

AD01.3 Assessment for Community Development Services -
535 J Street, Los Banos



HAMMOND+PLAYLE
ARCHITECTS, LLP

August 14, 2024

Stacy Souza Elms, Director
Community and Economic Development Department
City of Los Banos
520 J Street
Los Banos, CA 93635

Re: Assessment for Community Development Services Center, 535 J Street, City of Los Banos, CA

Dear Stacy,

This is the assessment of redeveloping the existing site and building located at 535 J Street into the new home for the Community Development Services Center of the City of Los Banos. The former uses include as a bank, and more recently as police annex space. The building is a classic midcentury modern design, contributing to the aesthetic of downtown Los Banos. Included and attached to this letter are the following:

- Existing Site Plan, dated 8/14/24
- Proposed Site Plan, dated 8/14/24
- Existing Floor Plans, dated 8/14/24
- Proposed Floor Plans, dated 8/14/24
- Existing and Proposed Roof Plans, dated 8/14/24
- Budget-level Cost Estimate, dated 8/14/24
- Structural Engineering Investigation Report, dated 8/6/24

Vault

The vault is constructed of concrete masonry unit CMU walls with a concrete lid at both the first and second levels. The vault is providing vertical support for the second-floor framing and does not appear to be supporting the roof structure. This means it can be removed, however a demolition, shoring, and reframing plan to remove it is required. Also, new joists, beams, columns and footings would need to be constructed to replace the floor supports lost to the demolition of the vault. New stairs would likely be required at this end of the building, especially as relates to removal of the vault. The estimated cost of the demolition of the vault and replacement of framing, etc. is \$150,000.

Building Assessment

Formerly the building served as a bank. After an extensive search, the City advises there are no as-built drawings available, therefore this assessment is based on several field visits to collect information, most recently on 6/13/24 and 6/27/24. A prior hazmat assessment was conducted by the City and a "soft" demolition performed which abated asbestos and removed all wall coverings down to wood stud. The building comprises 4,658 sf on the First Floor and 4,664 sf on the Second Floor, for a total of 9,322 sf. This includes a single story shed "wing" 364 sf in area and which is substandard construction, and is recommended for demolition. With the shed removed, the First Floor is 4,294 sf and the overall building is 8,958 sf.

The soft demo exposed all framing and exterior walls to view, uncovering existing unreinforced masonry URM walls. The URM is no longer an acceptable building material due to high earthquake hazard and requires removal or reinforcement in any reuse of this building. The least cost method of reinforcement is to attach pins, reinforcing bar, and apply pneumatically applied concrete (aka "shotcrete") to a depth of 3"- 4" on the inside of the building. This shotcrete requires new footings, or extensions to the existing ones, for support and transmittal of forces to ground.

Overall, the building lays out well for the intended use as a Community Development Services Center as shown on the attached plans. There is only minor loss of functionality due to accommodating existing conditions compared to a new build. These plans reflect input from the City so far, but will require further City design review, including by the Building Official to review code issues there may be. Once that further review occurs, and the plans will be revised (see under Next Steps below), and used as the basis for moving forward. Due to the added cost of removing the vault and replacing it with floor framing, the proposed plan shows keeping it for now, subject to further discussion with the City. With ventilation and lighting added, it could serve as a small conference room serving the Lobby.

The existing elevator was inaccessible for inspection and will need to be investigated further. The car floor area is likely too small to meet the minimum size requirements of the California Existing Building Code - minimum area of 18 sf, and minimum 48" width, 54" depth. Also the elevator is non-functioning and needs to be evaluated by an elevator technician. For now, we have assumed your building department will provide a waiver on cab size and that it can be successfully modernized and returned to service. If not, it would be necessary to add an elevator with shaft on the exterior of the building, nearby the existing one. Both stairs do not meet current code minimums, and at least one will require reconstruction to meet current egress code.

Base Plans

Base plans have been prepared to conduct this study and form the foundation of the plans included with this assessment. These CAD base plans can be used to proceed with the next level of design. Further field documentation and data will be collected at next field visits, depending on the path forward for project to be determined by City, and the base plans will be updated accordingly.

Probable Cost

The estimated bid day cost including all site and building improvements is \$7,800,000 and with a 10% construction contingency, the end of construction cost is estimated at \$8,600,000. These are construction costs including contingencies, but not soft costs such as testing, inspection, permits, engineering design cost, furnishings, etc.

A Budget-Level Cost Estimate has been prepared, based on preliminary findings including structural remediation to make the building usable, the floor plan layouts shown, and predicted improvements necessary for code compliance, systems, technology, etc. There is extensive structural remediation work required to use the building. This work includes shotcrete reinforcement and foundations needed to remediate URM discovered after the soft demo work was completed, also removal of all existing roofing, re-nailing the existing plywood roof sheathing to form an effective seismic shear diaphragm, and replacement with new roof and insulation. Most of the mechanical, electrical, and data/telcom systems will need to be replaced in their entirety to meet the needs of the Community Development Services Center. New systems will be need to be added such as fire alarm and fire sprinkler.

Since the cost of remodeling of this handsome mid-century building is relatively high, a comparison to its replacement cost is useful. A new construction project of roughly comparable shape, area and form including similar site improvements would cost approximately \$1,800,000, or on order of 15% - 20% more than the remodel cost. This is calculated based on another \$220/sf to build new, including the demolition and removal of the existing building, for a total additional \$2,000,000 rounded.

Next Steps

Based on this assessment, I recommend the following next 10 steps, generally in the order presented.

1. Decide on renovation vs. a new build – note that the following steps assume renovation.
2. Final decision on vault, conduct elevator inspection by service technician.
3. Contract for design and engineering services, prepare project schedule.
4. Meet with Building and Fire Department staff to discuss issues related to code compliance.
5. Proceed with structural URM survey and testing of existing materials and their capacities.
6. Proceed with limited site topographical and utility survey for the site, used for design and included in construction documents.
7. Proceed geotechnical investigation and report, used for design and included with construction documents.
8. Proceed with Schematic Design, approval by City.
9. Proceed with Final Design, approval by City.
10. Proceed with Bidding and Construction.

