BREATING LIFE INTO OLD STATIONS

Presented by Michael Scott, Principal at RRM Design Group

WHAT WE'LL COVER

1. The Dilemma

Why do we need updates and what are the hold-ups?

2. The Process

Assessments, Identifications, and Quantifications

3. Recommended Steps

Best practices tips and tricks

4. Case Studies

Let's take a look at two recent renovation projects

THE DILEMMA

Existing fire stations:

- **Are not up to today's standards**
- **Are long overdue for maintenance**
- **And there is not enough money for new stations in ALL locations**

THE PROCESS

1) Assess the Facility – Provides Justification for Funding

- Two Kinds of Assessments:
  - Maintenance Only – Construction Management Firm
  - Operations Based Assessment – Public Safety Architect
- Identify the Standard

2) Identify Station Replacement vs Renovation

- Cost based on extensiveness
- Structural Evaluation
  - *CA 1986 - Essential Services Buildings Seismic Safety Act (ESBSSA)*

3) Quantify All Facility Upgrade Costs

DESIGN4LIFE
by RRM DESIGN GROUP

rrm design group

OUR SAFETY-FIRST DESIGN METHOD

Design4Life is RRM Design Group's commitment to fire station design that reduces firefighter exposure to potentially harmful contaminants and carcinogens. Firefighters save lives every day, but are themselves at risk of exposure to deadly carcinogens at the incident site that can then be carried into the apparatus and on into the Firehouse. A well-designed station that supports the best practices described in "Healthy In, Healthy Out" can help firefighters stay healthy on the job and for the rest of their lives after retirement from active service.

GREEN ZONE - CLEAN AREA

Clean zone for office, bunk rooms, day room, kitchen, fitness, and bathrooms

YELLOW ZONE - TRANSITION AREA

Positive air vestibule, boot changing area, response alcove

RED ZONE - HAZARD AREA EQUIP STORAGE

Transitional space, such as Apparatus Bay, shop space, and other areas for equipment that has been cleaned and decontaminated

DARK RED ZONE - DECONTAMINATION AREA

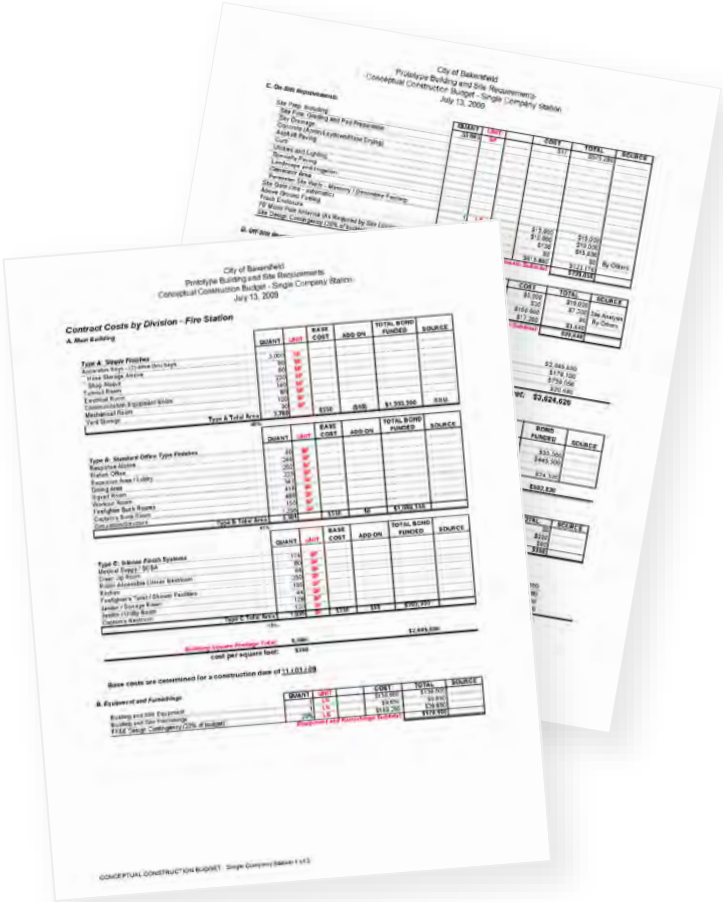
Dedicated and isolated areas for receiving and cleaning contaminated equipment such as SCBA, Turn Out Gear, hoses, and biohazard waste

Recommendations Matrix
Quantity of Items Summary

Fire Station Name	FS #	Environmental	Accessibility	Health and Safety	Security	Structural	Total	Complete Total Cost	Complete Total Cost for Recommendation	Recommendation
Station 1	24	3	6	12	8	2	31	$ 1,000,000	$ 16,000,000	Replace / Relocate
Deerhorn	37	4	4	14	6	1	29	$ 1,000,000	$ 1,600,000	Renovate*
Lake Morena	42	4	3	12	7	0	26	$ 1,000,000	$ 1,600,000	Renovate*
Jacumba	43	4	4	13	11	1	33	$ 1,200,000	$ 20,000,000	Replace / Relocate
Descanso	45	4	13	14	9	5	45	$ 1,400,000	$ 20,000,000	Replace
Pine Valley	44	0	4	4	1	0	9	$ 200,000	$ 300,000	Renovate*
Boulevard	47	2	2	11	4	0	19	$ 500,000	$ 800,000	Renovate*
Shelter Valley	53	5	8	16	10	0	39	$ 1,200,000	$ 1,900,000	Renovate*
Ocotillo Wells	54	3	12	20	4	0	39	$ 1,200,000	$ 20,000,000	Replace
Julian	56	2	6	13	5	2	28	$ 800,000	$ 1,300,000	Renovate*
Ranchita	58	5	10	16	8	0	39	$ 900,000	$ 1,500,000	Renovate*
Sunshine Summit	59	3	1	10	4	0	18	$ 800,000	$ 1,300,000	Renovate*
Jamul	66	3	3	10	2	0	18	$ 800,000	$ 1,200,000	Renovate*
Palomar	79	2	6	9	6	1	24	$ 900,000	$ 8,000,000	Renovate / New App Bay
San Pasqual	84	4	10	21	8	1	44	$ 1,100,000	$ 16,000,000	Replace
Intermountain	85	3	5	11	10	1	30	$ 1,300,000	$ 18,000,000	Replace
Chart shows quantity of recommendations for each fire station.		$ 800,000	$ 1,700,000	$ 9,000,200	$ 4,000,000	$ 15,000		Total:	$ 129,500,000	* Add 50% Soft Costs to Complete Total Cost for Recommendation

Costs are today's costs. Escalation will need to be added as needed.

Replacement Cost - Standard Area	*$ 16,000,000*
Replacement Cost - Rural Area	*$ 18,000,000*
Replacement Cost - Extreme Rural Area	*$ 20,000,000*



Recommended Steps For

SIMPLE MAINTENANCE

Categories:

- Maintenance
- Safety
- Security
- Sustainability
- Accessibility

KITCHEN FINISHES

SEPARATIONS FROM APP BAY

FUNCTIONAL SPACE

Recommended Steps For

MAJOR RENOVATION AND ADDITIONS

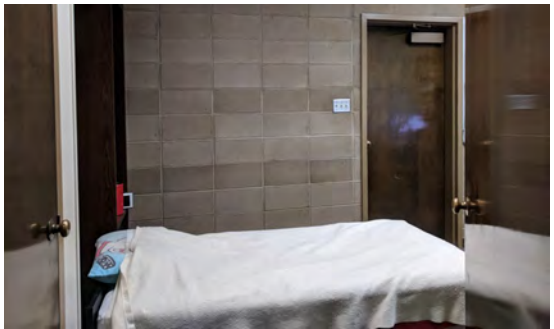
First Steps:

1. **Identify Utility Upgrades Needed**
   - Sewer
   - Water
   - Gas
   - Electrical
   - Stormwater
   - Comm/Tower Needs
2. **Identify Any Off-site Work Needed**
3. **Identify Any Code Changes That Will Trigger Added Cost**
4. **Review Existing Drawings**
   - Conducive Structure for Reconfiguration
   - Expansion Opportunities
   - Systems Upgrades
     - *Mechanical*
     - *Electric*

