for the District and the Community.

The Program will benefit from two key efforts that will be part of all subsequent Program work:

A Dynamic and Integrated Cost Management Strategy

All Program and Project design will include ongoing cost modeling, starting with the Resource Demand Model described below. Cost Models for all projects will be maintained, updated and used to value design decisions. Such valuation may indicate that designs need to be modified. Or they may indicate that Resources need to be modified. Design should not be driven by cost. It should be driven by value.

A Comprehensive Resource Development Strategy

To complement design, an ongoing Resource Development strategy will be initiated. This will likely include many resources that may fund the Program. Some will occur early and be easily accessible. Others may occur later and require a substantial effort to develop.

The only certainty is that Resources will be widely varied and will likely change over the duration of the Program. Resource design will be as important as Project design.

A robust Long Term Program can be patient. If resources can't be developed soon for a key project, that project may wait on the shelf until such a time as resources can be developed.

Resource Model

Both sides of the Resource Model remain flexible until hard resources match final project scope. Until then, project scope is variable, but resource choices, and the extent to which we combine them, are also variable.



After much strategic analysis both sides of the equation are brought into balance so that projects can proceed.

Balancing Demand and Resources

Resource Demand

How much money do we need?

The Logical Project Model allows us to accurately assess likely project costs using standard Construction Cost Models. This in turn allows us to collect all Project costs for the Program into a single Resource Demand Model. This presents a likely Resource Need for the entire Program.

Of course, since we are at a very early stage in Program development, many assumptions must be made for tasks and project components that have not yet been designed.

This is not an impossible puzzle. It is precisely what Planning is for: to start balancing Needs with Resources as early as possible so good decisions can be made, decisions that have higher odds of surviving over a long design and implementation period. All substantial projects include early decisions based on nearly blank paper.

A robust Needs Assessment coupled with a good Logical Project Model can allow for very good assumptions about projects costs. Many elements are quantifiable and much knowledge exists for current construction costs on similar project types. For many of the Needs identified in Component 3, District facilities are readily measurable and reasonable unit costs can be applied. Where quantities are fully unknown, allowance factors are included so that no line item is left blank.

Resource Development

How Much Money Do We Have?

Like Project design, a Resource Development Model is a sketch on nearly blank paper. It represents highly variable resources with differing interests and differing methods of development that will directly affect the Long Term Facility Plan.

Potential Resources are assembled in much the same way that Needs and Logical Projects are assembled. Various Resources are identified, their capacities and timing are charted, and a strategy emerges for long term Resource Development.

Of particular interest are Resources that are presently liquid or can be developed quickly so the near-term projects can be started.

Resource Model

Resources and Time

Resources and Time

When Projects Occur

Projects are initiated over time and in a particular **order**. The order in which projects unfold is determined by their relationships to each other, by which projects need to occur before or after other projects, and by which projects are most or least important to the community. This order is responsive to District and Community Needs and is reflected in the Priority Lists and Logical Project Model in **Component 4**.

Project **timing** is also defined by Resource Development: projects cannot be started until actual Resources are available.

The Project Resource Demands outlined above and arranged by Tier result in a Cash Flow model that informs Resource Development. By arraying project resource needs over time they can then be aligned with the likely resources that are available now and in the future.

The summary below indicates a simple version of overall Program Cash Flow needs.

Each Tier has variable timing and can be initiated as resources are developed.

The Cash Flow models are used to build the Master Schedule for the Program and to inform Resource Development goals.

Resource Development in turn, informs the Cash Flow models and may indicate that projects need to be delayed or scaled back.

These steps will continue as the Program is developed and as we approach Tier 1 projects.

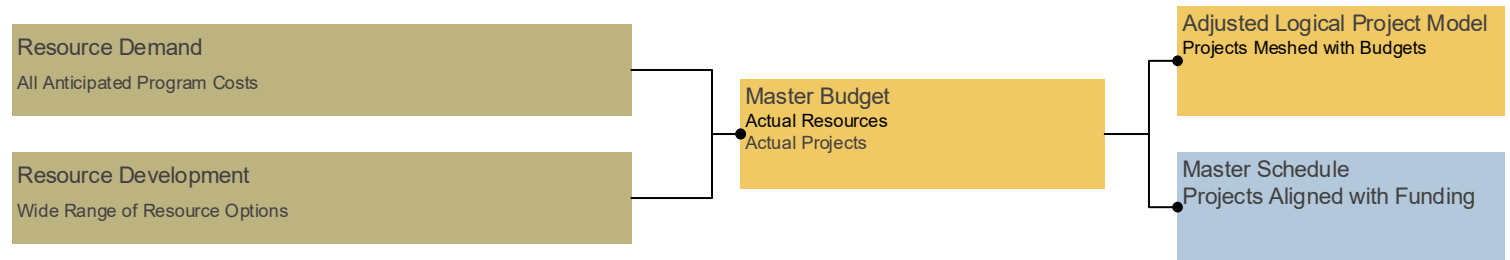
Demand Summary-All Projects

Cash Flow Demand

Tier	Total	Tier 1		Tier 2			Tier 3			Tier 4			
		2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Tier 0 District Management	9,100,000	546,500	425,000	793,500	892,500	770,000	812,500	785,000	785,000	860,000	810,000	810,000	810,000
Tier 1 Projects	12,189,856	4,512,405	6,309,899	1,367,552									
Tier 2 Projects	6,064,715			328,053	3,669,400	2,067,262							
Tier 3 Projects	11,105,531		32,875	8,375		395,419	6,783,775	3,885,087					
Tier 4 Projects	36,612,714							40,000	2,460,802	16,163,294	17,948,618	3,466,016	180,000
Accumulated Resource Demand	75,072,816	5,058,905	6,767,774	2,497,480	4,561,900	3,232,681	7,596,275	4,710,087	3,245,802	17,023,294	18,758,618	4,276,016	990,000

Resource Model

As Resource Demand and Resource Development are balanced each Tier of projects will be shaped by a Master Budget and a Master Schedule. These will become the primary tools for final project design and project management.