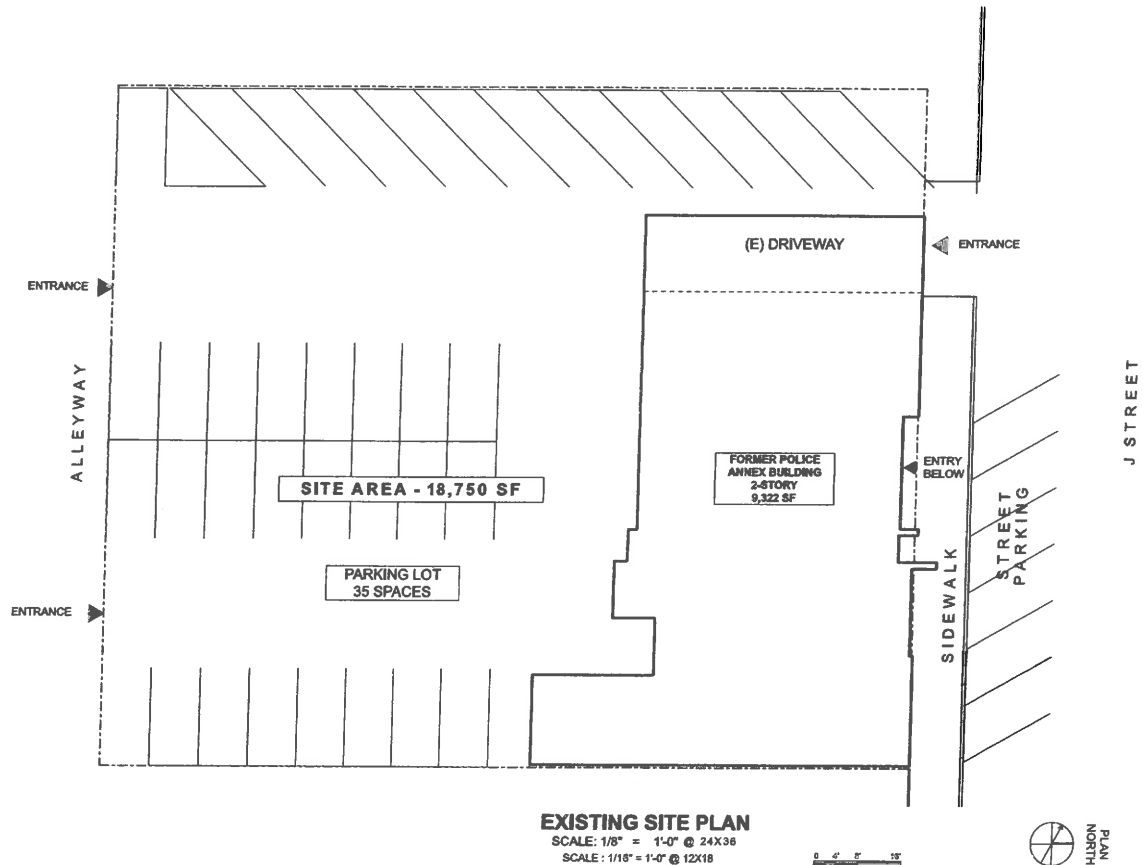
After you have had a chance to review this assessment, particularly in the case you or others have questions, please contact me to discuss.

Sincerely,

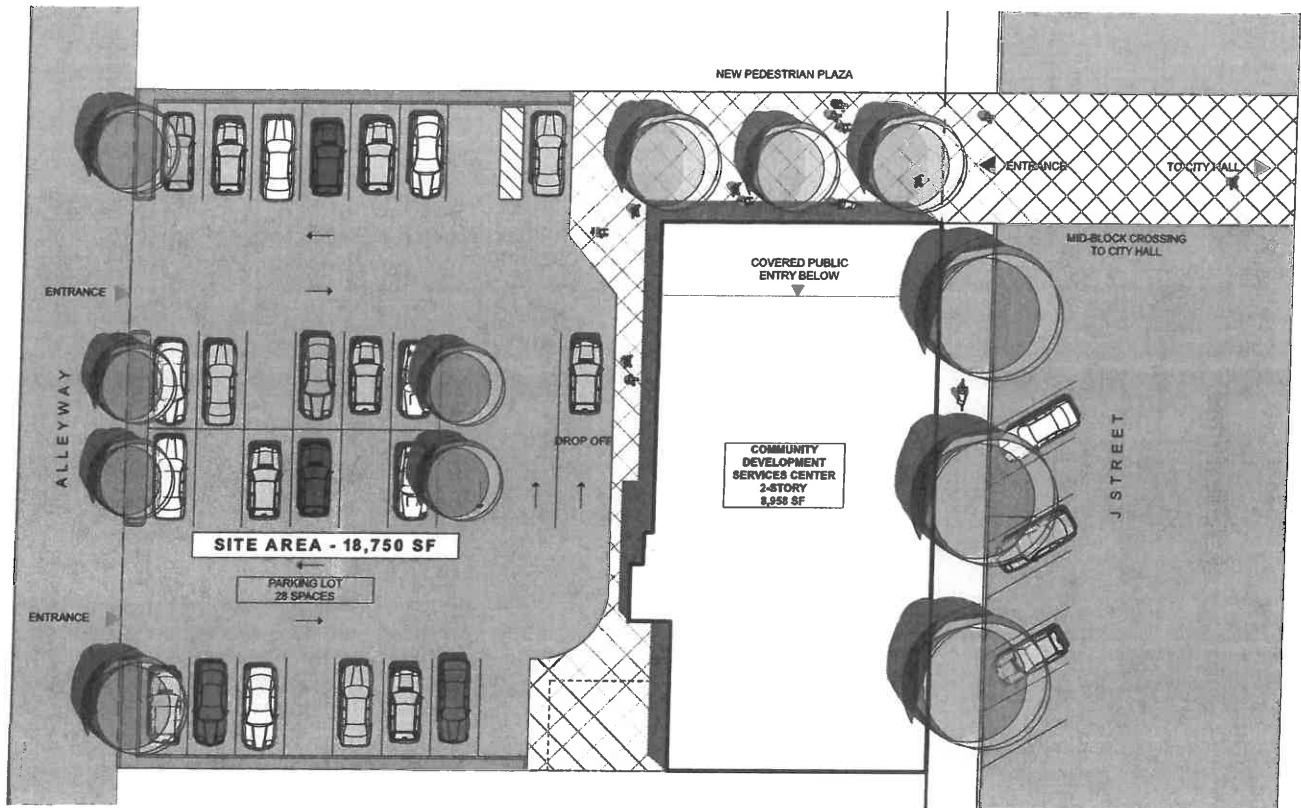


Bruce Playle, AIA
California Architect C15459

attachments



COMMUNITY DEVELOPMENT SERVICES CENTER, CITY OF LOS BANOS
535 J STREET, LOS BANOS, CA
INDIGO | HAMMOND + PLAYLE ARCHITECTS
DRAFT DATE: 8/14/24
SHT 1 OF 5



PROPOSED SITE PLAN

SCALE: 1/8" = 1'-0" @ 24X36

SCALE: 1/16" = 1'-0" @ 12X18

0' 4' 8' 16'