CASE STUDY: SANGER FIRE STATION

Sanger Fire Station

EXISTING STATION



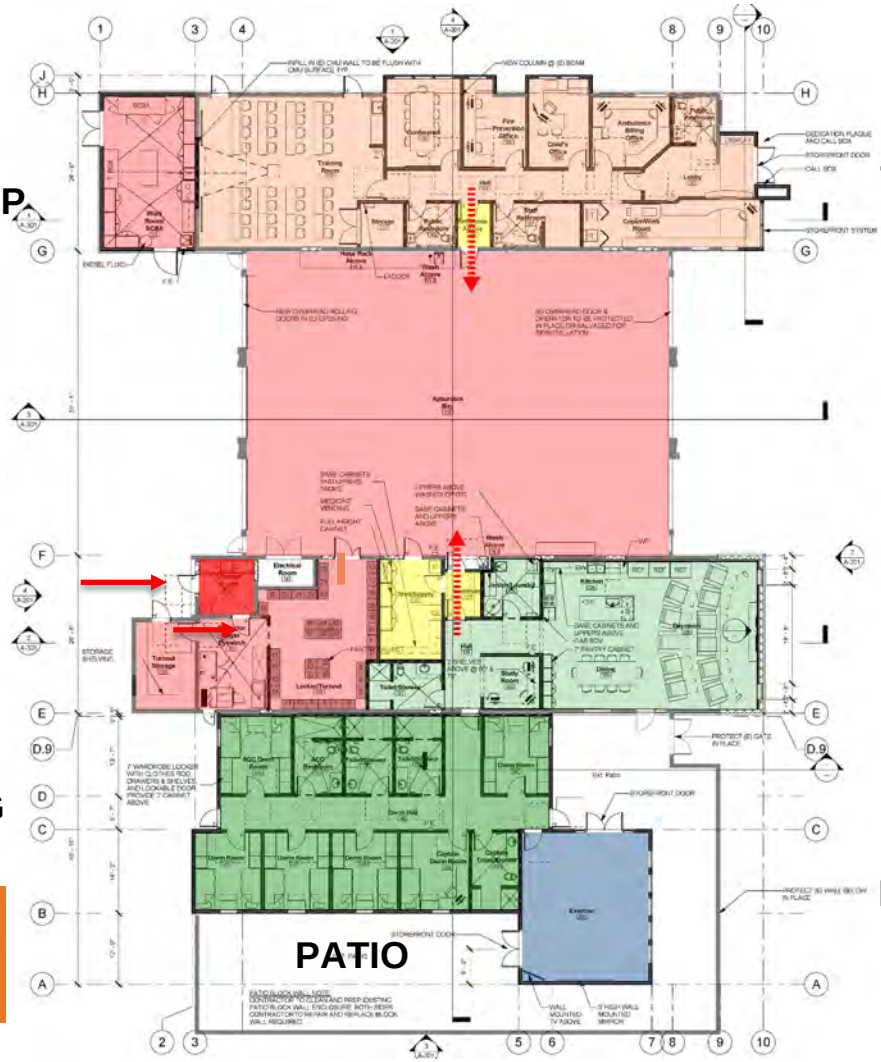
Sanger Fire Station

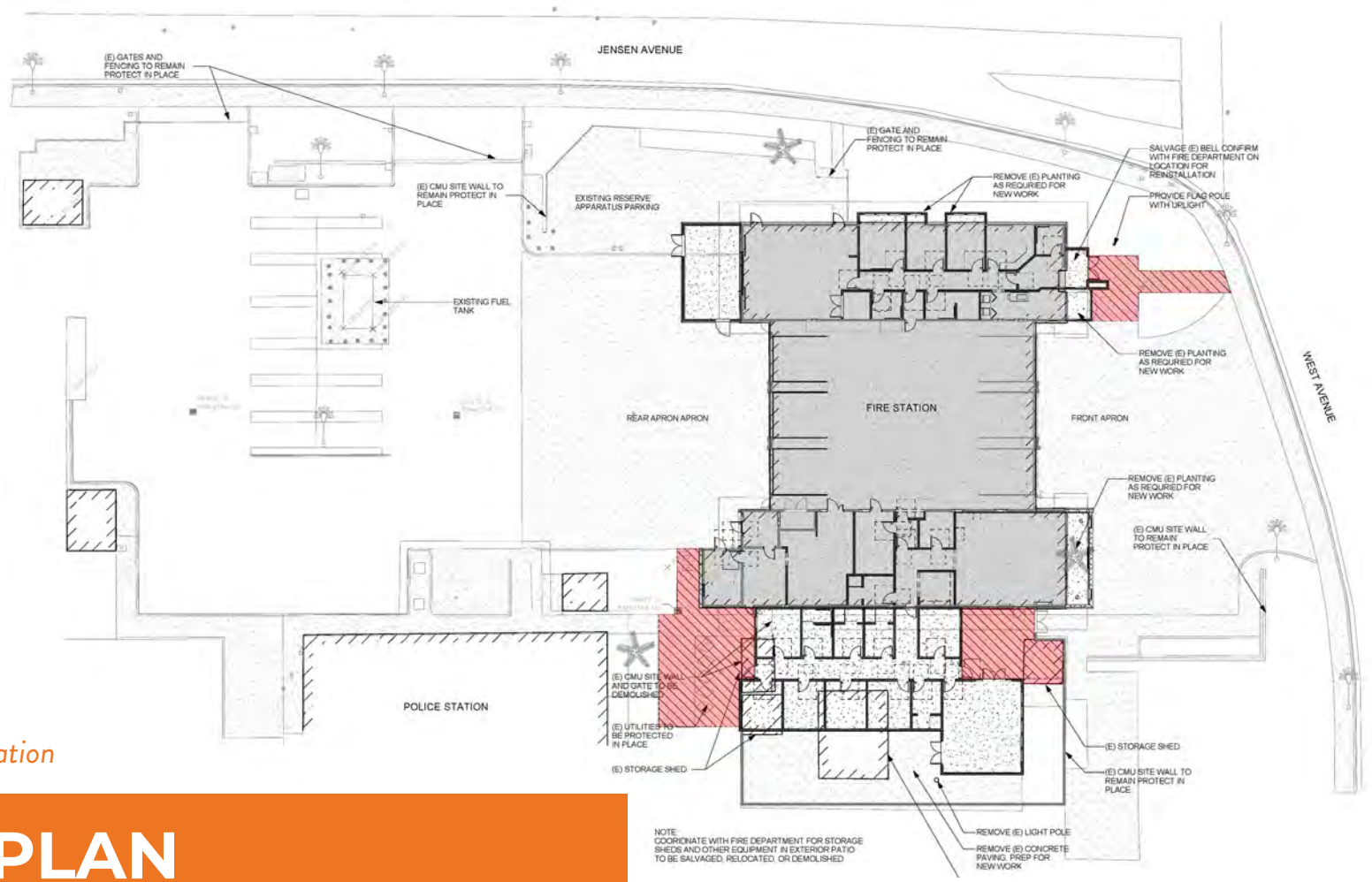
STATION GOALS

- Dorm Room to Private Rooms
- Private Restrooms
- Reconfigure Office Area
- Reconfigure Kitchen Dining Day Area
- Add Separate Exercise
- Separate Turnout Storage
- Separate Decon Area

Sanger Fire Station

FLOOR PLAN





Sanger Fire Station

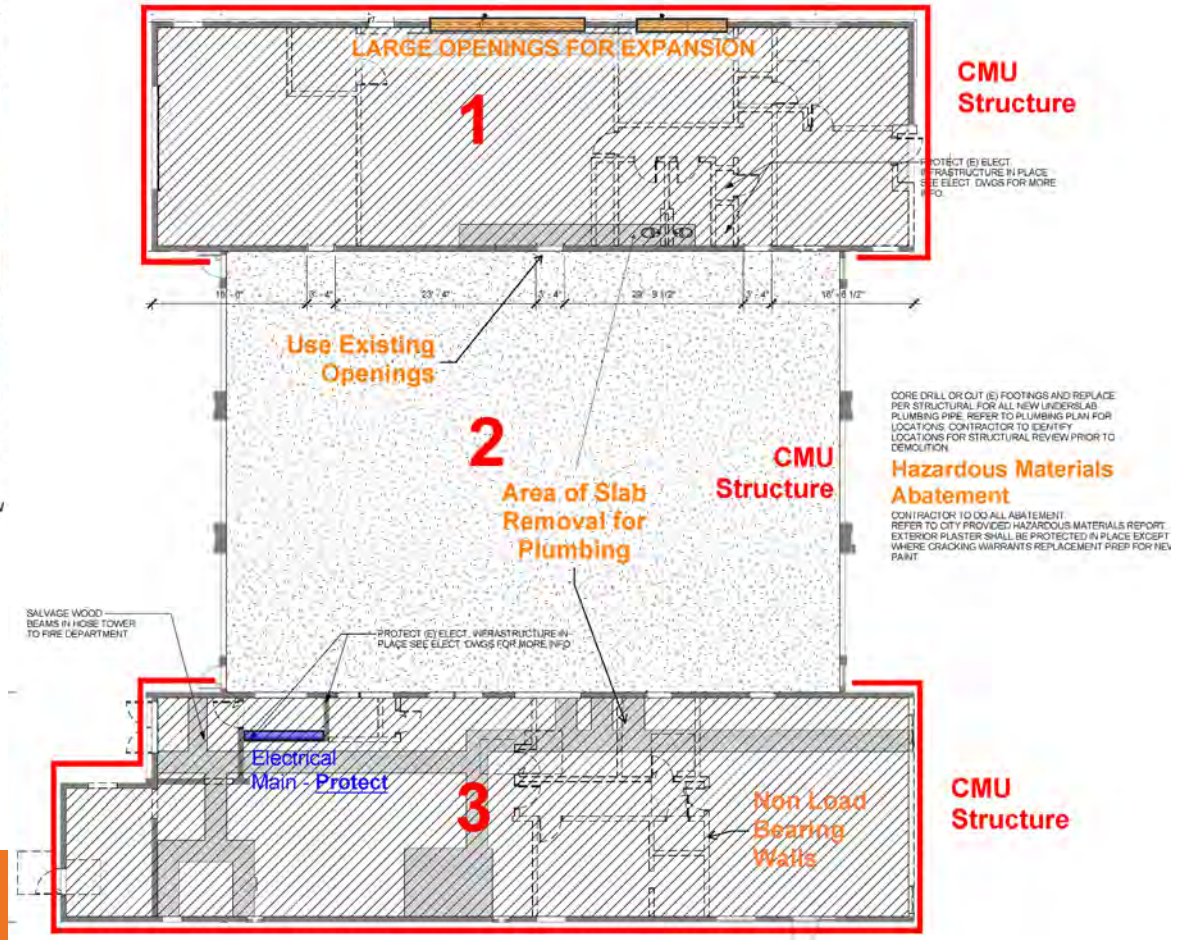
SITE PLAN

TOWER DEMOLITION NOTES

A REMOVE TOWER AND LOUVERS ABOVE SMOOTH BLOCK

B REMOVE TOWER ABOVE LEVEL OF APP BAY PARAPET. CHIP OFF FACE OF EXISTING FLUTED BLOCK OR REPLACE WITH NEW TO BE FLUSH WITH EXISTING CMU. PREP FOR NEW ROOFING