Resource Model

Resource Development

Resource Development is as varied and dynamic as project design. There are many options for Resources that can be pursued. Some represent near term options that are readily achievable, some require longer planning and procurement efforts.

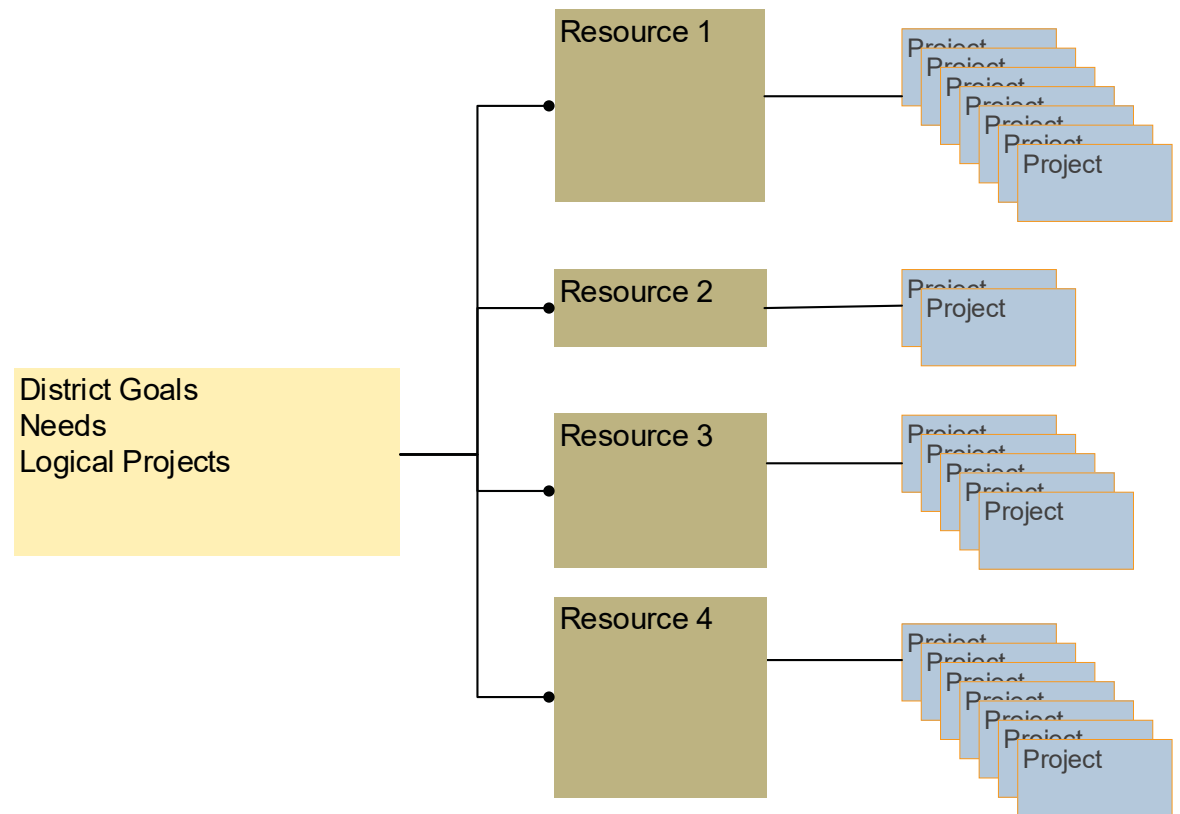
The chart below lists candidate Resources for consideration for a variety District needs captured in the Logical Project Model.

Category	Description
Dedicated District Resources	District capital reserves for facility maintenance and ongoing annual revenue commitment.
Commercial Credit	<p>Private financing backed by ongoing District revenue. Such financing can occur on a near-term basis via various mechanisms.</p> <p>Opportunities exist for low-interest loans for particular purposes. Usage should be limited as debt service can become a notable Resource Demand.</p>
Taxation	<p>Various methods are available to develop Resources from voter-supported measures. Such resources require planning and collaboration with the community.</p> <p>Resources may be developed for the entire District or for particular locations and particular projects. Special Assessment Districts may be formed around certain locally valuable projects.</p>
Other Municipal Bond Funding	<p>Various bond mechanisms exist that may be viable for long term projects. These may include General Obligation Bonds similar to School District Bonds. Climate Resilience Bonds have been used for similar purposes.</p> <p>These are also dependent on voter approval and require planning and collaboration.</p>
Interagency Funding	Various means exist for sharing revenue between other Districts and the County. Measure H is an example. Projects reflecting joint interests of other agencies may generate outside revenue.
Grant Funding	Grant funding is a Resource option but is unpredictable and should not be seen as a primary Resource. Should opportunities emerge at the right time they may be pursued but project timing and initiation should only depend on grant resources that are already secure.
Charitable Donations	Donations can often support individual projects. Like grants, these are unpredictable and should not be considered dependable resources. Should a donation opportunity arise it can be pursued but the Program should not depend on donations.

Resource Development will generally be aligned with the Project Tiers defined above. Each Tier will define a Resource Demand and a desired implementation period.

Resource Development will be aimed at that Tier. As Resources are identified and quantified, the Tier will be modified to match the resource available.

This approach allows the District to proceed with Tier 1 projects as a virtual stand alone program, while later Tiers are still being developed and future resources are being pursued.



What's Next

The Facility Program presented here is a DRAFT document for your review and consideration.