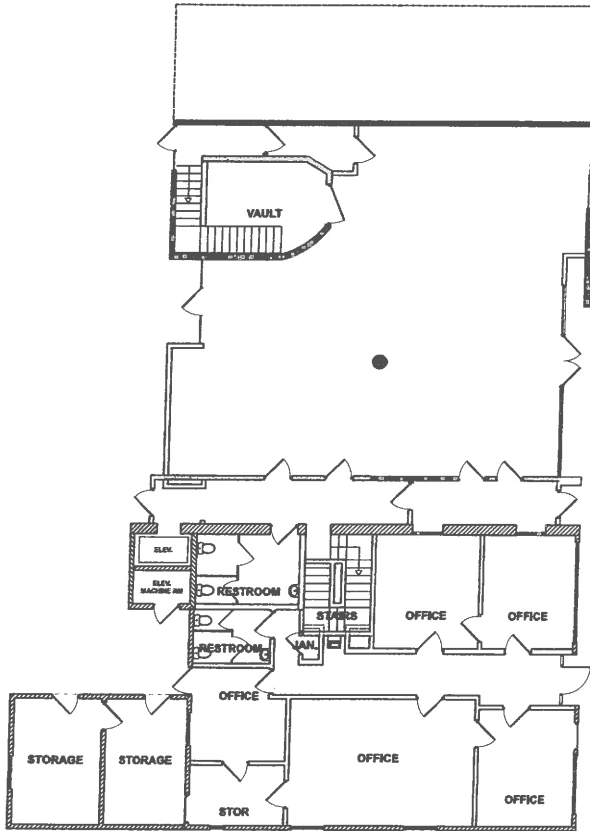
COMMUNITY DEVELOPMENT SERVICES CENTER, CITY OF LOS BANOS

535 J STREET, LOS BANOS, CA

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DRAFT DATE: 8/14/24

SHT 2 OF 5



EXISTING FIRST FLOOR PLAN

SCALE: 3/16" = 1'-0"
SCALE: 3/32" = 1'-0" @ 12X18

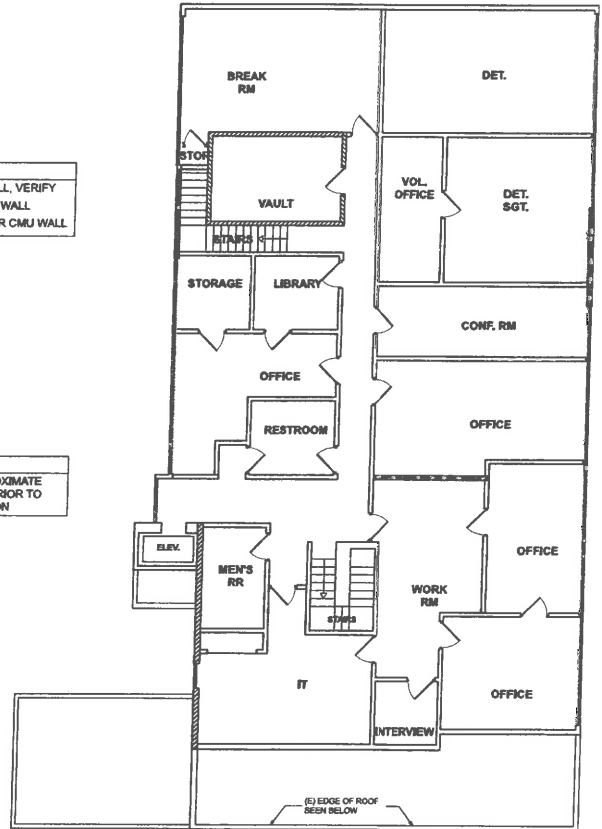
AREA: 4,658 SQ. FT.

0 4' 8' 12'



LEGEND	
	EXISTING URM WALL, VERIFY
	EXISTING FRAMED WALL
	EXISTING CONC. OR CMU WALL

NOTE
PLANS SHOW THE APPROXIMATE
EXISTING CONDITIONS PRIOR TO
HAZMAT SOFT DEMOLITION



EXISTING SECOND FLOOR PLAN

SCALE: 3/16" = 1'-0"
SCALE: 3/32" = 1'-0" @ 12X18

AREA: 4,664 SQ. FT.

0 4' 8' 12'

COMMUNITY DEVELOPMENT SERVICES CENTER, CITY OF LOS BANOS

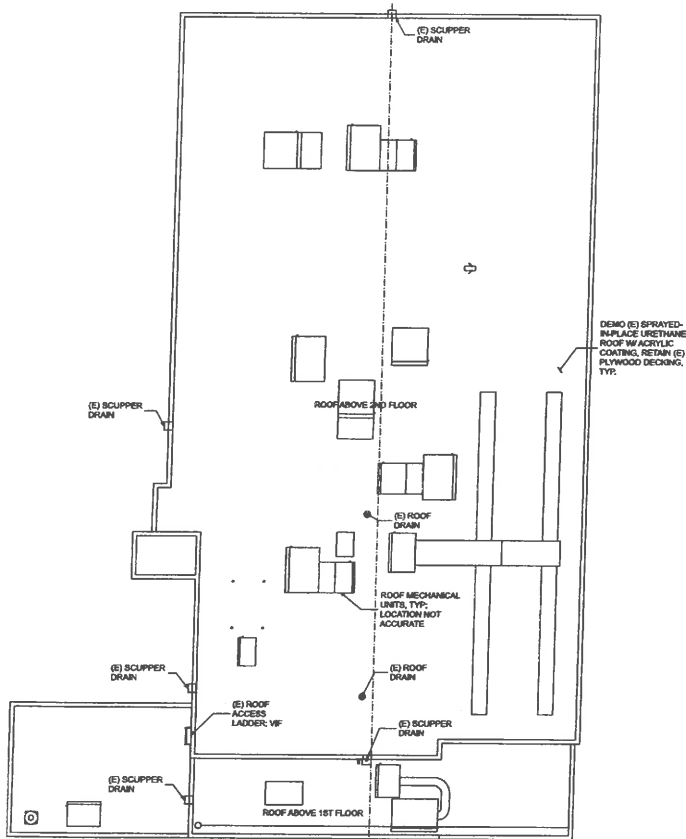
535 J STREET, LOS BANOS, CA

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DRAFT DATE: 8/14/24

SHT 3 OF 5

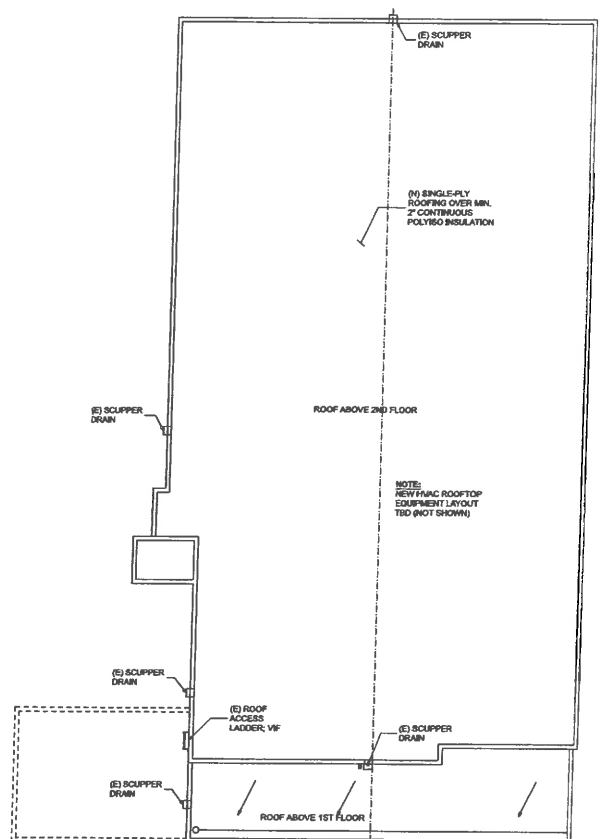




EXISTING ROOF PLAN

SCALE: 3/16" = 1'-0" @ 24X36
SCALE: 3/32" = 1'-0" @ 12X18

0' 4' 8' 12'



PROPOSED ROOF PLAN

SCALE: 3/16" = 1'-0" @ 24X36
SCALE: 3/32" = 1'-0" @ 12X18

0' 4' 8' 12'

COMMUNITY DEVELOPMENT SERVICES CENTER, CITY OF LOS BANOS

535 J STREET, LOS BANOS, CA

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DRAFT DATE: 8/14/24

SHT 5 OF 5

**OVERALL CONSTRUCTION COST
BUDGET - LEVEL COST ESTIMATE
COMMUNITY DEVELOPMENT SERVICES CENTER, CITY OF LOS BANOS, CA**

8/14/2024

Note: This evaluation is preliminary only and subject to change based on review of further information as becomes available.