NOTE:
SALVAGE WOOD BEAMS FROM HOSE TOWER TO FIRE DEPARTMENT



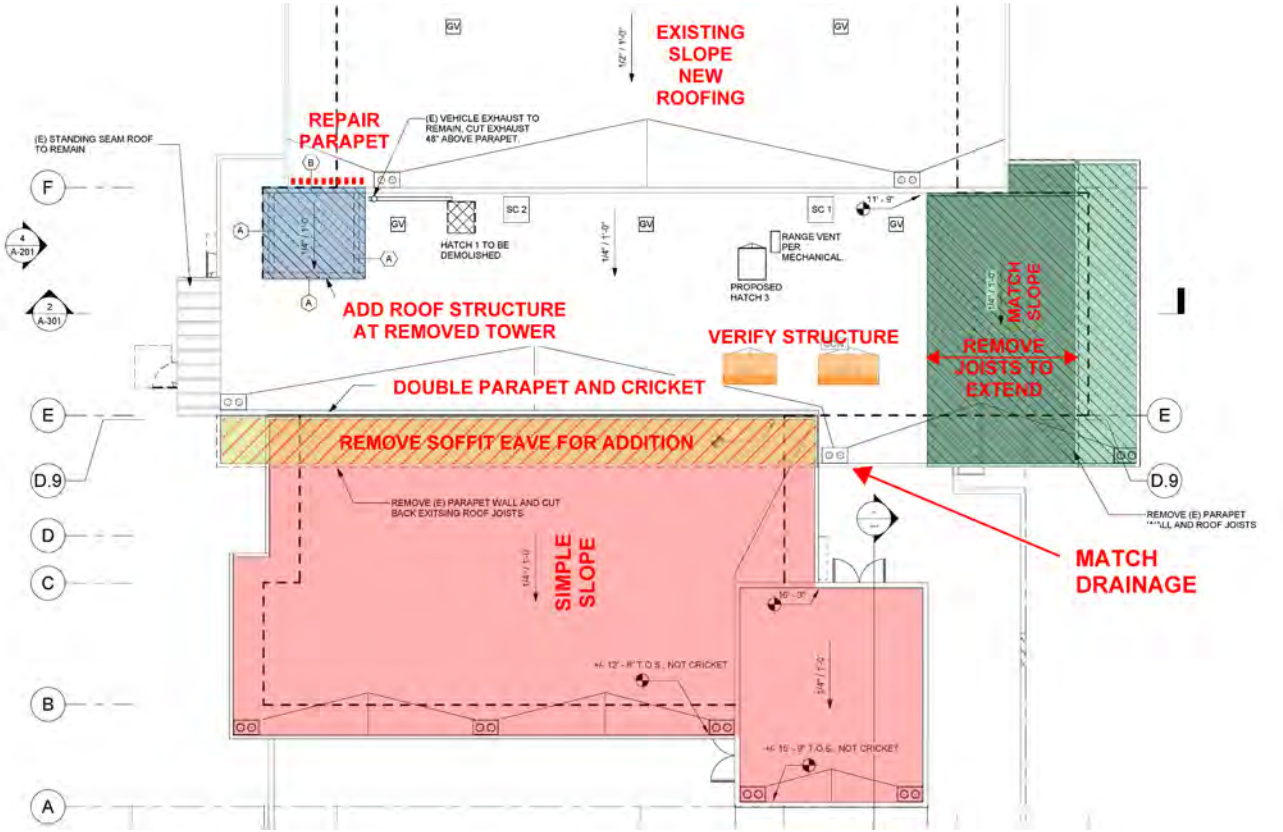
Sanger Fire Station

DEMO PLAN

SECTION

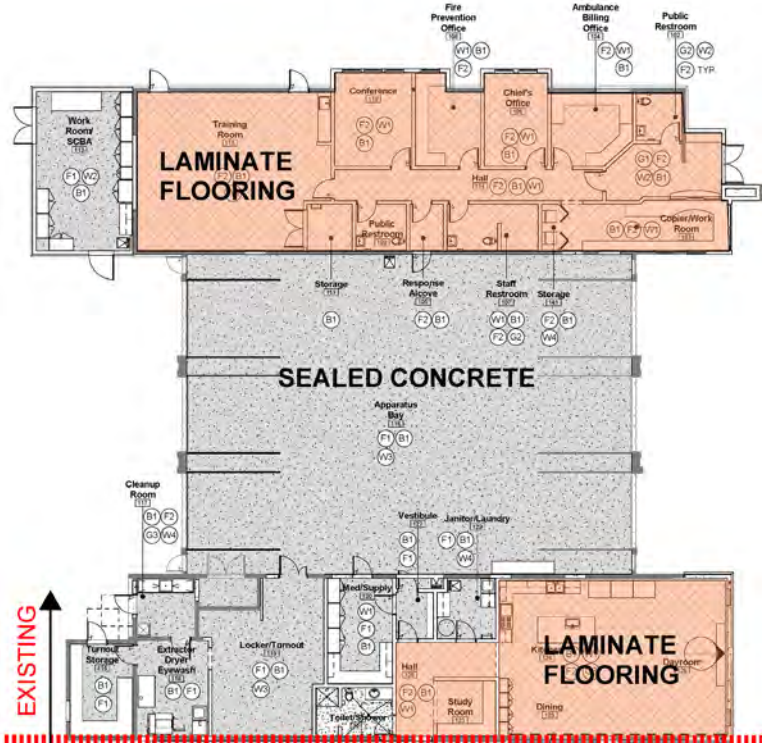
Sanger Fire Station

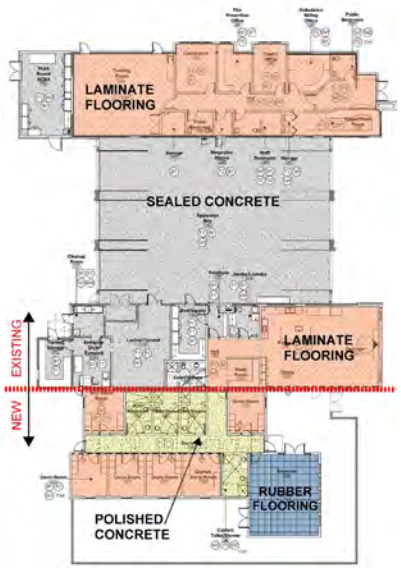
ADDITION

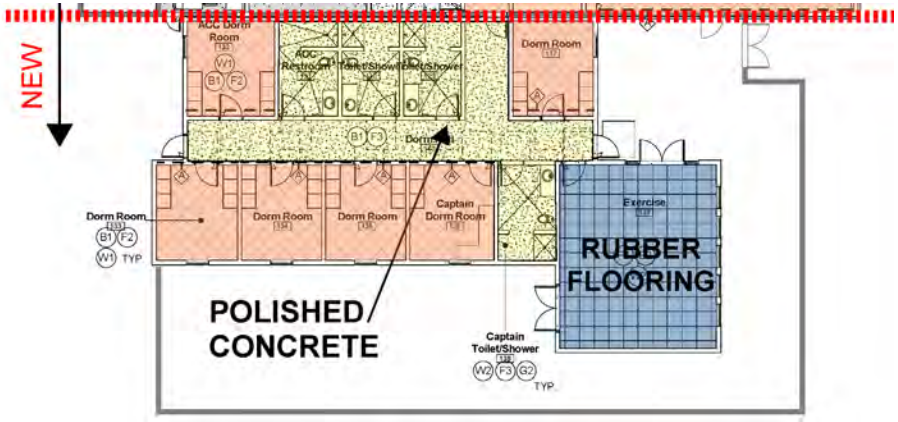


Sanger Fire Station

ROOF PLAN

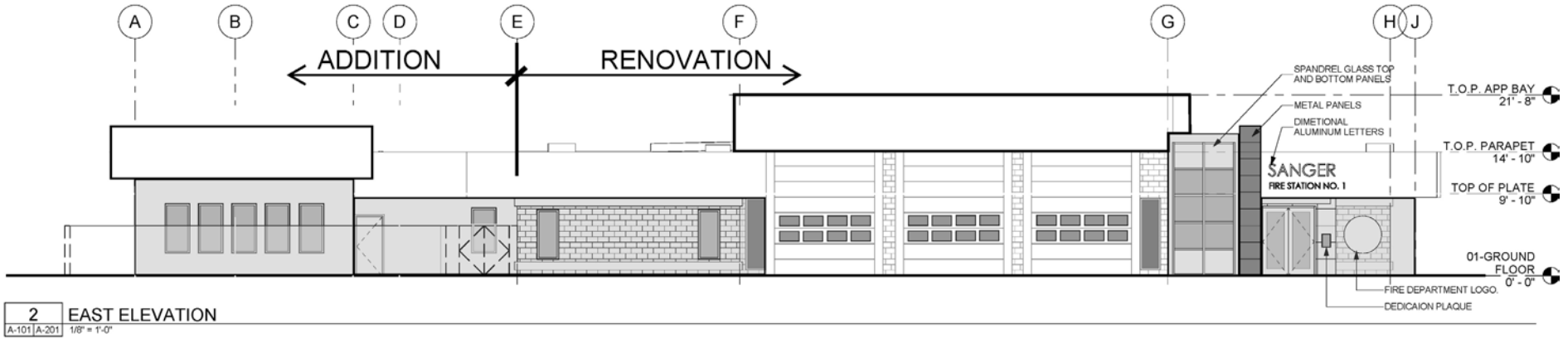






Sanger Fire Station

FINISH PLAN



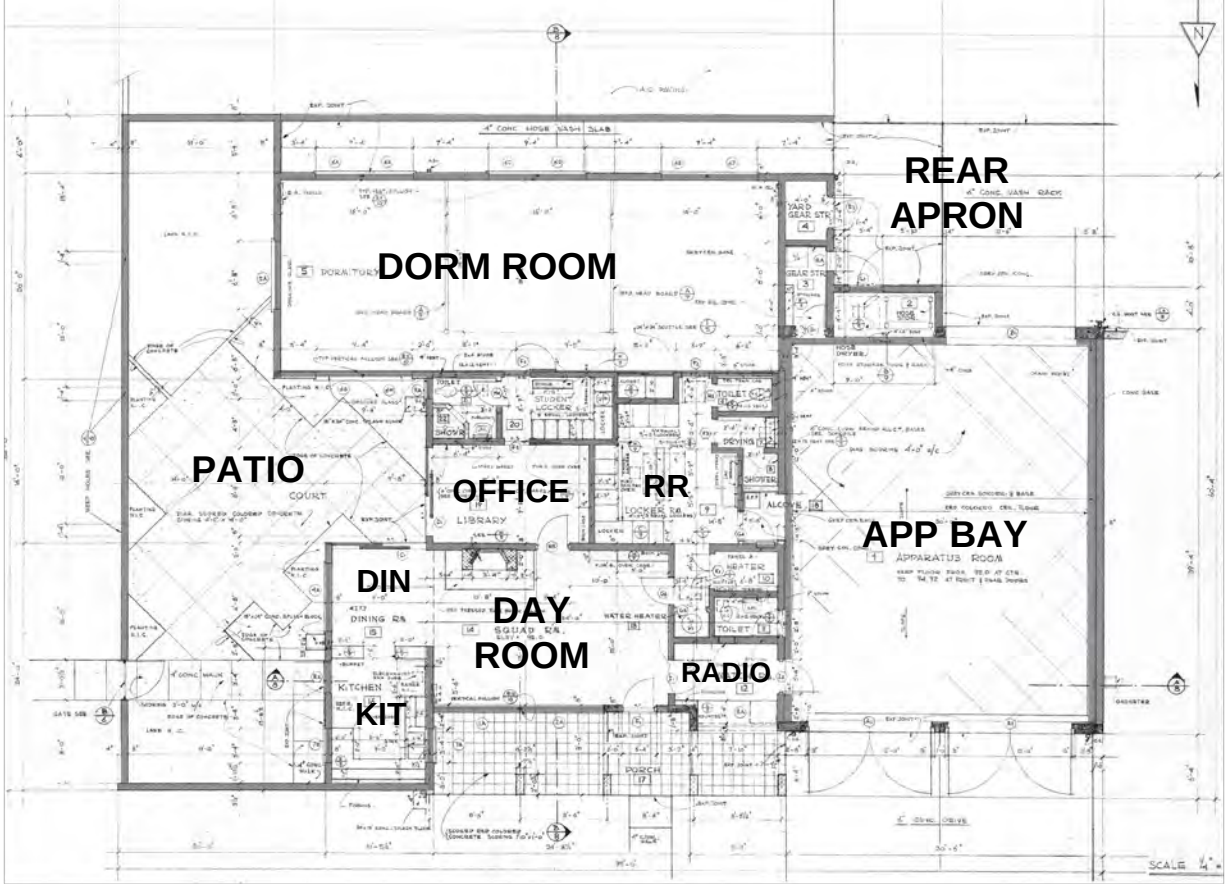
Sanger Fire Station

ELEVAIONS

Sanger Fire Station

RENDERING

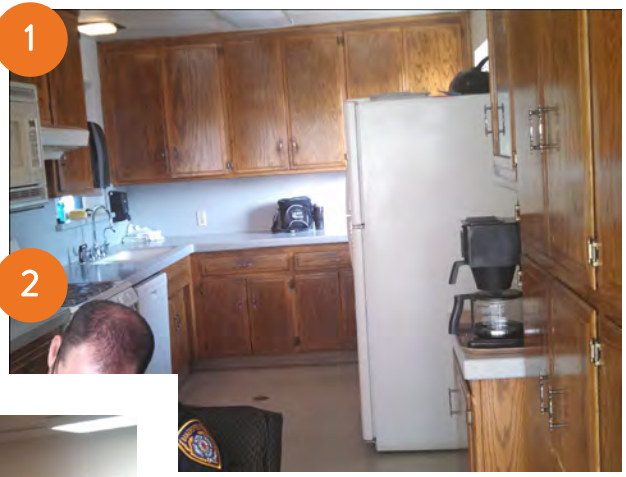
CASE STUDY: BAKERSFIELD FIRE STATION 8

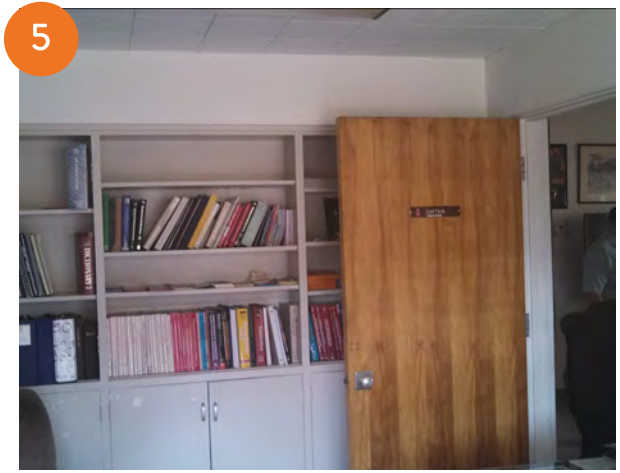


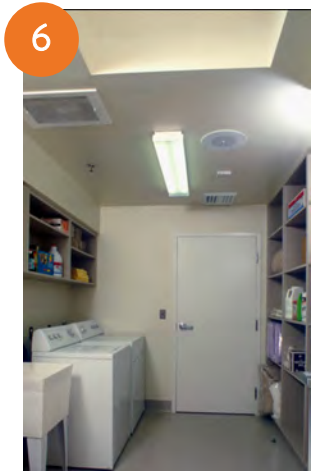
Bakersfield Fire Station No. 8

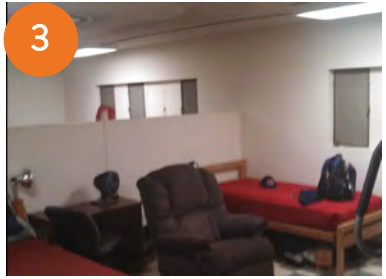
EXISTING PLAN

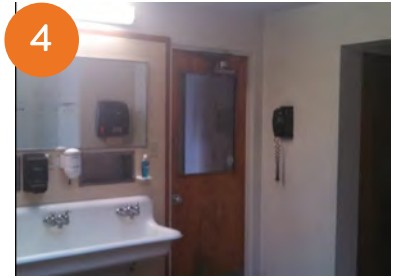
EXISTING INTERIOR

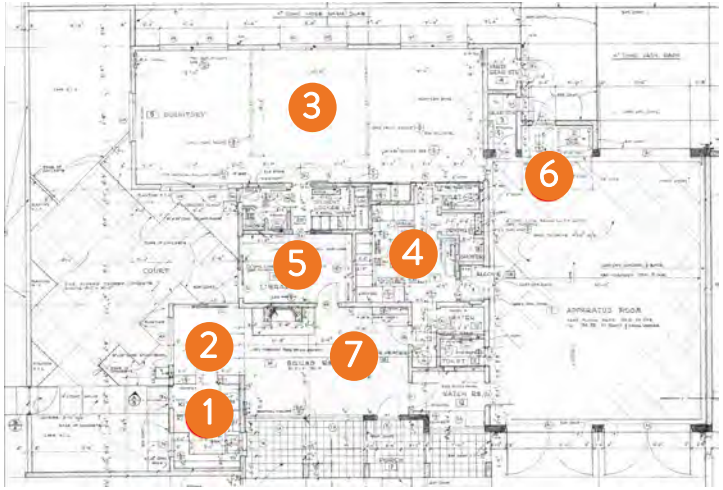


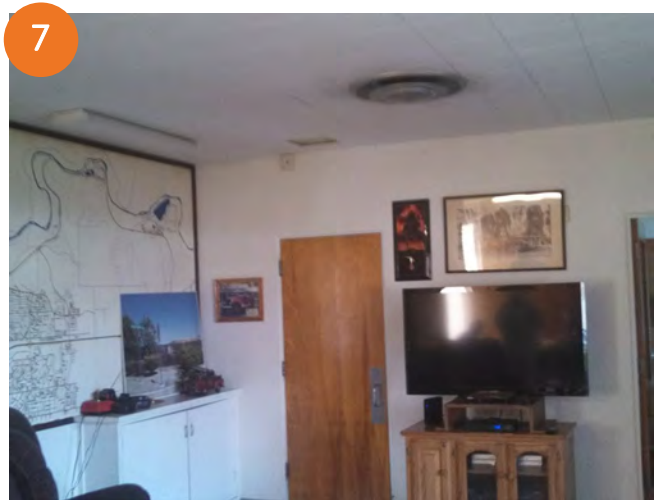