This is not a document that requires approval because we are not establishing a fixed Program based on a fixed Resource. Instead we are presenting a long term general strategy that will remain flexible but will serve as a guidepost and an organizing tool for facilities considerations for the next ten years.

The Program identifies a number of Logical Projects that will occur over a 12 year period. These projects have not been designed. Each one will be initiated at some point, final design will commence and you will be asked to review and approve both the initiation of those projects and the designs once they are completed.

Next Steps

Component 7: Master Budget As Resource Development and more specific project design proceed, a Master Budget will be developed to guide actual project implementation. The Master budget will be a hard budget defining individual project limits and used to encumber resources for actual design and construction.

Master Budgets will be created for each Tier of projects.

Component 7: Master Schedule A Master Schedule will be developed for each Tier of projects as well. These schedules will guide project implementation and will also inform details for Resource Development such as bond issuances, financing deadlines and other variables.

Tier 1 Project Design and Implementation Final Design will proceed on Tier 1 projects and design results will be shared with the Board and the Community.

Methods for project delivery, cost and schedule management, cost accounting and payment management and all other aspects of project management will be established so that District burden is minimized and successful project outcomes are ensured.

Appendices

The following material is included in Appendices bound under a separate cover.

Logical Project Scope Outlines

General scope outlines for each identified Logical Project.

Logical Project Preliminary Cost Models

Early Cost Model reflecting current knowledge about likely project scope and likely project costs.

Cash Flow Summaries by Project Tier

Summaries of Cost Models arranged by Tier and reflecting likely Resource Demand over time.

Long Term Facility Improvement Plan Appendices

Prepared by

Dreiling Terrones **Architecture**

for

Northern Sonoma County Fire Protection District

January 15, 2026

Contents

Appendix A
Appendix B
Appendix C

Logical Project Scope Outlines
Logical Project Cost Summaries
Logical Project Cash Flow Summaries

Draft Version 2.0

January 15, 2026

This document and the Plan it describes is a work in progress. It presents information that is continually changing as all the parts of the Plan are developed and all the various interactions are mapped and stabilized.

Key components of the Plan are not fully developed yet and these components, when complete, will affect and likely modify, every part of this plan.

Further input from the District, the Community and continued synthesis by DTA and its consultants will modify this Plan as it progresses.

We invite the Community to review Plan contents as work proceeds and we invite any comments and questions.

We also ask all readers to appreciate the dynamic nature of planning and design and the methods we use to discover, systematically, the right answers.

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Long Term Facility Improvement Plan
Appendix A
Logical Project Scope Outlines

Site **00-District Overhead**

Draft Date 4/2/2025

Revision Date 1/14/26

Logical Projects

The following represents District Program Overhead “projects.” These items are included as projects so that District Overhead costs can be modeled and managed along with other Program costs.

District Overhead will make up a notable portion of the Program expense, and should be tracked and aligned with Resources like any other project.

We have modeled these as four separate projects that align with the proposed Project Tiers used throughout the Program. Each Overhead project will include similar tasks with minor variations based on the nature of each project Tier.

Preliminary Needs Outline

Project #	Project Name	Project Description	Source / Notes
	General	District Overhead will be modeled in three main categories:	
	District Program Management	<p>Includes all District Staff efforts to manage the District’s side of the Program.</p> <p>Includes dedicated staff to work with the Program Manager to reconcile Program / Project Management methods with District accounting / tracking methods. Includes any staff time dedicated to Program / Project efforts.</p> <p>May include:</p> <ul style="list-style-type: none"> • Admin / Accounting Staff • District Program Liaison • Staff costs for the District portion of Resource Development • Staff costs for relocations / logistics efforts performed by the District rather than Program contractors. • Consultants (primarily legal). <p>Most District Management tasks occur in close conjunction with the Program Manager (DTA) and guidance is provided by the Program Manager regarding best practices for the District’s side of Program and Project Management.</p>	
	Resource Development	<p>Includes all consultants / tasks associated with developing Resources to fund Program projects.</p> <ul style="list-style-type: none"> • General Resource Development and Advice (Walter / EPS) • Specific Resource Development and Advice: Consultant(s) selected to support specific funding strategies, financing and other tasks related to securing funding for the Program. • Polling / Election consultants: as needed when such resources are pursued. 	

Project #	Project Name	Project Description	Source / Notes
		<ul style="list-style-type: none"> Other expenses associated specifically with Resource Development. 	
	Resource Expense	<p>Limited to debt and financing payments. No consultants or related expenses are included in this category. This category is variable and will be responsive to individual funding mechanisms, rates, discounts and other factors, including District decisions to accelerate payments for various reasons. Such variability affects the total Resource available for Projects at any time, and thus is a key ingredient in scheduling projects and encumbering resources.</p>	
0.001	Tier 1 District Overhead	<p>District Overhead</p> <p>Includes a number of tasks that support the initial Program development, initial Resource Development and the establishment of District methods for interacting with the ongoing Program and Project Management. These include:</p> <ul style="list-style-type: none"> Establishing accounting and recon methods that mesh with the Program Manager’s project management methods. Establishing Program / Project communications methods. Managing ongoing Board interaction to support project approvals, project contract approvals and other management business. Working with the Program Manager to reconcile resources and expenses, establish invoicing and payment methods and otherwise managing the District’s side of the cash flow effort. <p>Resource Development</p> <ul style="list-style-type: none"> Complete initial resource strategy for Tier 1 projects. Develop strategy for Tier 2 projects and possibly Tier 3. Secure funding for Tier 1 projects. <p>Resource Expense</p> <p>Initiate Tier 1 financing expenses. Initiate Tier 2 funding expenses prior to completion of Tier 1 or as external Resource conditions warrant.</p>	
0.002	Tier 2 District Overhead	<p>Similar to Tier 1:</p> <p>District Management</p> <p>Primarily routine and ongoing management and Program interaction.</p> <p>Resource Development</p> <ul style="list-style-type: none"> Ongoing Tier 2 and Tier 3 Resource Development 	