Item	Quantity (units)	Unit Cost (\$/unit)	Subtotal Cost (\$)	Total Cost (\$)	Comments
Land and property purchase	18,750 SF	\$0		\$0	
Land and property purchase	0 EA	\$0	\$0		owned by City of Los Banos
Legal, appraisal, other cost of acquisition	0 EA	\$0	\$0		owned by City of Los Banos
DIRECT CONSTRUCTION COST - BUILDING	8,958 SF	\$524		\$4,698,100	
Remodel existing building (trade cost from separate worksheet)	8,958 SF	\$524	\$4,698,100		see att. Bldg Remodel est.
SITE DATA					
Existing gross site area	18,750 SF				4.1 acre site
Existing building footprint	4,658 SF				
Proposed new vehicle pavement area	10,092 SF				assumes none required
Proposed new pedestrian pavement area	2,000 SF				see building estimate
Proposed new landscaped area	2,000 SF				see building estimate
DIRECT CONSTRUCTION COST - SITE	18,750 SF	\$42		\$779,600	
Offsite- Utilities, connect to street	0 EA	\$0	\$0		assumes none reqd.
Offsite- Sidewalk, pedestrian walkways, path of travel	1 EA	\$30,000	\$30,000		est. allowance
Offsite- Driveway entrances, removal	1 EA	\$8,000	\$8,000		est. allowance
Offsite- Mid-street walkway to City Hall	1 EA	\$0	\$0		not included in this project
Onsite- Hazmat remediation of site	0 EA	\$0	\$0		assumes none reqd.
Onsite- Site demolition and/or relocation of utilities	1 EA	\$65,000	\$65,000		est. allowance
Onsite- Grading & pad preparation	1 EA	\$50,000	\$50,000		est. allowance
Onsite- Storm drainage	1 EA	\$35,000	\$35,000		est. allowance
Onsite- Potable water & meter	0 EA	\$0	\$0		assumes none reqd.
Onsite- Fire water, fire sprinkler riser, hydrants	1 EA	\$50,000	\$50,000		est. allowance
Onsite- Sanitary sewer	1 EA	\$10,000	\$10,000		est. allowance
Onsite- Electrical service entrance	1 EA	\$10,000	\$10,000		est. allowance
Onsite- Electrical site lighting	1 LS	\$40,000	\$40,000		est. allowance
Onsite- Telecom/data service	1 EA	\$5,000	\$5,000		est. allowance
Onsite- CATV service	1 EA	\$5,000	\$5,000		est. allowance
Onsite- Gas service	0 EA	\$0	\$0		assumes none reqd.
Onsite- Trash enclosure	0 EA	\$0	\$0		assumes none reqd.
Onsite- Emergency generator fndtn/fence/encl.	0 EA	\$0	\$0		assumes none reqd.
Onsite- Pedestrian paving incl. accessibility	2,000 SF	\$37	\$74,000		est. allowance
Onsite- New vehicular paving, incl. accessibility, curbs, striping	10,092 SF	\$28	\$282,576		est. allowance
Onsite- Curb, gutter and striping, incl. path of travel	1 EA	\$35,000	\$35,000		est. allowance
Onsite- Site Fencing and Personnel Gates	0 LF	\$150	\$0		assumes none reqd.
Onsite- Motorized gates	0 EA	\$30,000	\$0		assumes none reqd.
Onsite- Security electronics, access contrl, CCTV	0 EA	\$40,000	\$0		assumes none reqd.
Onsite- Landscape & irrigation	2,000 SF	\$35	\$70,000		est. allowance
Onsite- Planters, steps, flagpole, signage, misc.	1 EA	\$10,000	\$10,000		est. allowance
Onsite- Site retaining walls	0 EA	\$0	\$0		assumes none reqd.
Onsite- Miscellaneous	0 EA	\$0	\$0		assumes none reqd.
GENERAL CONTRACTOR (GC) MARKUP	8,958 SF	\$122		\$1,095,600	
General Conditions	8.0 %	\$5,477,700	\$438,216		on direct site + bldg costs
Overhead & Profit	10.0 %	\$5,477,700	\$547,770		on direct site + bldg costs
Bonds	2.0 %	\$5,477,700	\$109,554		on direct site + bldg costs
DESIGN CONTINGENCY AND ESCALATION	8,958 SF	\$132		\$1,183,200	
Design contingency, conceptual phase @ 12%	12.0 %	\$6,573,300	\$788,796		on direct site + bldg GC costs
Escalation to constr. midpoint @ 4%/yr x 18 mo. = 6%	6.0 %	\$6,573,300	\$394,398		on direct site + bldg GC costs
ESTIMATE-BUILDING COST	8,958 SF	\$871		\$7,800,000	
CONSTRUCTION CONTINGENCY	8,958 SF	\$87		\$780,000	
Construction contingency @ 10%	10.0 %	\$7,800,000	\$780,000		on direct + indirect costs
ESTIMATE-COST AT END OF CONSTRUCTION	8,958 SF	\$960		\$8,600,000	

**BUILDING REMODEL CONSTRUCTION COST
BUDGET - LEVEL COST ESTIMATE
COMMUNITY DEVELOPMENT SERVICES CENTER, CITY OF LOS BANOS, CA**

8/14/2024

Note: This evaluation is preliminary only and subject to change based on review of further information as becomes available.

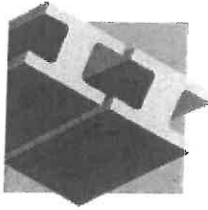
Item	Quantity (units)	Unit Cost (\$/unit)	Subtotal Cost (\$)	Total Cost (\$)	Comments
BUILDING DATA					
First Floor gross building area, including substandard shed wing	4,658 GSF				
Shed wing gross building area	364 GSF				
Second Floor gross building area	4,664 GSF				
Total gross building area	9,322 GSF				
Total gross building area, excluding substandard shed wing	8,958 GSF				
Total roof area	4,664 GSF				
Total circulation areas	1,800 GSF				
Total stairs/elevator/shaft area	760 GSF				
DIRECT CONSTRUCTION COST - REMODEL BLDG	8,958 SF	\$524		4,698,100	
Hazmat remediation	0 SF	\$0	\$200,000		completed separately
Demolition, all trades	8,958 SF	\$18	\$161,244		est. allowance
Structural, new plywood roof nailing and add collector members at roof	1 EA	\$25,000	\$25,000		est. allowance
Structural, new connections from roof and floor into shotcreted walls	1 EA	\$50,000	\$50,000		est. allowance
Structural, new collector members between east (URM) & west (CMU)	1 EA	\$60,000	\$60,000		est. allowance
Structural, new shotcrete remediation of URM walls	2,500 SF	\$100	\$250,000		est. allowance
Structural, new or augmented concrete foundations under shotcrete walls	175 LF	\$225	\$39,375		est. allowance
Structural, misc framing, HVAC and splkr support, other	8,958 LF	\$10	\$89,580		est. allowance
Exterior closure, doors with frame	5 EA	\$3,000	\$15,000		est. allowance
Exterior closure, vertical, walls, windows	8,958 SF	\$18	\$161,244		est. allowance
Exterior closure, horizontal, new single-ply roofing over polyiso insul.	8,958 SF	\$55	\$492,690		est. allowance
Exterior closure, roof parapet coping and sheet metal flashings	550 LF	\$50	\$27,500		est. allowance
Internal, floor finishes	8,958 SF	\$15	\$134,370		est. allowance
Internal, ceilings	8,958 SF	\$12	\$107,496		est. allowance
Internal, wall partitions incl. doors and windows	8,958 SF	\$35	\$313,530		est. allowance
Internal, doors with frame	25 EA	\$2,700	\$67,500		est. allowance
Internal, windows	300 SF	\$65	\$19,500		est. allowance
Internal, wall finishes	8,958 SF	\$8	\$71,664		est. allowance
Internal, built-in casework	8,958 SF	\$6	\$53,748		est. allowance
Internal, specialties - toil rms, bullet-resist, signage, etc.	8,958 SF	\$5	\$44,790		est. allowance
Internal, built-in equipment, lockers, etc.	8,958 SF	\$0	\$0		assumes none reqd.
Internal, vertical circulation - elevator modernization (if cab size waiver)	1 EA	\$100,000	\$100,000		est. allowance
Internal, vertical circulation - new elevator and shaft, 2-stop, exterior add	0 EA	\$220,000	\$0		assumes none reqd.
Internal, vertical circulation - reconstruct existing open stair	1 EA	\$85,000	\$85,000		est. allowance
Mechanical, HVAC system, incl. new rooftop units, ducts, controls	8,958 SF	\$52	\$465,816		est. allowance
Plumbing, water and sanitary	8,958 SF	\$22	\$197,076		est. allowance
Plumbing, fire protection sprinkler system throughout	8,958 SF	\$8	\$71,664		est. allowance
Plumbing, fuel systems	8,958 SF	\$0	\$0		assumes none reqd.
Electrical, normal power incl. distribution	8,958 SF	\$30	\$268,740		est. allowance
Electrical, emergency power incl. distribution	8,958 SF	\$0	\$0		assumes none reqd.
Electrical, UPS power	8,958 SF	\$0	\$0		assumes decentralized
Electrical, lighting	8,958 SF	\$22	\$197,076		est. allowance
Electrical, fire alarm	8,958 SF	\$5	\$44,790		est. allowance
Electrical, data/ telecom/ CATV	8,958 SF	\$25	\$223,950		est. allowance
Electrical, security CCTV and access control, basic	8,958 SF	\$15	\$134,370		est. allowance
Electrical, emerg. responder radio comm. system (ERRCS); DAS	8,958 SF	\$0	\$0		assumes none reqd.
For contractor and other markups, see ESTIMATED COST AT END OF CONSTRUCTION worksheet preceding....					