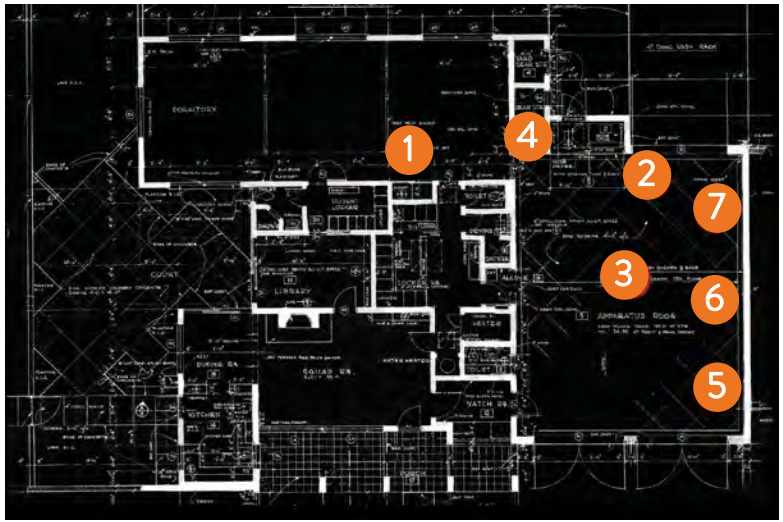


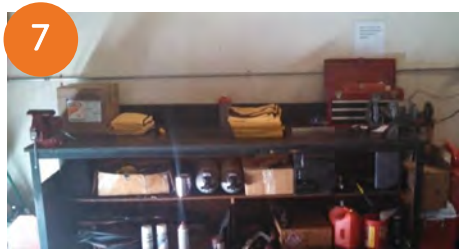


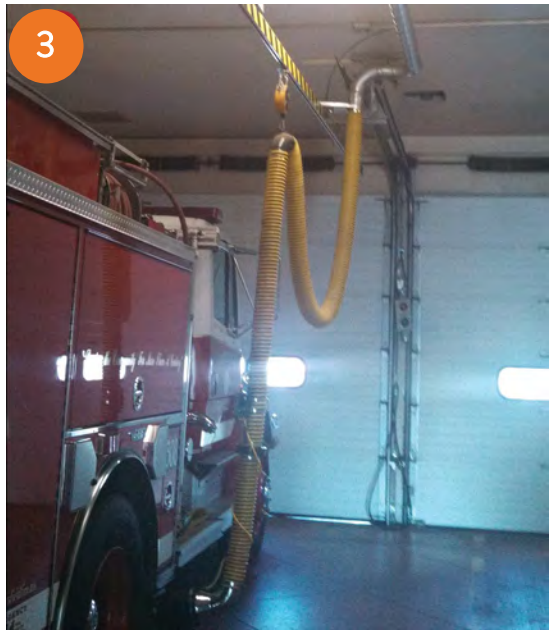


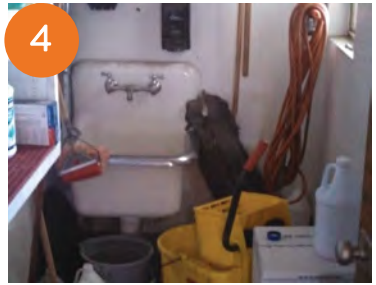


EXISTING APP BAY



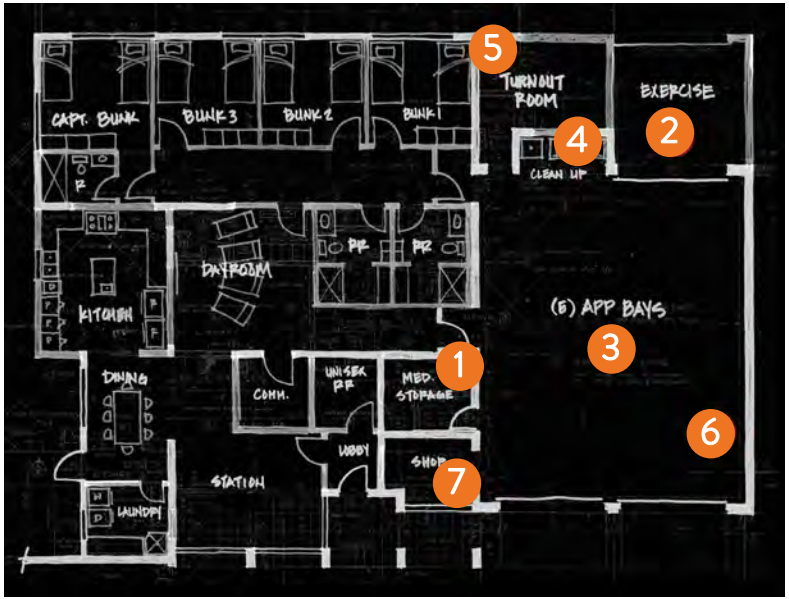






STATION GOALS

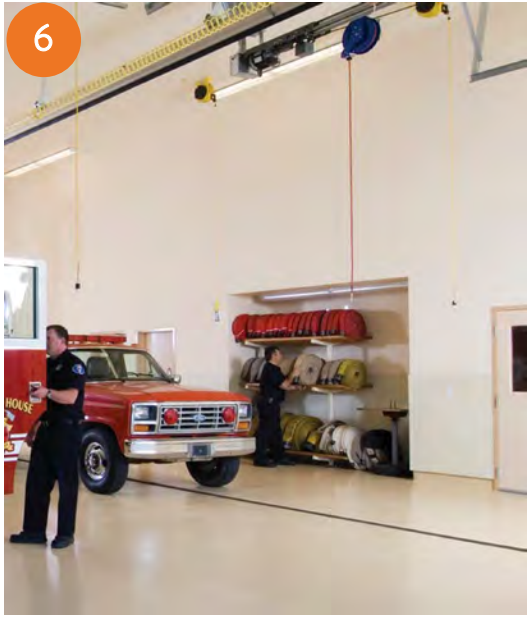
- Dorm Room to Private Bunk Room
- Restroom to be Private
- Expand Kitchen Dining Day Area
- Add Separate Exercise
- Separate Turnout Storage
- Add Decon Area


CAPT. BUNK
BUNK 3
BUNK 2
BUNK 1
TURNOUT ROOM
CLEAN UP
EXERCISE
BATHROOM
PR
PR
KITCHEN
(5) APP BAYS
DINING
COMM.
UNISEX PR
MED. STORAGE
LOBBY
SHOP
STATION
LAUNDRY
1
2
3
4
5
6
7


1


2


5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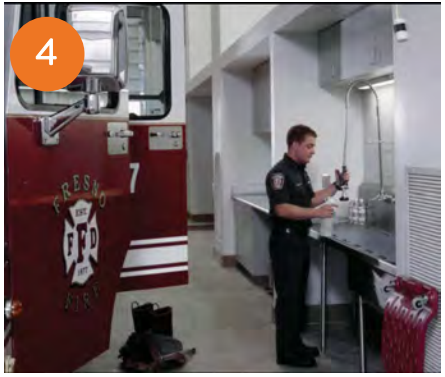
3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7


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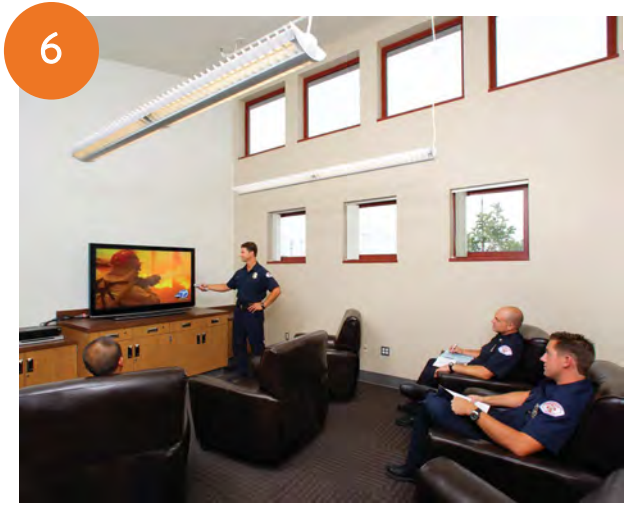
6