Project #	Project Name	Project Description	Source / Notes
		<ul style="list-style-type: none"> Ongoing interaction with Program Manager to reconcile available resources with project needs. Look ahead to long term Tier 4 funding opportunities and resulting Tier 4 timing. <p>Resource Expense Ongoing debt service for Tier 1 and Tier 2. Possible emerging debt service or other expense for Tier 3.</p>	
0.003	Tier 3 District Overhead	Similar to Tier 2 If Tier 4 projects are approaching, Tier 3 may include expense for Tier 4 Resource Development.	
0.004	Tier 4 District Overhead	Tier 4 includes long term visioning or projects that require substantial resources, including community resources to be developed via tax or bond measures. Tier 4 Overhead will be defined as realization of Tier 4 projects approaches. Tier 4 will include ongoing finance payments for prior Tiers as they remain. At some point such payments may be moved out of active Program Management.	

Site **01 Geyserville**

Draft Date 4/2/2025

Revision Date 1/14/26

Logical Projects

The following represents the present Logical Project Model for the subject site. These projects included all scope derived during the Needs Analysis and additional scope identified as early project design proceeds.

Preliminary Needs Outline

Project #	Project Name	Project Description	Source / Notes
1.001	Station 1 Modernization	Expansion of existing facility:	Strategic Plan
		<ul style="list-style-type: none"> Construction of new building at rear of property to house exercise room, EMT garage and storage facility for deep site storage. Construction of second story above shop portion of App Bay to be used as deep storage for App Bay supplies and equipment. 	District Goals Needs Analysis Staff Interviews
		Modernization of Existing Facility	
		<ul style="list-style-type: none"> Minor adjustments to ground floor spaces to resolve numerous functional conflicts. Reconfiguration of the Admin area to improve function and accommodate projected growth. Also intended to reduce use-conflicts inherent in the original design. Relocation and expansion of the exercise facility to Phase 1 building. Construction of new day room at ground floor to provide dedicated dining area, space for training, meetings, workstations and other supporting features aligned with daytime firefighter needs. Reconfiguration of second floor "day room" to increase dorm capacity, address noise and functional conflicts, increase toilet count, and otherwise improve the overall quality of afterhours and nighttime facilities. Creation of proper "evening room" to address deficiencies in evening / afterhours functions. Includes dedicated movie area, improved study area, improved laundry and general improvements to quality of space. 	
	Phasing	The site will remain occupied and functional during construction. Full relocation of all firefighter support and operations is cost- and time-prohibitive, and would delay progress on this project by a number of months while preparation and relocation tasks were performed. The viable alternative is to construct this project in two phases:	

Project #	Project Name	Project Description	Source / Notes
		<p>Phase 1 and 2 will likely be constructed under one contract in sequence. However, should other priorities emerge, there is the possibility of separating Phase 1 and 2 into distinct contracts.</p> <p>Phase 1 alone addresses a number of present needs and conflicts.</p>	
		<p>Phase 1 Phase 1 will include expansion of current facilities at the back of the site as well as the second-floor addition at the shop/maint wing. The rear half of the site will be fenced and used for construction staging. The west bay in the App Bay will be fenced for interior staging and work access.</p> <p>When complete, these new areas will accommodate temporary relocation of day room and residential functions of the main building.</p>	
		<p>Phase 2 Phase 2 will include modernization of the main building.</p> <p>During Phase 2 the back half of the property and the App Bay will be fully functional and accessible. The main building and front parking areas will be fenced for construction operations. The east bay in the App Bay will be fenced for interior staging and construction ops.</p>	
1.002	Land Acquisition	<p>Not used. Originally reserved for possible site expansion at Station 1. Such expansion has been determined infeasible. Site needs that would trigger expansion can be accommodated elsewhere.</p>	

Site **02 Cloverdale**

Draft Date 4/2/2025

Revision Date 1/14/26

Logical Projects

The following represents the present Logical project Model for the subject site. These projects include all scope derived during the Needs Analysis and additional scope identified as early project design proceeds.

The Cloverdale Facility is included because District consolidation will likely occur sometime over the course of the Facility Program.

No substantial projects are envisioned as being initiated by the District until consolidation or some other form of agreement occurs. It is important, however, to understand the magnitude of Needs and likely responsive Projects that may occur in the future.

Project scope listed here is based on minimal inquiry and analysis, and should be assumed to be tentative and necessarily sketchy.

Preliminary Needs Outline

Project #	Project Name	Project Description	Source / Notes
2.001	Cloverdale Station 1: Incidental Modernization	<p>Incidental Interior and Site Modernization</p> <p>NOT presently a Program project. May occur as a future project if District consolidation occurs.</p> <p>Based on limited analysis of existing site and needs:</p> <ul style="list-style-type: none"> Minor alterations of various portions of the interior to address incidental needs and improvement options. Adjustments to kitchen / day room area, minor storage improvements, minor exterior courtyard improvements. Cloverdale is a well-designed station with few unmet needs. 	
2.002	Cloverdale Station 1: Land Acquisition	<p>Land Acquisition in support of Central Maintenance Facility</p> <ul style="list-style-type: none"> Procurement of small triangle adjacent to existing site. This triangle is necessary to allow for relocation of site circulation and rear yard vehicle access to then allow for expansion of the main App Bay for the joint District Central Maintenance Facility. Cloverdale has been in negotiations with the adjacent landowner and has identified likely terms. Justification for this project is based on the existing joint maintenance agreement between the two Districts. 	District role (prior to consolidation) may include support of the land purchase. Extent to be determined as land negotiations unfold.
2.003	Central Maintenance Facility	<p>Construction of expanded shared Central Maintenance Facility</p> <ul style="list-style-type: none"> Addition of new bay north of existing App Bay to accommodate full size vehicles. Will include integration with existing half-size facility. Includes freeboard areas for tools and shop functions, full size vehicle lift. 	Project represents a present Need. It is assumed that the project will be funded jointly by the two Districts if it occurs prior to consolidation.