UNIT COST / TOTAL EXISTING BUILDING AREA 9,322 SF

Mechanical cost = \$52 /sf
 Plumbing cost = \$30 /sf
 Electrical cost = \$97 /sf
 Subtotal MPE systems cost = \$179 /sf
 Structural cost = \$57 /sf
 Other t.i. cost = \$288 /sf
 Total trade cost = **\$524 /sf**

Approximate Total building cost including all markups = \$776 /sf

POINT 2



**STRUCTURAL
ENGINEERS INC**

August 6, 2024

Bruce Playle, AIA
Indigo Hammond & Playle Architects, LLP

Subject: **Final Investigation Report**
Police Annex/Community Development Services Center
535 J Street
Los Banos, CA
Point 2 Job # 2023-108

Dear Bruce,

Please find below the final report of our Investigation. This is a follow up to the Preliminary Investigation Report, which is attached to and part of this letter.

PROJECT SCOPE

The original project consisted of a preliminary investigation of the structure at the above referenced location to determine feasibility of repair, demolition or upgrading for current use.

DESCRIPTION

The Community Development Center (CDC) was described in the original report. Generally, it is a two story wood and masonry building with a concrete vault and historic unreinforced masonry URM in some parts of the building. The URM poses a challenge in that it is no longer an acceptable building material and any retrofit of the building will require remediation of this material.

FINDINGS

The proposed program is to do the entire project at once rather than phase it as was originally considered. This will require a full building seismic upgrade. As described in the first analysis, the usual process would be as follows:

- Determine a Performance Objective
- Determine Material Capacities
- Determine Existing Foundations
- Develop the Seismic Upgrade

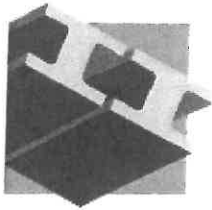
In addition to the seismic strengthening of the structure, the anticipated plan involves the removal of many bearing walls that are supporting the second-floor framing. Also, the main bearing wall that supports the roof rafters is shown to be removed. This can usually be accommodated by adding beams and columns and footings where needed to replace the bearing walls.

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POINT 2



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The URM must be evaluated to use it for this project. A testing program shall be developed to determine the vertical and lateral strength of the existing URM. The testing program would consist of the following:

- Full survey of all URM in the structure, noting size and location of openings, thickness and number of wythes, lengths, heights and conditions of existing URM.
- Existing masonry shall be separated into classes, based on quality of construction, state of repair, deterioration and weathering.
- Material Testing of compressive and shear strength, elastic modulus in compression is required.
- Two tests in each class of wall at first and second level.
- Minimum of 8 tests per building of each kind of test.
- Demolition of concrete slab and removal to determine the extent of existing foundations. Minimum of one location on each wall line of resistance.

This program would be needed prior to final design of the upgrade, as results will be integral to the design solution.

Alternatively, an approach that leaves the URM in place, but provides a new shotcrete concrete wall to the interior of the URM, will reduce or eliminate the testing and the design is provided to resist all loading with the new concrete walls. That procedure is currently shown and considered for this project. Some removal of slab to determine the existing foundations under the URM wall will still be required.

The west building was constructed as an addition to the older URM building, consisting of wood framing and CMU walls for vertical and lateral resistance. In addition, a vault was constructed in the northwest corner of the building. The vault is providing vertical support for the second-floor framing.

The plan to remodel the west building shall consider the following:

- Determine the Existing Structural Conditions: This would require selective demolition, x-rays of existing reinforcement in walls and further removal of the soffit or floor plywood over the future entrance on the north side. Testing of concrete and soil strength would also be required.
- Removal of Existing Vault: No longer applicable.
- Provide beam and column system to support the removal of the 2nd floor corridor bearing wall.

The existing CMU walls are assumed to be adequate for the anticipated upgrade, however the testing program would need to verify this assumption.

Conclusions

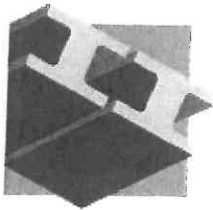
Based on our observations and understanding of the plan for this building, a significant amount of vertical and lateral load evaluation, design and upgrades will be required to bring the structure into current code requirements. The development of a Performance Level for the structure will largely determine the complexity of a seismic upgrade. The removal of the vault is feasible, with the replacement of the vertical load carrying members by adding beams and columns.

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POINT 2



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Disclaimer

The opinions stated in this report are based on cursory visual observations. No physical testing was performed, and no calculations have been made to determine the adequacy of the structural system. Items included are only those found and discussed at the time of the visit. There is no claim, either stated or implied, that all conditions were observed.

Thank you for allowing Point 2 Structural Engineers to provide services on this project. We hope this report to be sufficient for your needs. Please contact us if we can be of further service.

Sincerely,

Brad J. Rollins SE
Principal

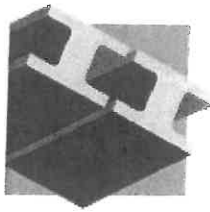
POINT 2 STRUCTURAL ENGINEERS INC.

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POINT 2



**STRUCTURAL
ENGINEERS INC**

August 6, 2024

Bruce Playle, AIA
Indigo Hammond & Playle Architects, LLP

Subject: **Preliminary Investigation Report**
Police Annex/Community Development Services Center
535 J Street
Los Banos, CA
Point 2 Job # 2023-108

Dear Bruce,

Please find enclosed the summary of my site visit on June 13, 2024.