2
CAPT. BUNK
BUNK 3
BUNK 2
BUNK 1
TURNOUT ROOM
EXERCISE
CLEAN UP
BATHROOM
6
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PR
3
KITCHEN
1
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DINING
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LOBBY
SHOP
STATION
4
LAUNDRY
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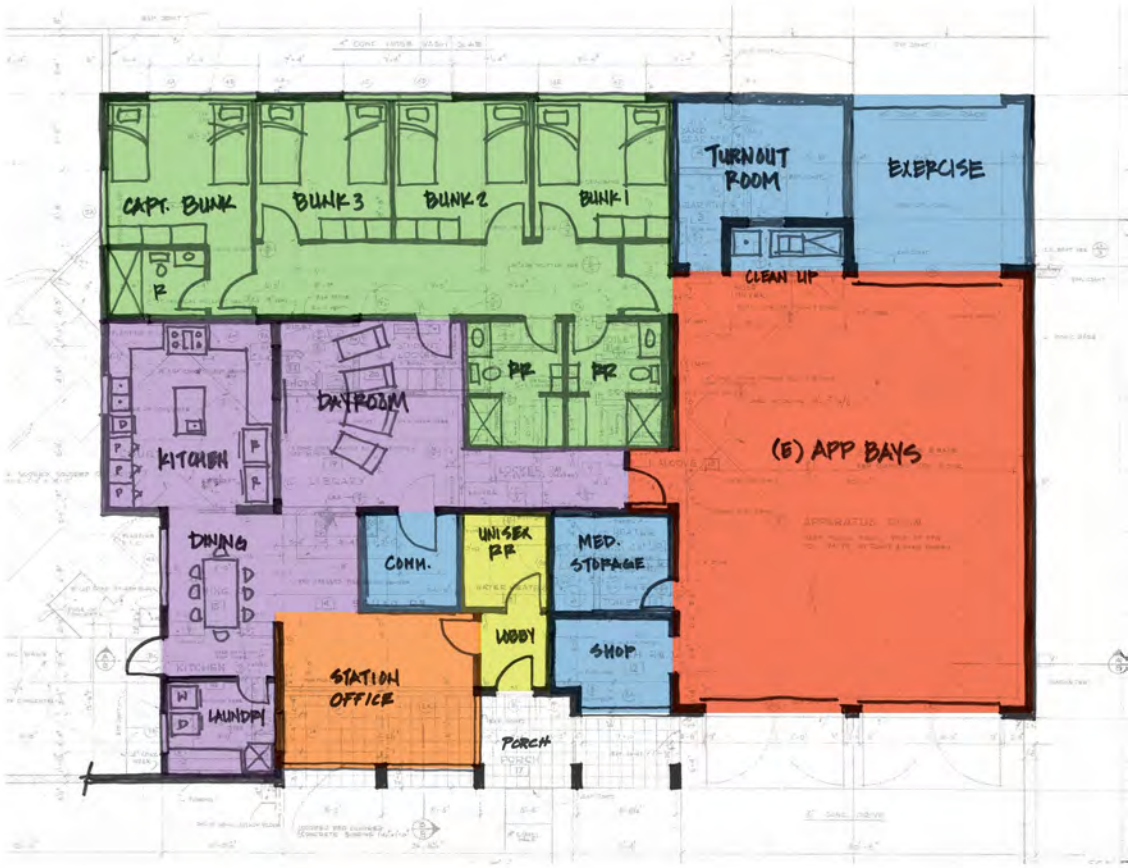
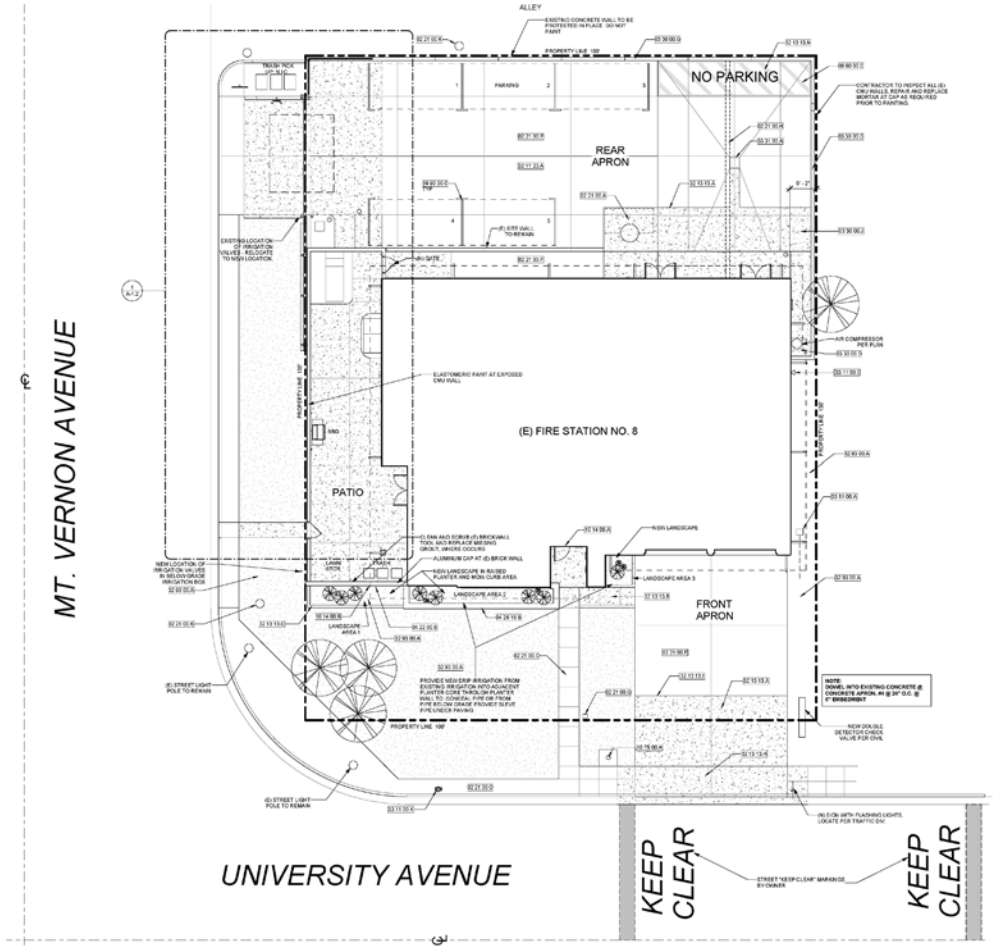


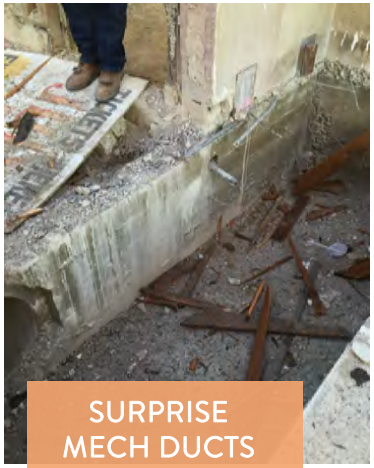
Bakersfield Fire Station No. 8

CONCEPT PLAN

SITE


FIRE STATION Nº8


MT. VERNON AVENUE
UNIVERSITY AVENUE
ALLEY
NO PARKING
REAR APRON
(E) FIRE STATION NO. 8
PATIO
FRONT APRON
KEEP CLEAR
KEEP CLEAR