Project #	Project Name	Project Description	Source / Notes
		<ul style="list-style-type: none"> Includes necessary site circulation adjustments to retain all site circulation functions. 	<p>In house maintenance for both Districts occurs presently at the Cloverdale Station in the existing partial bay.</p>
2.004	Cloverdale Station 2: River Road Land Acquisition	<p>Land Acquisition for Possible River Road Station NOT presently a Program project. May occur as a future project if consolidation occurs.</p> <ul style="list-style-type: none"> Includes Acquisition of approximately 1 acre of land for a future outpost station on the River Road side of the District. Identified as a need by Cloverdale in response to resident requests. Need may be modified by construction of the permanent “summer bridge.” Land acquisition may be a sensible project for the Cloverdale District as a land bank strategy. 	<p>Presently a sole pursuit of the Cloverdale District. No funding for this project is anticipated as part of this Program.</p>
2.005	Cloverdale Station 2: River Road: Future Staffed or Unstaffed Station	<p>Possible Future River Road Station NOT presently a Program project. May occur as a future project if consolidation occurs.</p> <ul style="list-style-type: none"> Construction of an Outpost (unstaffed) station in some form in the River Road area. Need may be affected by construction of the permanent “summer bridge.” Presently there is no numerical justification for a station in that location other than response time for a small number of residents. Public demand may generate a local resource development effort that could result in a project. This project is included as a long-term possibility. 	<p>Presently a sole pursuit of the Cloverdale District. No funding for this project is anticipated as part of this Program.</p> <p>Project will require substantial local financial support via tax, bond, or other financial mechanism.</p>

Site **03 Forestry Center**

Draft Date 4/2/2025

Revision Date 1/14/26

Logical Projects

The following represents the present Logical Project Model for the various Veg Management operation's needs. These projects included all scope derived during the Needs Analysis and additional scope identified as early project design proceeds.

The Forestry Center projects address both the near-term and long-term growth of the District's Veg Management operations as well as the District's vision for a substantial education and demonstration facility intended to benefit District landowners in support of their own veg management and stewardship efforts.

These projects reflect the District's long-term goal of restoring our wild and semi-wild lands to conditions more tolerant of wildland fire, and more resistant to the growth and movement of catastrophic fire.

The Northern Sonoma County Fire Protection District is a national leader in the landscape-based approach to future fire management.

Preliminary Needs Outline

Project #	Project Name	Project Description	Source / Notes
3.001	Forestry Center Land Acquisition	<p>Land Acquisition to accommodate all phases of the Forestry Center as defined below.</p> <p>Seeking 3 – 10 acres to accommodate long term growth and needs.</p> <p>Criteria includes:</p> <ul style="list-style-type: none"> Central location in support of the District's present and future Veg Operation. Accommodates assignment of crews throughout the north County and other wild and semi-wildland areas of the County. Likely proximity to Station 1 meets this need. Large enough to accommodate envisioned Veg Operations Center and possible long term build out of complete Forestry Center (see below). <p>Large enough to accommodate selected Station 1 needs and other District storage / operational requirements.</p>	<p>Strategic Plan</p> <p>District Goals</p> <p>Needs Analysis</p> <p>Staff Interviews</p>
3.002	Forestry Center Phase 1: Relocation and Temporary Housing	<p>Relocation of Existing Veg Operation</p> <p>Initial relocation of present Veg Operation from Alexander Valley to expanded location. Addresses severe site limitations at AV, especially as Veg Operation grows.</p> <ul style="list-style-type: none"> Includes limited site development for utilities, access, parking. Includes temporary equipment barn to house present and near-term vehicle inventory. Such barn will become a secondary barn/warehouse when Phase 2 is complete. <p>Includes basic operational needs for admin, comms, fueling, vehicle and equipment cleaning. Most needs will be met in the manner they are being met at AV until Phase 2 is complete.</p>	

Project #	Project Name	Project Description	Source / Notes
3.003	Forestry Satellites: Phase 1	<p>Construction / Configuration of initial Forestry Satellites</p> <p>Initial location of satellites where highest need occurs.</p> <p>This project is still unprogrammed and each satellite will have different needs depending on location, co-location with other facilities and specific needs / risks at each possible location.</p> <p>Locations sought: typically, other public entities with existing security, space accommodation. May also include simple land leases in areas close to recurring veg treatment needs.</p> <p>Likely kit includes:</p> <ul style="list-style-type: none"> • Secure overnight parking / storage of vehicles and equipment (chippers, etc.). • Secure overnight location of tools. • Secure daytime parking for staff. • Capability of housing low level (tailgate) briefing, training, maintenance opps. • Limited visibility / reduction in attractive nuisance. <p>Phase 1 may include up to 3 strategic locations.</p>	<p>Phase 1 will likely occur as several individual and highly variable projects.</p> <p>Projects may be as simple as locating a container and some fencing. and will be procured as simple purchases. Some projects may require building design and construction.</p> <p>The present scope represents numerous variables that will be refined as needs increase and likely locations emerge.</p>
3.004	Forestry Satellites: Phase 2	<p>Construction / Configuration of initial Forestry Satellites</p> <p>Same as 3.0003.</p> <p>These are lower priority locations and will occur later in the Program.</p>	
3.005	Forestry Center Phase 2: Veg Center	<p>Permanent Veg Operations Center</p> <p>Full housing of present and future Veg Operations</p> <p>Includes:</p> <ul style="list-style-type: none"> • Equipment Bay for 6 trucks. • Secondary Equipment sheds for trailers, chippers, other towable equipment. • Maintenance wing for all tool and limited vehicle maintenance. • Admin wing for operations management, training and planning. • Crew support components: dedicated break room, toilets, lockers, gear storage. • Site features: Equipment handling, storage, fueling, washing, secure staff parking. <p>This is a significant near-term need.</p>	