PROJECT SCOPE

This project consists of a preliminary investigation of the structure at the above referenced location. Interior finishes have been removed in the entire structure, and hazardous materials abated. The abatement has provided visual access to the structural members of the original building, in most locations. Destructive removal, testing or sampling of existing materials has not been performed in this site visit.

DESCRIPTION

The Community Development Center (CDC) is described as follows:

- Approximately 9400 total square feet in area on 2 floors.
- Generally rectangular 52' x 90' structure, with the long axis of the building in the predominantly East-West orientation.
- East half of structure is an older building with exterior Unreinforced Masonry(URM) walls.
- West half of building is a concrete masonry unit (CMU) structure.
- Entire second floor framing is wood with a plywood floor diaphragm.
- The entire roof structure is wood with a plywood roof diaphragm.
- The URM building has interior 2x4 studs at 16" oc bearing walls supporting 2x floor joists and 2x ceiling joists. All exterior walls were furred with 2x4 framing.
- There are 2 stair flights accessing the second floor. One on each end of the building.

FINDINGS

East Building URM Structure

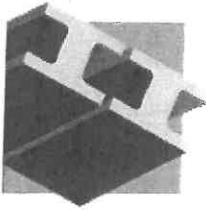
Unreinforced Masonry is an archaic building material no longer accepted in current codes. The walls in this building are constructed of 2 layers (wythes) of masonry red clay fired brick, stacked, with mortar between the bricks in a pattern called "American Bond". The stretcher courses are typical, and they run parallel with the wall. The header courses are bricks turned inward, extend into the thickness of the wall, and are typically located at each 6th row. See the photo below:

3701 BUSINESS DRIVE
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POINT 2

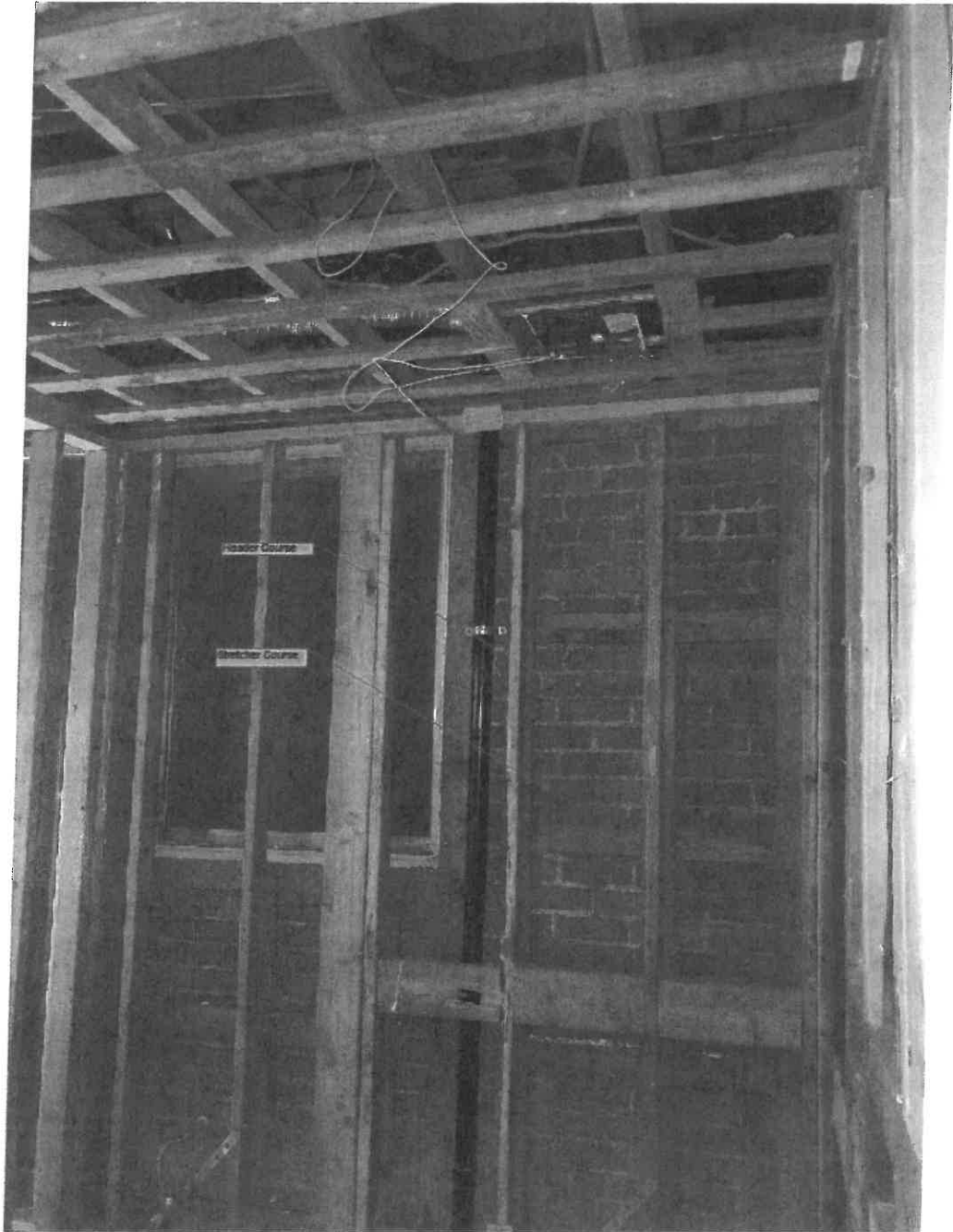


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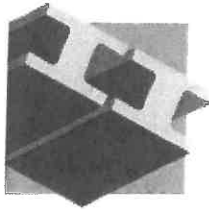


The 2 wythes of brick do not appear to have any reinforcement.

The heavy mass of an URM building will develop greater forces from an earthquake due to its inertia. Because of this and the multiple brick components not adequately anchored, a falling hazard exists from individual bricks becoming dislodged in a seismic event. These can cause severe injury or damage.

The presence of reinforcing in modern masonry wall construction provides ductility, thus allowing it to perform much better in a seismic event. This ductility gives resilience and strength for the walls to move, both in plane and out of plane, due to forces from an earthquake, and return to their near original position with minimal damage.

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An Unreinforced Masonry building does not have this measure of toughness.

In the aftermath of the 1933 Long Beach Earthquake, extensive damage was found in URM structures. Building codes began to provide seismic standards for reinforcement, stronger connections, and overall load path derivations as minimum requirements. In addition, to alleviate the risks from URM buildings in earthquakes, building departments in seismic areas have enforced strengthening and retrofit requirements on older buildings constructed prior to the development of those codes.

It does not appear that any strengthening was performed on this building in the past. The URM walls were furred and "hidden" behind wood framing that was recently exposed in this project.