SURPRISE
MECH DUCTS

POLISHED
CONCRETE

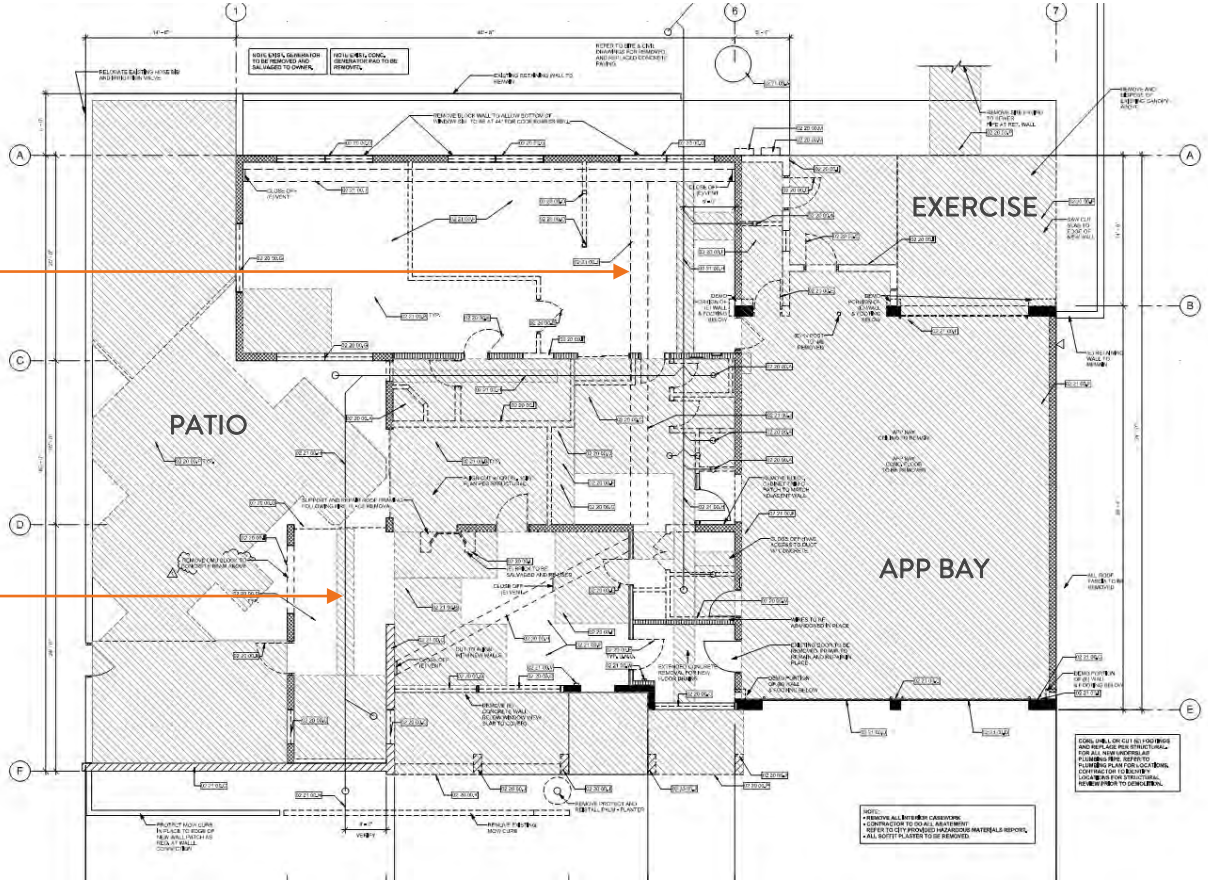
REMOVE/REPAIR
CONC SLAB

SAWCUT FOR
PLUMBING

FLOORS

UNDER SLAB DUCT

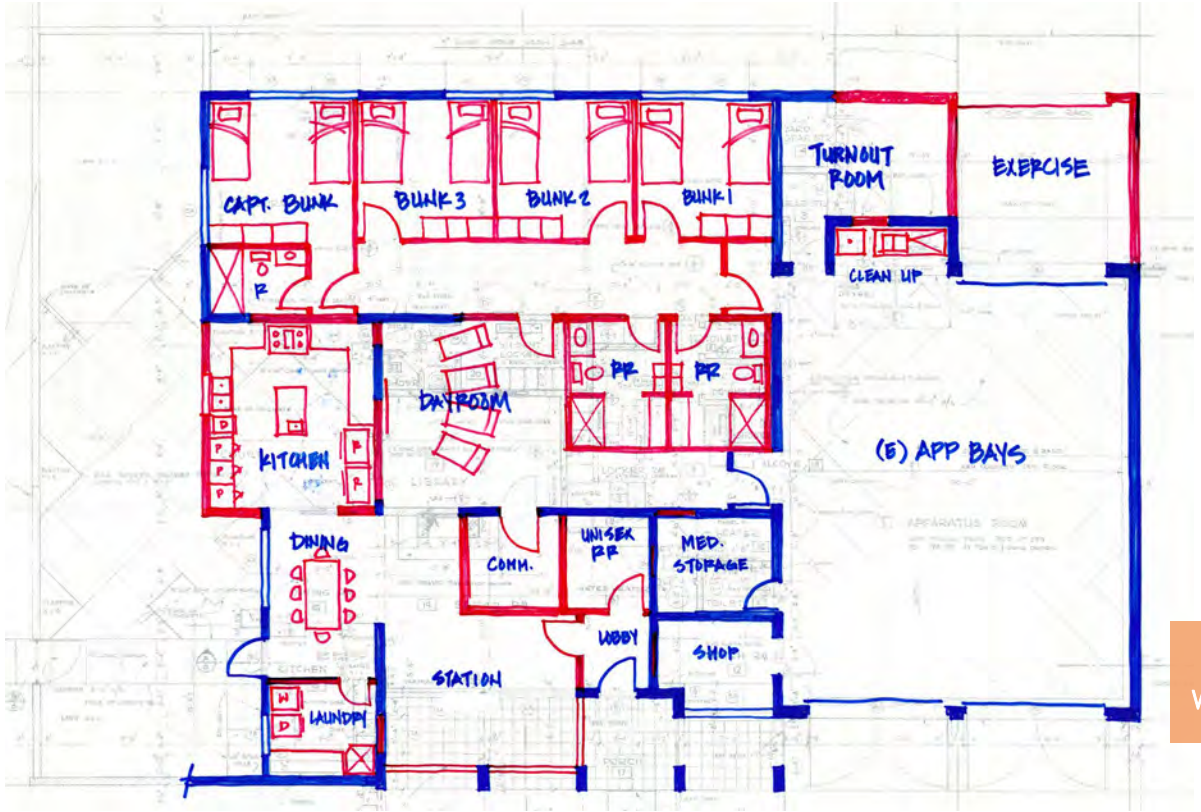
KITCHEN SEWER



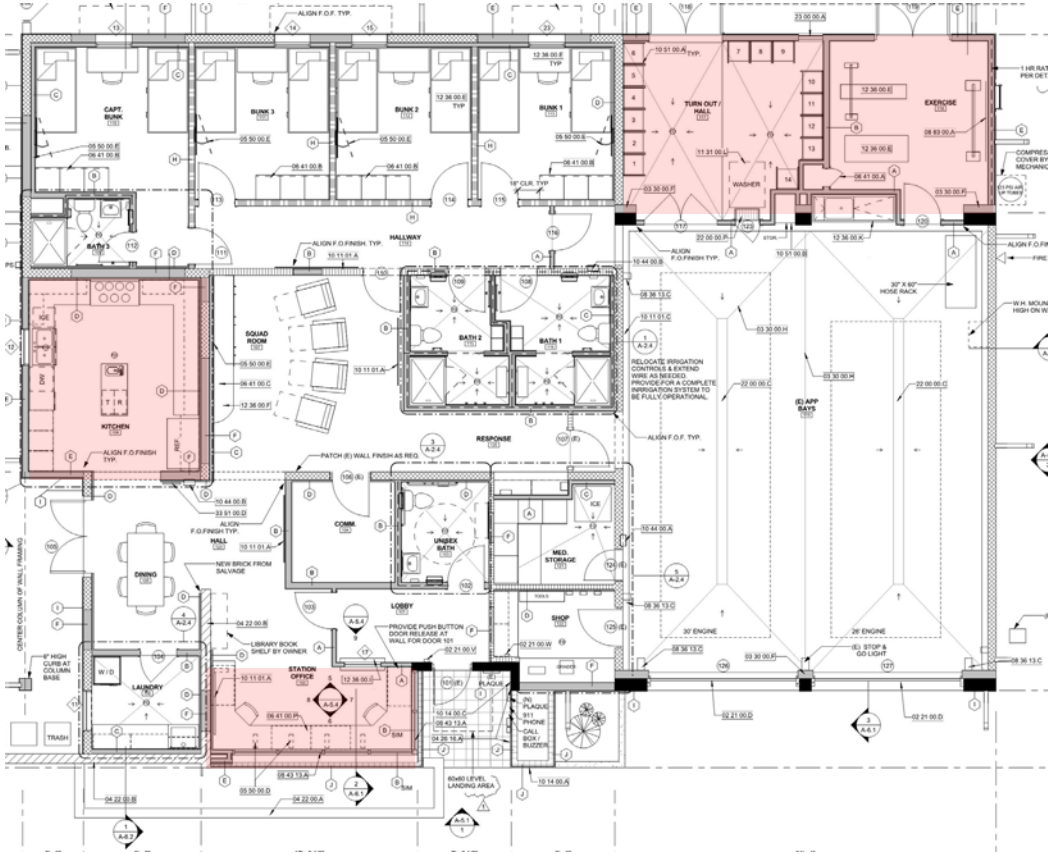
Bakersfield Fire Station No. 8

SLAB DEMO PLAN

WALLS



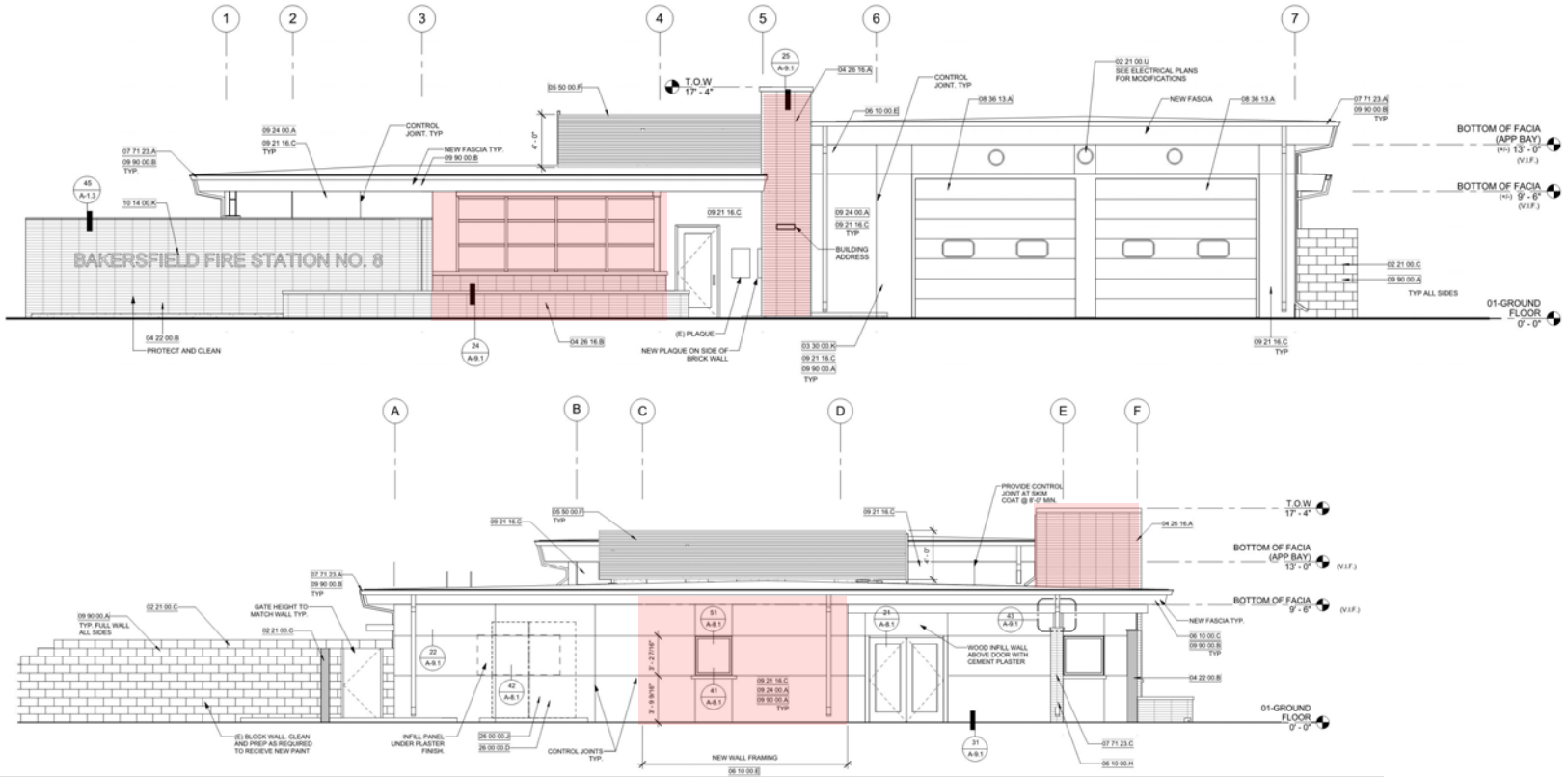
ANALYSIS OF EXISTING WALLS AND NEW WALLS