Project #	Project Name	Project Description	Source / Notes
3.006	Forestry Center Phase 3: Forestry Center	<p>Expanded Forestry Education Center</p> <p>This is a visionary project that will require complex partnerships and funding. It is considered a key project for the overall Veg Management / Forest Health component of future wildfire management.</p> <p>Intended to accommodate multiple supportive entities and agencies, and provide education and demonstration to landowners of vulnerable rural, wild and semi-wild lands.</p> <p>May include:</p> <ul style="list-style-type: none"> • Veg Planning Office for ongoing Veg operations planning, grant development and project management. • Meeting and training rooms for Veg operations staff training, community workshops and demonstrations. • Information presentation via displays, publication access and exterior kiosks. • Exterior demonstration areas for specific skills and methods demo for the community. Includes larger site areas where actual veg. management methods can be demonstrated as part of regular site maintenance. • Accommodation of other entities involved in the future of land stewardship as it specifically relates to wildland fire. May include various partner organizations presently focused on fire in Sonoma County. 	

Site **04 District East: Chalk Hill / Knights Valley**

Draft Date 4/2/2025

Revision Date 1/14/26

Logical Projects

The following represents the present Logical Project Model for various needs identified in the eastern portion of the District. These projects included all scope derived during the Needs Analysis and additional scope identified as early project design proceeds.

These projects reflect needs that are not precisely defined and remain highly variable until further design work is initiated. They also reflect several land acquisition opportunities that are time sensitive and may indicate near-term action in order to secure an opportunity to address future needs.

Preliminary Needs Outline

Project #	Project Name	Project Description	Source / Notes
4.001	CH / KV Land Acquisition	<p>Land Acquisition for Chalk Hill and Spencer Lane options</p> <p>Chalk Hill: Secure min. 1-2 acres for future Station construction. Refer 4.003 below.</p> <p>Spencer Lane: Secure 5 – 10 acres for future District uses. Refer 4.004 below.</p> <p>Includes:</p> <ul style="list-style-type: none"> Stabilizing commitments via long term lease or other means of ownership / occupation. Research into regulatory requirements for critical access, infrastructure, development rights. This is highly variable and will be responsive to actual likelihood of proceeding with project work in the near term. 	
4.002	Spencer Lane Existing Modernization	<p>Incidental Modernization of existing building</p> <p>This is a highly variable program item and will depend on the emerging design for the new property (4.004) and the District’s defined purpose / needs for the existing building.</p> <p>Budget amounts should be allowances only until needs are more fully defined. Basic needs include grading / drainage improvements, utility improvements, deferred maintenance and possible seismic upgrades.</p>	This project may be omitted if the District decides to abandon the present building in favor of the site across the street.
4.003	Chalk Hill Station	<p>New Staffed / Unstaffed Station</p> <p>NOT presently a Program project. Project is not justified by service demand and will require substantial local funding from the affected community. It is included because it is an important community request and consideration should continue.</p> <ul style="list-style-type: none"> Construction of an Outpost (unstaffed) or staffed station in some form in the Chalk Hill Road area. Requires abandonment of existing 128 spur and dedication of that land to District needs. Public demand may generate a local resource development effort that could result in a project. 	

Project #	Project Name	Project Description	Source / Notes
		<p>This project is included as a long-term possibility.</p>	
<p>4.004</p>	<p>Spencer Lane Expansion</p>	<p>Spencer Land Facilities Expansion on new site</p> <p>Multiple program categories have emerged for valuable uses at an expanded Spencer Lane site. These include:</p> <ul style="list-style-type: none"> • Joint multi-District training facility. • Event staging and operations area. • Dip sites and helicopter landing capability. • Remote admin capability, shared use, agency outposts. • Remote equipment / staff staging during high-risk seasons. <p>Additional programming will occur in response to actual land acquisition details.</p> <p>This project reflects several immediate District needs as well as likely future needs. Should the land acquisition occur, the actual work of the project may occur over a number of years and via multiple projects of varying scope and expense.</p>	

Site **05 Alexander Valley**

Draft Date 4/2/2025

Revision Date 1/14/26

Logical Projects

The following represents the present Logical Project Model for the subject site. These projects included all scope derived during the Needs Analysis and additional scope identified as early project design proceeds.

Programming for AV will include consideration of future uses to occur after the Veg Operation vacates. Likely use will be for a Volunteer Station. The facility already accommodates most associated needs.

Preliminary Needs Outline

Project #	Project Name	Project Description	Source / Notes
5.001	AV Land Acquisition	Land Acquisition for possible Veg Operations Expansion Not used. No viable land options exist.	This was an early option that was omitted.
5.002	AV Interim Mods	Incidental Improvements to Existing Veg Operation Center Immediate improvements to facilitate improved Veg Opps while Forestry Center Phase 1 is unfolding. These are intended to be non-preemptive and valuable to future uses when Veg Opps relocates. Includes: <ul style="list-style-type: none"> • Grading and drainage improvements. • Lighting, fencing, general security. • Minor interior mods. 	Should the Forestry Center Phase 1 proceed quickly, this project may be omitted.
5.003	Post Forestry Center Mods	Incidental Improvements to Existing facility to address new use Improvements to address new needs that emerge after Veg Opps vacates. Likely minimal. Present building has been recently improved and will be functional as a volunteer station. May included expanded admin components. To be programmed at a later time.	