Consequently, the URM must be strengthened to use it for this project. This will require a full building seismic upgrade. A usual process would be as follows:

- **Determine a Performance Objective:** This is determined by the owner of the structure to estimate the degree of "damage" or "performance" after a seismic event. This can range from Life Safety to Immediate Occupancy for structural and non-structural building components. The description of these options is not included as part of this report, however, the decision will impact the level of seismic upgrade for the structure.
- **Determine Material Capacities:** This would require multiple in-place testing of existing mortar and brick to develop inherent structural capabilities of the URM. It is used to evaluate the existing strength of the wall and would help to develop an upgrade plan.
- **Determine Existing Foundations:** Selective demolition to determine extent and type of foundations that exist under the URM walls.
- **Develop the Seismic Upgrade:** Structural Building evaluation by Registered Structural Engineer to design and detail conditions for strengthening roof and floor connections to the wall, wall strength and foundations. Possible upgrades would include:
 - New plywood roof nailing and collectors at roof.
 - Connections from roof and floor diaphragms into URM or strengthened walls
 - Collector members between the URM and the CMU building.
 - URM strengthening with reinforced shotcrete constructed against existing URM walls on at least 4 exterior sides of the building.
 - New or augmented foundations under new shotcrete walls.

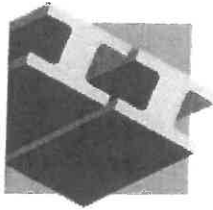
In addition to the seismic strengthening of the structure, the anticipated plan involves the removal of many bearing walls that are supporting the second-floor framing. This can usually be accommodated by adding beams and columns and footings where needed to replace the bearing walls. A detailed evaluation of all these conditions is not part of the scope of this project.

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West Building CMU Structure

The west building was constructed as an addition to the older URM building. It appears to have been built in the 1980's or 1990's. It was built with modern construction methods of wood framing and CMU walls for vertical and lateral resistance. In addition, a vault was constructed in the southwest corner of the building. The vault is constructed of cmu walls with a concrete lid at both the first and second levels. The vault is providing vertical support for the second-floor framing. It does not appear to be supporting the roof structure however. An integral concrete stair to the second floor is incorporated into the vault.

Drawings are not available for this building, so foundations, wall reinforcement and other hidden structural elements cannot be determined at this time.

The plan to remodel the west building shall consider the following:

- **Determine the Existing Structural Conditions:** This would require selective demolition, x-rays of existing reinforcement in walls and further removal of the soffit or floor plywood over the future entrance on the west side. Testing of concrete and soil strength would also be required.
- **Removal of Existing Vault:** Development of a demolition, shoring and reframing plan to remove the vault is required. New joists, beams, columns and footings can be constructed to replace the floor supports lost to the demolition of the vault. New stairs will be required at this end of the building for accessibility.
- **Entrance Opening on West Side:** The proposed new entrance to the Public Lobby is through a column supporting the main second floor beam. This would require either a major reframing, or a relocation of the entrance.

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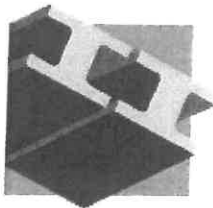
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This part of the building would still require a seismic upgrade, but would follow more conventional methods, as the materials and details do not include URM. Possible upgrades could include the following:

- New plywood roof nailing and strap collectors at roof.
- Connections from roof and floor diaphragms into CMU walls
- Collector members between the URM and the CMU building.
- Wall strengthening or replacement where new openings are required.
- New or strengthening of foundations.

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Conclusions

Based on our observations and understanding of the plan for this building, a significant amount of vertical and lateral load evaluation, design and upgrades will be required to bring the structure into current code requirements. The development of a Performance Level for the structure will largely determine the complexity of a seismic upgrade. The removal of the vault is feasible, with the replacement of the vertical load carrying members by adding beams and columns.

Please find attached preliminary framing plans indicating the structural members observed during the course of our site visit.

Disclaimer

The opinions stated in this report are based on cursory visual observations. No physical testing was performed, and no calculations have been made to determine the adequacy of the structural system. Items included are only those found and discussed at the time of the visit. There is no claim, either stated or implied, that all conditions were observed.

Thank you for allowing Point 2 Structural Engineers to provide services on this project. We hope this report to be sufficient for your needs. Please contact us if we can be of further service.

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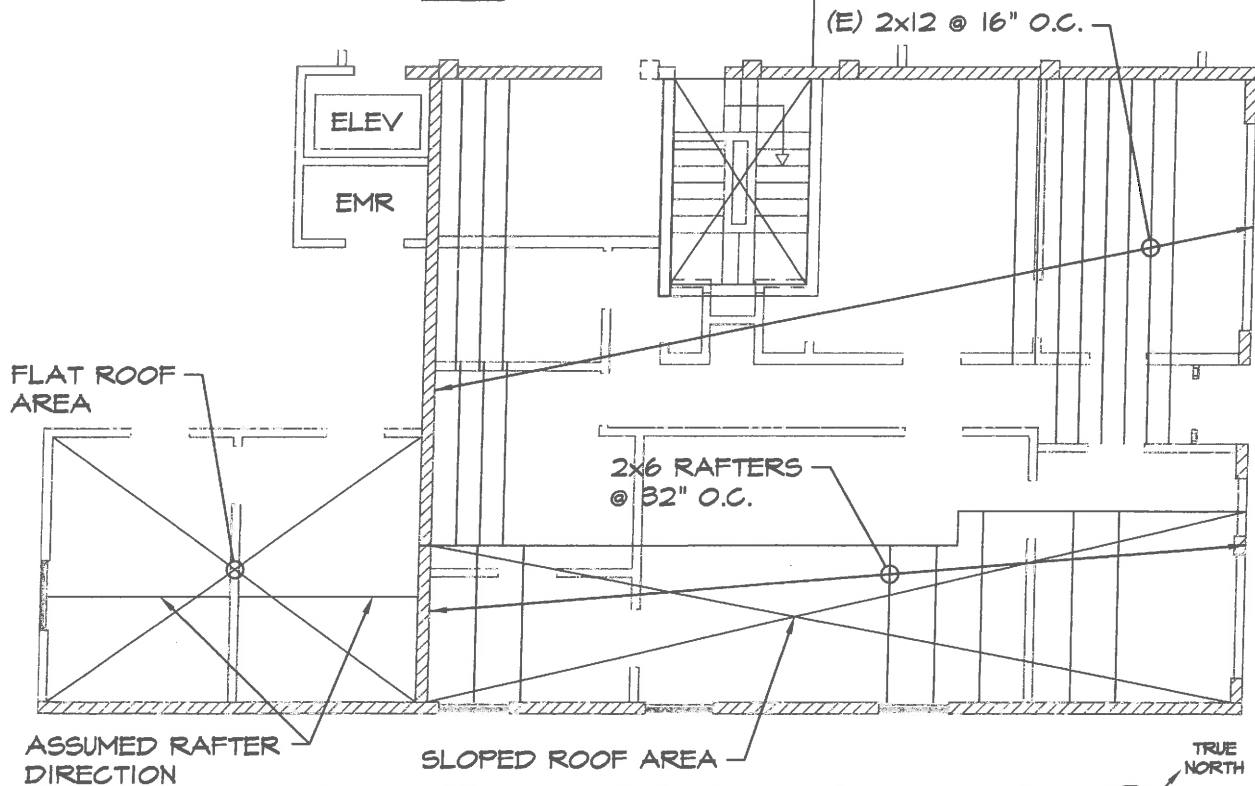
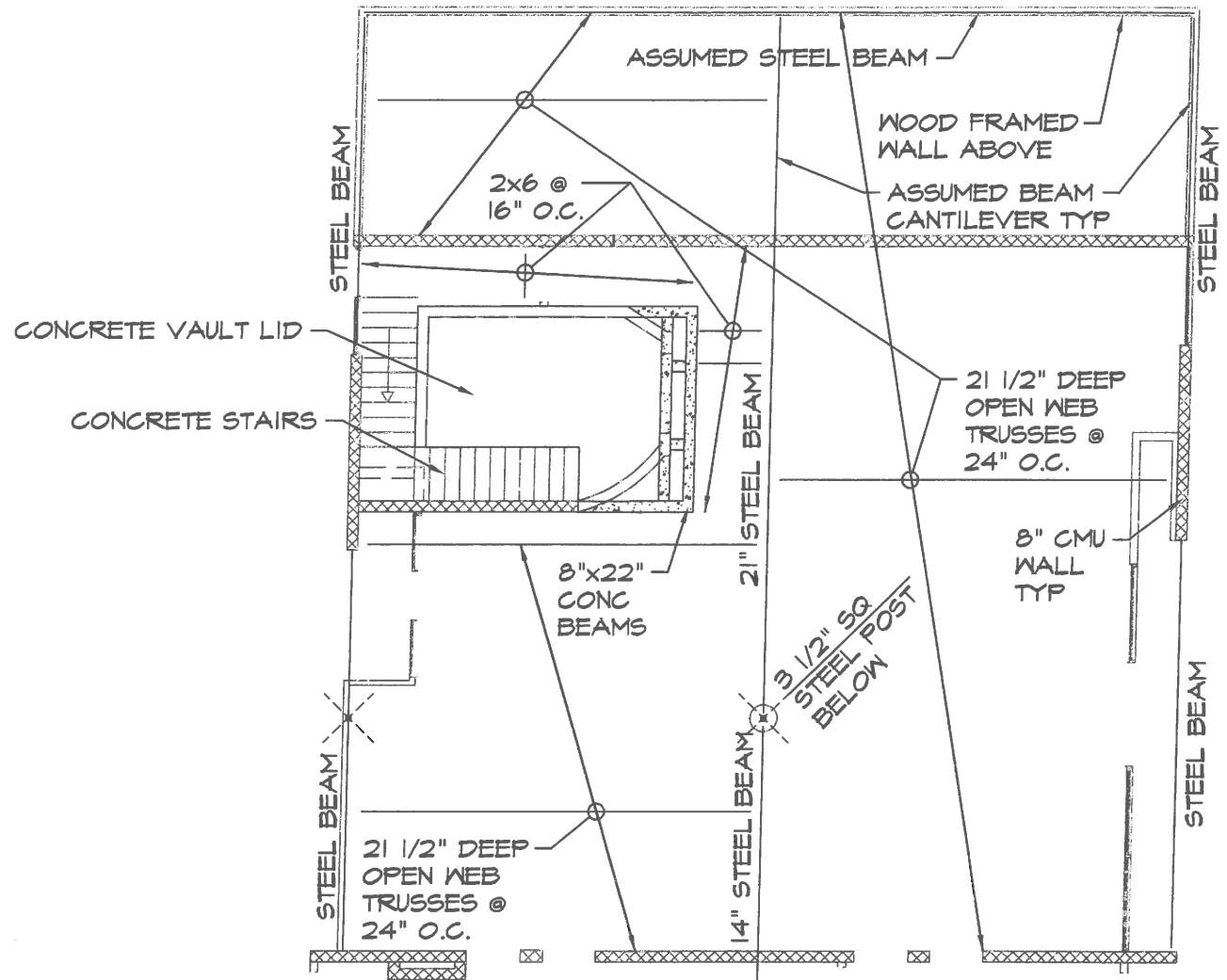
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Sincerely,