Bakersfield Fire Station No. 8

PLAN

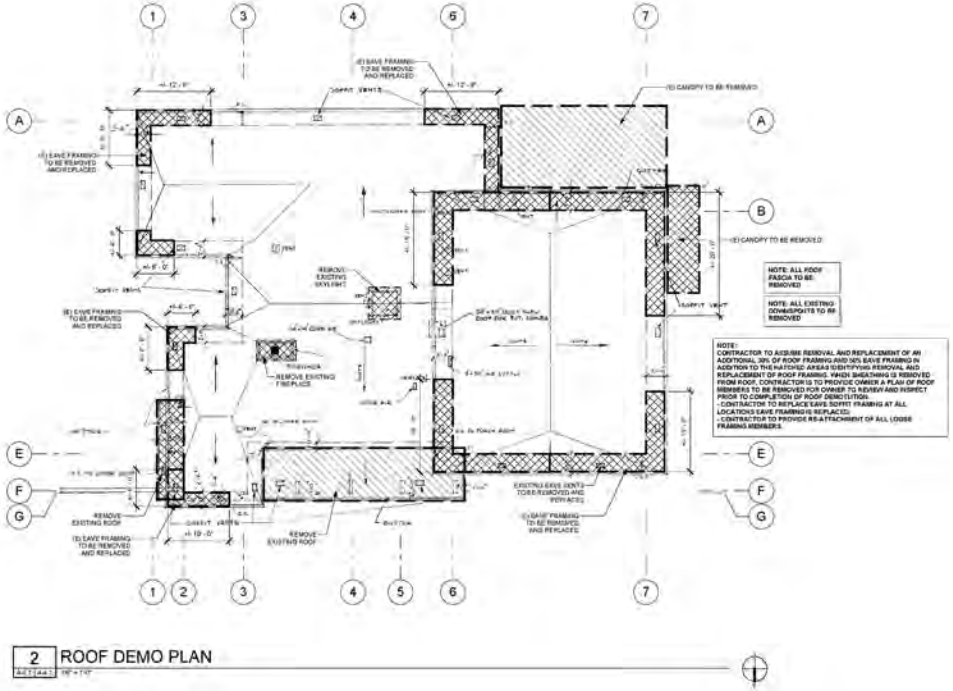
OPENINGS



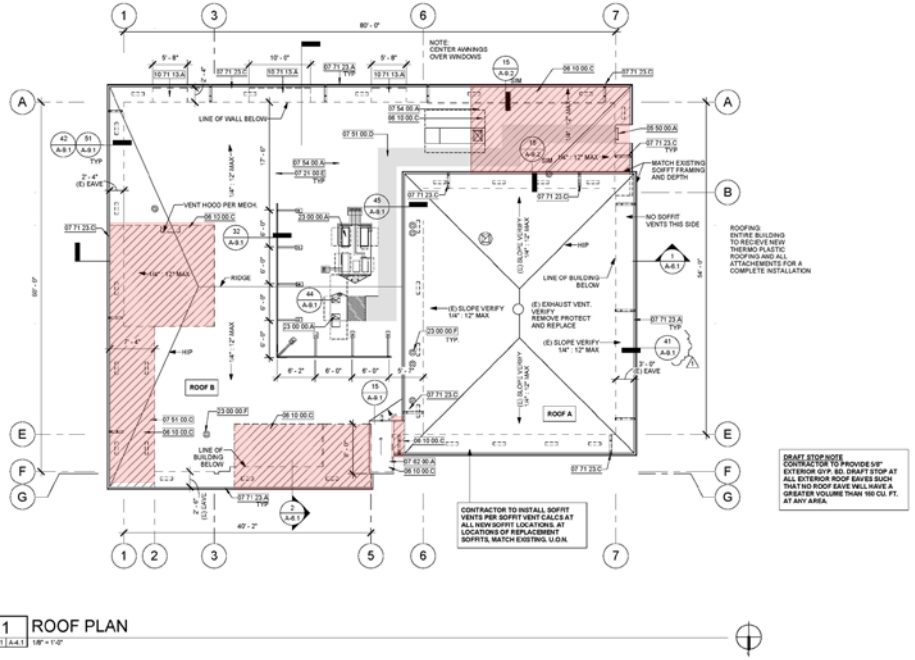
Bakersfield Fire Station No. 8

ELEVATIONS

ROOF



2 ROOF DEMO PLAN



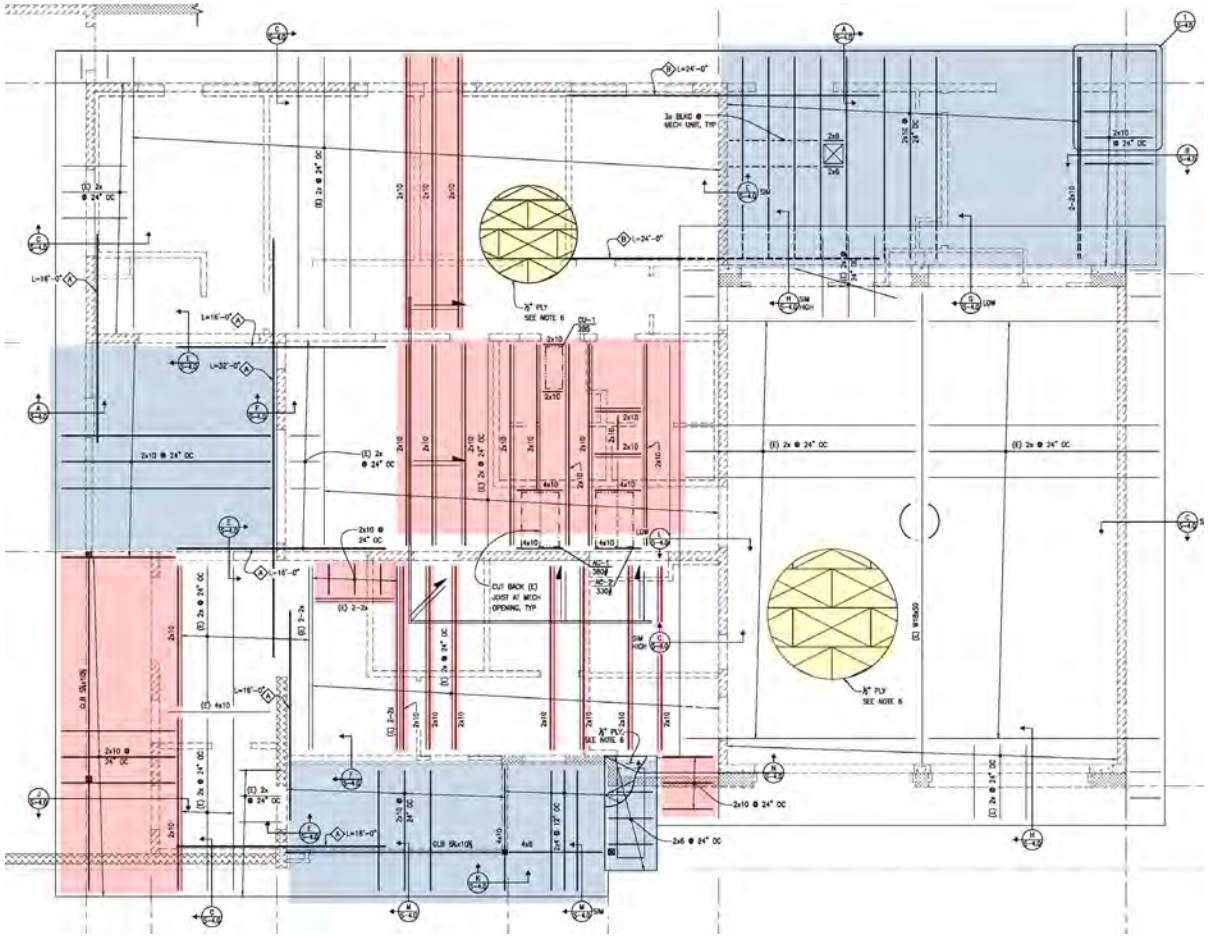
1 ROOF PLAN

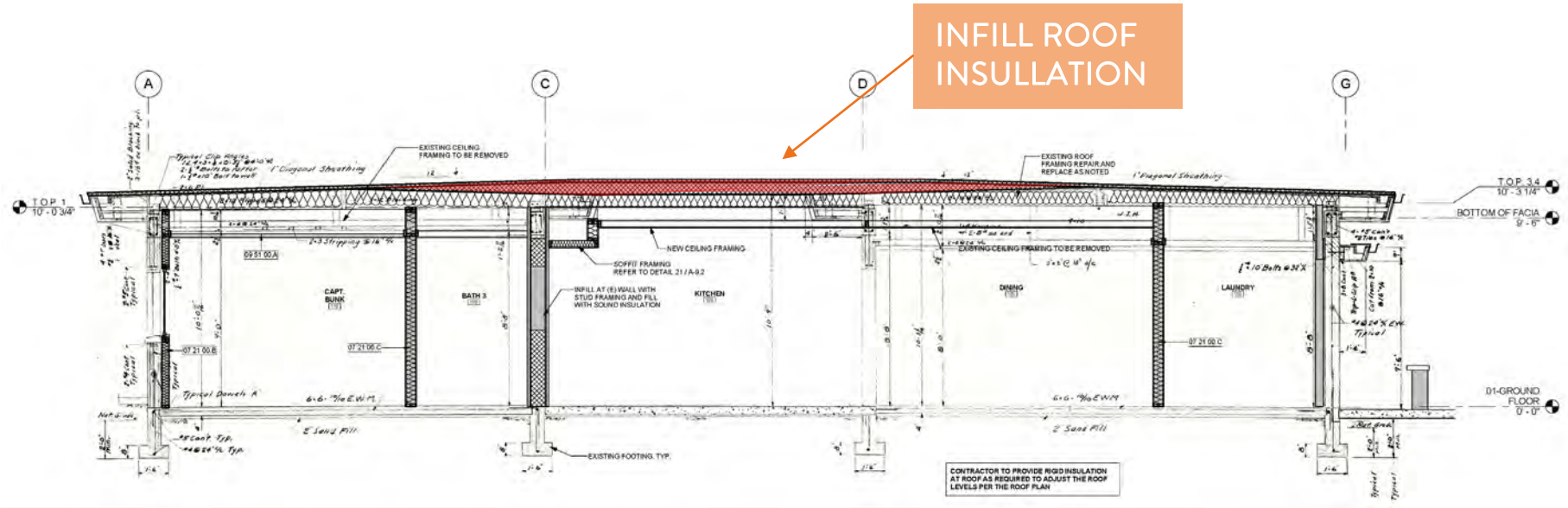
Bakersfield Fire Station No. 8

ROOF PLAN

Bakersfield Fire Station No. 8

STRUCTURE





Bakersfield Fire Station No. 8

SECTIONS

MECHANICAL

ELECTRICAL PANEL IN WALL

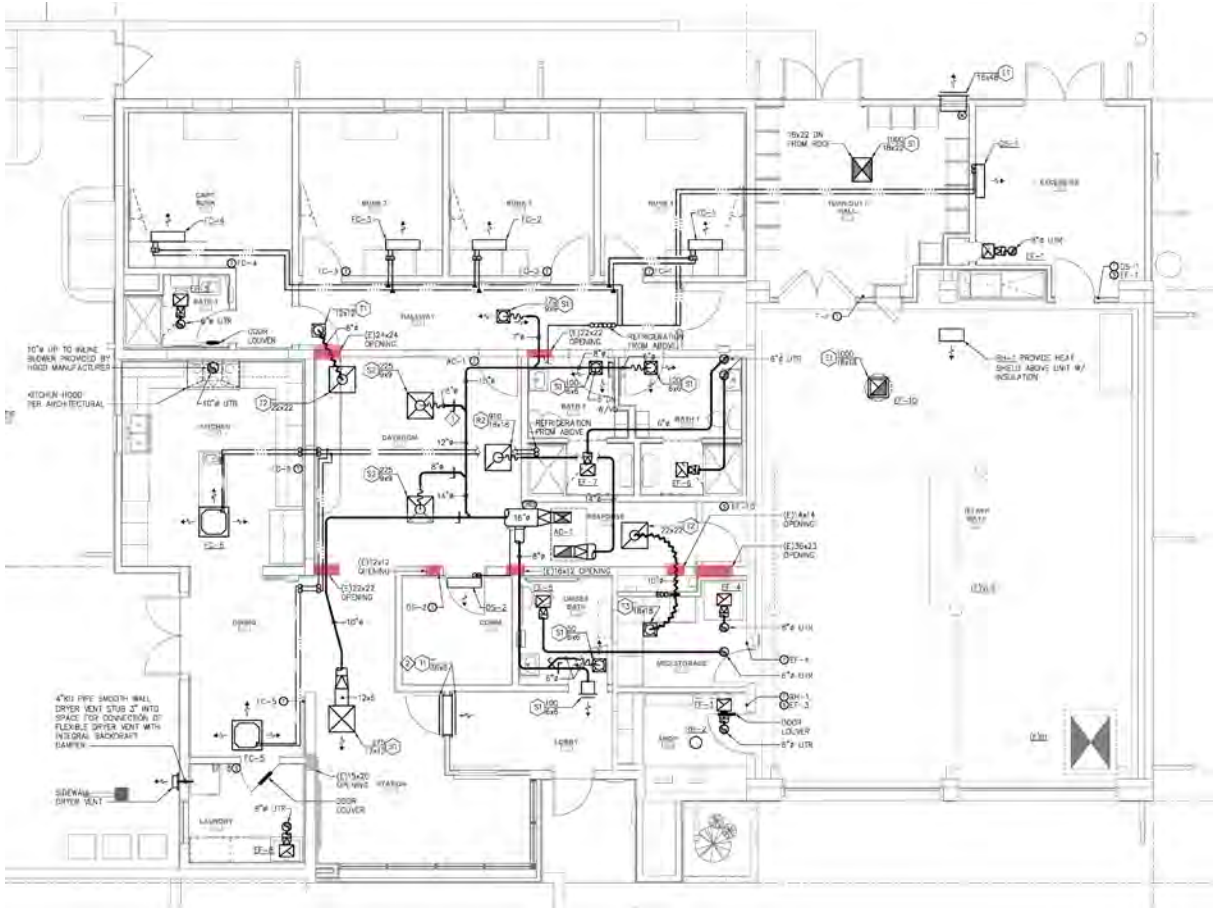
DUCT OPENINGS

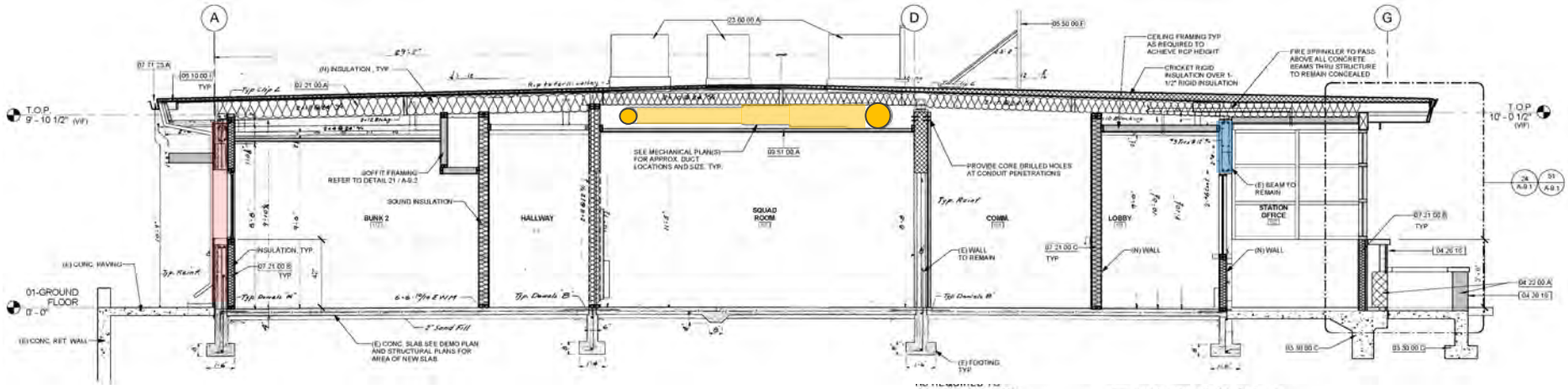
PLUMBING PIPING ON WALL