Site **06 District West Sites**

Draft Date 4/2/2025

Revision Date 1/14/26

Logical Projects

The following represents the present Logical Project Model for the subject site. These projects included all scope derived during the Needs Analysis and additional scope identified as early project design proceeds.

Should the communities in the west portion of the District seek increased facility in this area, local community-based funding will be required.

The western portion of the District is partially served by other departments. Development of District facilities in many west side areas will result in unnecessary redundancy and resulting waste.

Preliminary Needs Outline

Project #	Project Name	Project Description	Source / Notes
6.001	Dry Creek Incidental Mods	<p>Dry Creek Station Incidental Improvements</p> <p>No specific program needs have been identified. This is an allowance item reserved for deferred maintenance and emerging needs. May include:</p> <ul style="list-style-type: none"> • Site development for additional secure storage. • Deferred maintenance items. • Possible site expansion depending on adjacent tenant facilities. <p>If other West District facilities emerge, project / station may be abandoned.</p>	
6.002	District West Land Acquisition	<p>This is a speculative project only. Should a genuine West District station need emerge, land acquisition should be rehearsed early.</p> <p>Service and response patterns indicate value for a Lake Sonoma location. Likely candidates are co-location with ACE / County facilities at Warm Springs Dam. Other options may also emerge.</p> <p>Initially this is a research and scoping task that may turn into a land acquisition task.p</p>	
6.003	not used		
6.004	New District West Station	<p>Possible Future West District Station</p> <p>NOT presently a Program project. May occur as a future project.</p> <ul style="list-style-type: none"> • Construction of an Outpost (unstaffed) station in some form in the Lake Sonoma area. • Presently there is no numerical justification for a station in that location other than response time for a small number of residents. • Public demand may generate a local resource development effort that could result in a project. <p>This project is included as a long-term possibility.</p>	

Site **07 Equipment**

Draft Date 4/2/2025

Revision Date 1/14/26

Logical Projects

The following represents potential equipment acquisition specifically related to future station options.

These projects do not include detailed scope at this time but exist specifically to identify and reserve (if necessary) resources for substantial equipment purchases. Should any of the new stations identified at other sites become viable, these projects will be associated with them to ensure adequate resources for the initial equipment kits.

These projects include vehicles and other non-architectural equipment associated with a functioning fire station. If procurement is pursued via a lease option, these projects will identify long term expenses which may or may not be funded by program resources.

Preliminary Needs Outline

Project #	Project Name	Project Description	Source / Notes
7.001	Equipment: Veg Opps	Not used.	
7.002	Equipment: Chalk Hill	Basic equipment kit should a Chalk Hill Station project be initiated.	
7.003	Equipment: West District	Basic equipment kit should a West District Station project be initiated.	
7.004	Equipment: Cloverdale / River Road	Basic equipment kit should a Cloverdale Station 2 project be initiated. Not a District project. This will only become a District project if consolidation occurs. At such time an appropriate blend of resources will be developed.	

Long Term Facility Improvement Plan
Appendix B
Logical Project Cost Summaries

Northern Sonoma County Fire Protection District
 Long Term Facility Plan
Resource Demand Model

Site **Projects by Tier**
 Project **Summary by Tier**
 Date 4/29/2025
 Last Updated 1/10/2026

Demand Summary-All Projects

Tier	Direct Costs	Indirect Costs	Total Costs
0 District Overhead	9,180,000		9,180,000
1 Tier 1 Projects	10,948,090	1,310,910	12,259,000
2 Tier 2 Projects	5,493,226	571,487	6,064,713
3 Tier 3 Projects	10,341,056	764,476	11,105,532
4 Tier 4 Projects	36,724,497	3,534,230	40,258,727
Accumulated Project Costs			
	72,686,869	6,181,103	78,867,972

Project Tier

	1	2	3	4
	1,845,000	2,475,000	2,430,000	2,430,000
	12,259,000			
		6,064,713		
			11,105,532	
				40,258,727
Accumulated Project Costs				
	14,104,000	8,539,713	13,535,532	42,688,727

Indirect Multi-Project Costs

Multi-Project Management Fees	1 @	0.25%	181,717
	@		
	@		
Accumulated Proportion		0.25%	181,717
Indirect Multi-Project Costs			181,717
Total Indirect Costs			6,362,820
Total Resource Demand			79,049,690

Multi Project Indirect Costs are calculated and applied in Tier Summary
 Amounts shown at left are for reference only

Proportions

Indirect Cost / Total Cost	8.05%
Indirect Cost / Direct Cost	8.75%

Northern Sonoma County Fire Protection District
 Long Term Facility Plan
Resource Demand Model

Site **Tier 0: District Overhead**
 Project **Tier 0 Summary**
 Date 4/29/2025
 Last Updated 1/10/2026

Tier 1 Demand Summary

proj #	Project	iter	sch	Direct Costs	Indirect Costs	Total Costs	Remarks	Project Tier			
								1	2	3	4
0.001	Tier 1 Program Overhead	✓		1,845,000		1,845,000	Overhead, financial consultants, resource costs ✓	1,845,000			
0.002	Tier 2 Program Overhead	✓		2,475,000		2,475,000	Overhead, financial consultants, resource costs ✓		2,475,000		
0.003	Tier 3 Program Overhead	✓	✓	2,430,000		2,430,000	Overhead, financial consultants, resource costs ✓			2,430,000	
0.004	Tier 4 Program Overhead	✓	✓	2,430,000		2,430,000	Overhead, financial consultants, resource costs ✓				2,430,000
Accumulated Project Costs				9,180,000		9,180,000		1,845,000	2,475,000	2,430,000	2,430,000

Proportions
 Indirect Cost / Total Cost
 Indirect Cost / Direct Cost

Northern Sonoma County Fire Protection District
 Long Term Facility Plan
Resource Demand Model