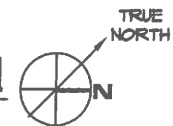
Brad J. Rollins SE
Principal

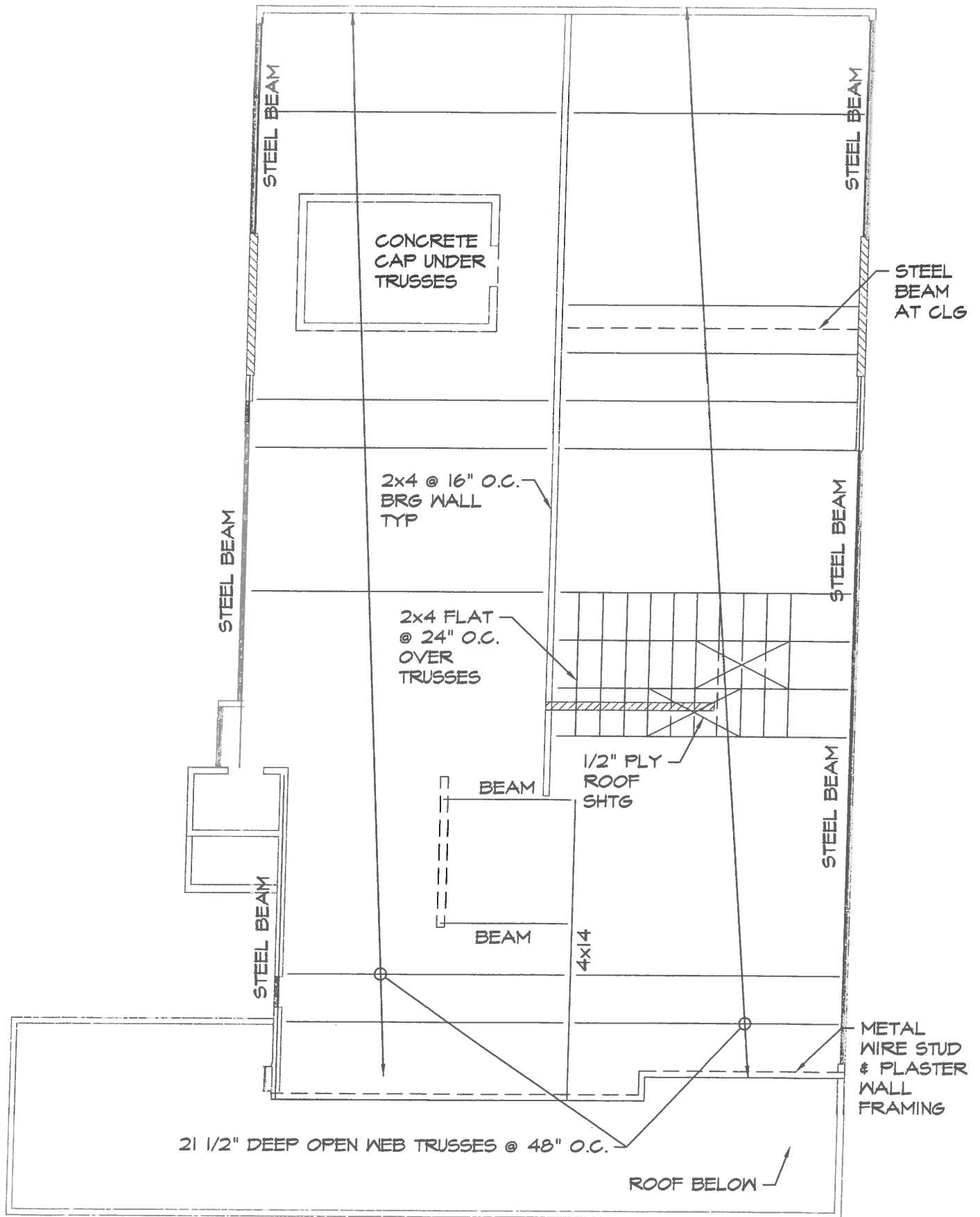
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Attachments



2ND FLOOR FRAMING PLAN





ROOF FRAMING PLAN