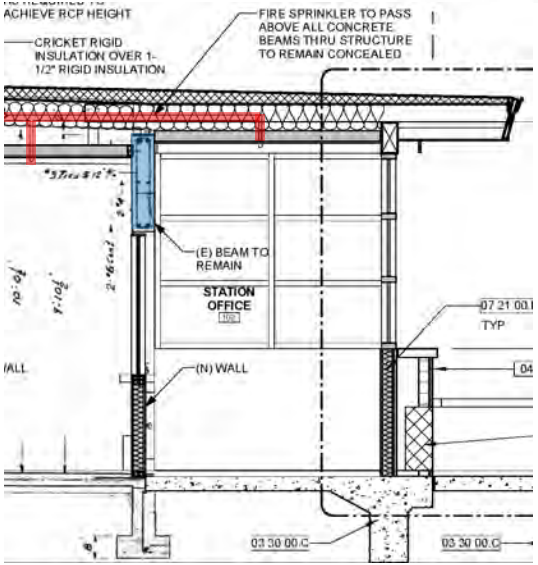
BEAMS TO AVOID

Bakersfield Fire Station No. 8

MECHANICAL



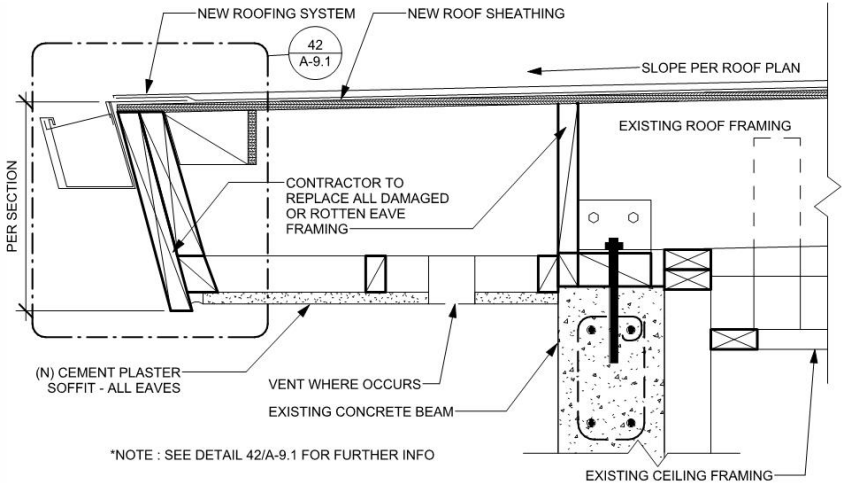




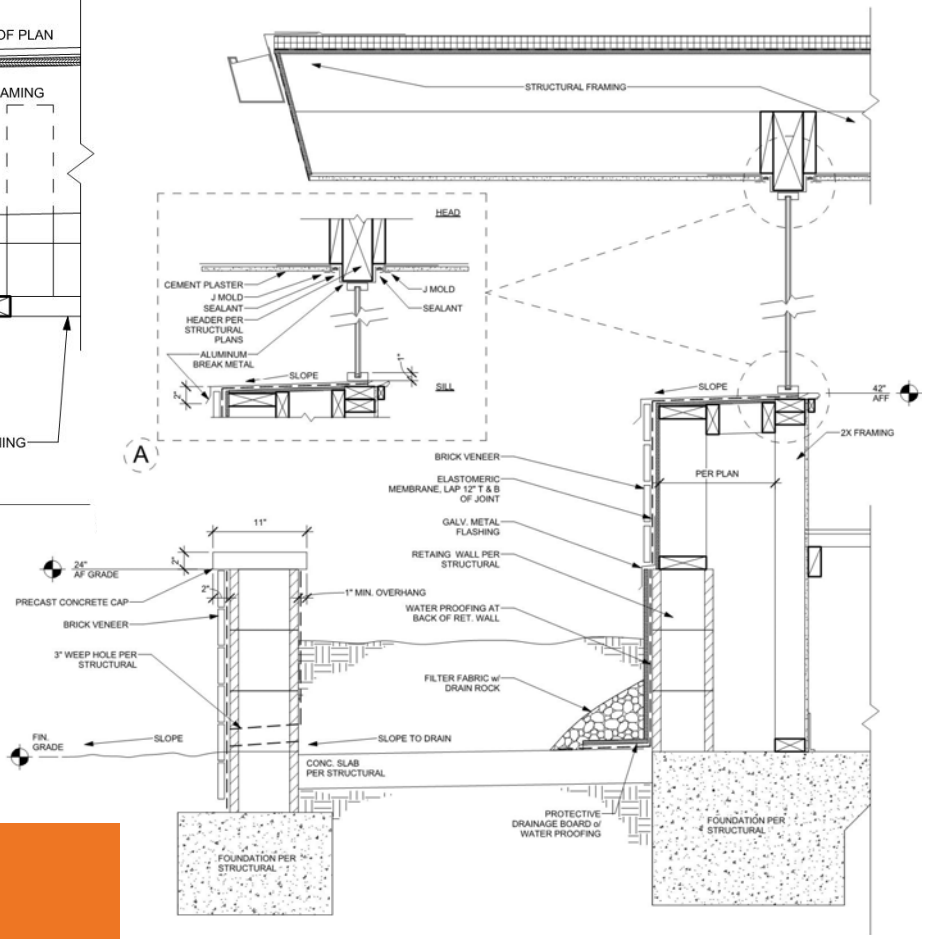
Bakersfield Fire Station No. 8

SECTIONS

EXTERIOR DETAILS



51 TYPICAL EAVE
A-4.1 | A-9.1
1 1/2" = 1'-0"



Bakersfield Fire Station No. 8

SPECIAL DETAILS

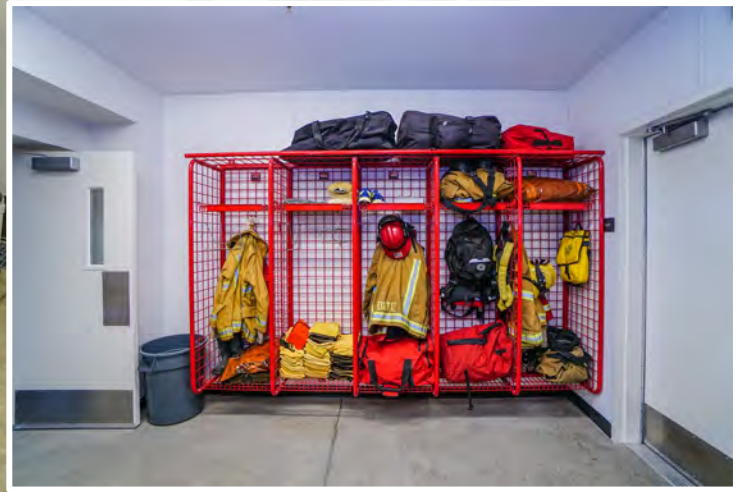
FINAL IMAGES: BAKERSFIELD FIRE STATION 8

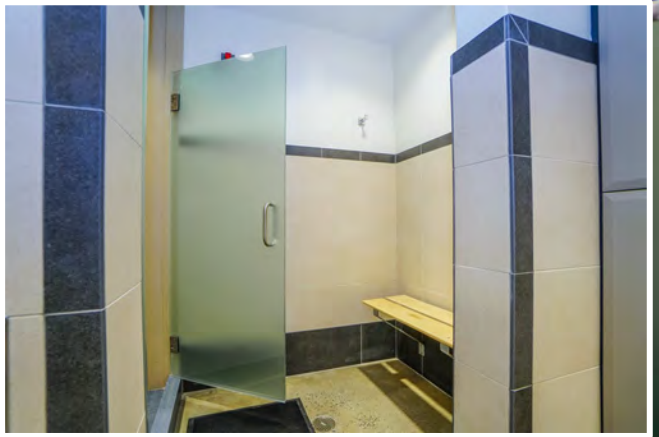

BAKERSFIELD
FIRE DEPT.


BAKERSFIELD
FIRE DEPT.
CLASS 2


EMERGENCY
CALL 911
FIRE
POLICE
MEDICAL


Ortz






FIRE STATION Nº8


Duty

THANK YOU!