Site **Tier 1 Projects**
 Project **Tier 1 Summary**
 Date 4/29/2025
 Last Updated 1/10/2026

Tier 1 Demand Summary

proj #	Project	iter	sch	Direct Costs	Indirect Costs	Total Costs	Remarks	Project Tier				
								1	2	3	4	
1.001	Station 1 Modernization	✓		6,809,391	919,268	7,728,659	Additions, alterations to whole facility	✓	7,728,659			
1.002	Station 1 Land Acquisition (omitted)	✓	✓				Not required	✓				
2.002	Central Maint Facility-Land Acquisition	✓	✓	125,000	37,500	162,500	Supports Central Maint Facility	✓	162,500	NSCFPD Proportio		
3.001	FC-Land Acquisition	✓	✓	470,000	42,300	512,300	Adequate for full FC buildout	✓	512,300			
3.002	FC Phase 1: Relocation	✓	✓	2,291,231	183,299	2,474,530	Relocation, temp housing at new site	✓	2,474,530			
3.003	Forestry Satellites Phase 1	✓	✓	287,428	45,989	333,417	High priority locations	✓	333,417			
4.001	KV/CH Land Acquisition	✓	✓	330,000		330,000	Chalk Hill, Spencer Lane sites	✓	330,000			
5.002	AV: Interim FC Mods	✓	✓	635,040	82,555	717,595	Support near term Forestry function if needed	✓	717,595			
Accumulated Project Costs				10,948,090	1,310,910	12,259,000			12,259,000			

Proportions
 Indirect Cost / Total Cost **10.69%**
 Indirect Cost / Direct Cost **11.97%**

Northern Sonoma County Fire Protection District
 Long Term Facility Plan
Resource Demand Model

Site **Tier 3 Projects**
 Project **Tier 3 Summary**
 Date 4/29/2025
 Last Updated 1/10/2026

Tier 3 Demand Summary

proj #	Project	iter	sch	Direct Costs	Indirect Costs	Total Costs	Remarks	Project Tier					
								1	2	3	4		
2.001	Cloverdale Station 1-Incidental Modern	✓	✓	297,149	53,487	350,635	Incidental interior modernization	✓			350,635		
3.005	FC Phase 2: Veg Center	✓	✓	9,714,093	689,701	10,403,794	Veg Operations HQ	✓			10,403,794		
5.003	AV: Post FC Mods	✓	✓	292,314	17,539	309,853	Volunteer station: incidental mods	✓			309,853		
6.002	Dry Creek/Lake Sonoma Land Acquisi	✓	✓	37,500	3,750	41,250	not funded in Program	✓			41,250		
7.001	Equip: Veg Opps-not used												
Accumulated Project Costs				10,341,056	764,476	11,105,532					11,105,532		

Proportions
 Indirect Cost / Total Cost **6.88%**
 Indirect Cost / Direct Cost **7.39%**

Northern Sonoma County Fire Protection District
 Long Term Facility Plan
Resource Demand Model

Site **Tier 4 Projects**

Project **Tier 4 Summary**

Date 4/29/2025

Last Updated 1/10/2026

Tier 4 Demand Summary

proj #	Project	tier	scr	Direct Costs	Indirect Costs	Total Costs	Remarks	Project Tier				
								1	2	3	4	
2.005	Future Cloverdale Station 2-River Roa	✓	✓	7,490,813	599,265	8,090,078	Outpost / seasonal station, non-preemptive	✓				8,090,078
3.006	FC Phase 3: Forestry Center	✓	✓	8,437,838	1,181,297	9,619,135	Demonstration / Education Center	✓				9,619,135
4.003	Future Chalk Hill Station	✓	✓	8,154,537	652,363	8,806,900	Outpost / Staffed Station	✓				8,806,900
6.004	Future Dry Creek/Lake Sonoma Static	✓	✓	8,141,310	651,305	8,792,615	Future staffed / unstaffed station	✓				8,792,615
7.002	Equip: Future Chalk Hill Station	✓	✓	1,500,000	150,000	1,650,000	Initial equipment kit	✓				1,650,000
7.003	Equip: Future DC/Lake Sonoma Static	✓	✓	1,500,000	150,000	1,650,000	Initial equipment kit	✓				1,650,000
7.004	Equip: Future River Rd Station	✓	✓	1,500,000	150,000	1,650,000	Initial equipment kit	✓				1,650,000
Accumulated Project Costs				36,724,497	3,534,230	40,258,727						40,258,727

Proportions
 Indirect Cost / Total Cost **8.78%**
 Indirect Cost / Direct Cost **9.62%**

Long Term Facility Improvement Plan
Appendix C
Logical Project Cash Flow Summaries

Northern Sonoma County Fire Protection District
 Long Term Facility Plan
Resource Demand Model

Site **All**

Project **Cash Flow Summary**

Date 4/29/2025

Last Updated 1/14/2026

Demand Summary-All Projects

Cash Flow Demand

Tier	Total	Tier 1			Tier 2			Tier 3			Tier 4			
		2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Tier 0 District Mgmt	9,100,000		546,500	425,000	793,500	892,500	770,000	812,500	785,000	785,000	860,000	810,000	810,000	810,000
Tier 1 Projects	12,189,856		4,512,405	6,309,899	1,367,552									
Tier 2 Projects	6,064,715				328,053	3,669,400	2,067,262							
Tier 3 Projects	11,105,531			32,875	8,375		395,419	6,783,775	3,885,087					
Tier 4 Projects	36,612,714								40,000	2,460,802	16,163,294	17,948,618	3,466,016	180,000
Accumulated Resource Demand	75,072,816		5,058,905	6,767,774	2,497,480	4,561,900	3,232,681	7,596,275	4,710,087	3,245,802	17,023,294	18,758,618	4,276,016	990,000

