

COTTONWOOD HEIGHTS CITY

APPEALS HEARING OFFICER MEETING AGENDA

March 7, 2024



Notice is hereby given that the **Cottonwood Heights Appeals Hearing Officer** will convene on **Thursday, March 7, 2024**, at **Cottonwood Heights City Hall** (2277 E. Bengal Blvd., Cottonwood Heights, UT 84121) for a **public meeting**.

The meeting will begin at **5:00 p.m.** in the City Council Workroom.

5:00 p.m. Public Meeting

1.0 Welcome and Acknowledgements

- 1.1 Ex parte communications or conflicts of interest to disclose

2.0 Business Items

2.1 Project AHO-23-002

Consideration and potential action on a request from Gerald Pack for an expansion of a non-conforming structure located at 2495 E. 6710 S.

2.2 Project AHO-23-001

Consideration and potential action on a request from the Metropolitan Water District of Salt Lake and Sandy for six variances to reconstruct water infrastructure throughout the city.

3.0 Consent Agenda

- 3.1 Approval of Appeals Hearing Officer Minutes from March 7, 2024

(The Appeals Hearing Officer will approve the minutes of the March 7, 2024 meeting after the following process is met. The City Recorder will prepare the minutes and email them to the Hearing Officer. The Hearing Officer will have five days to review the minutes and provide any changes to the Recorder. If, after five days there are no changes, the minutes will stand approved. If there are changes, the process will be followed until the changes are made and the hearing officer is in agreement, at which time the minutes shall be deemed approved.)

4.0 Adjourn

Meeting Procedures

Items will generally be considered in the following order:

1. Staff Presentation
2. Applicant Presentation (If applicable)
3. Appeals Hearing Officer Deliberation
4. Appeals Hearing Officer Decision

Appeals Hearing Officer applications may be tabled if: 1) Additional information is needed to act on the item; OR 2) The Appeals Hearing Officer feels there are unresolved issues that may need further attention before the Officer is ready to make a decision. No agenda item will begin after 9:00 p.m. without approval from the Appeals Hearing Officer. The Appeals Hearing Officer may carry over agenda items, scheduled late in the evening and not heard, to the next regularly scheduled meeting.

Notice of Compliance with the Americans with Disabilities Act (ADA)

In compliance with the Americans with Disabilities Act, individuals needing special accommodations or assistance during this meeting shall notify the City Recorder at (801) 944-7021 at least 24 hours prior to the meeting. TDD number is (801) 270-2425 or call Relay Utah at #711.

Confirmation of Public Notice

On Thursday, February 29, 2024, a copy of the foregoing notice was posted in conspicuous view in the front foyer of the Cottonwood Heights City Offices. The agenda was also posted on the City's website at www.cottonwoodheights.utah.gov and the Utah public notice website at <http://pmn.utah.gov>.

DATED THIS 29TH DAY OF FEBRUARY, 2024

Attest: Paula Melgar, City Recorder

Cottonwood Heights
City between the canyons

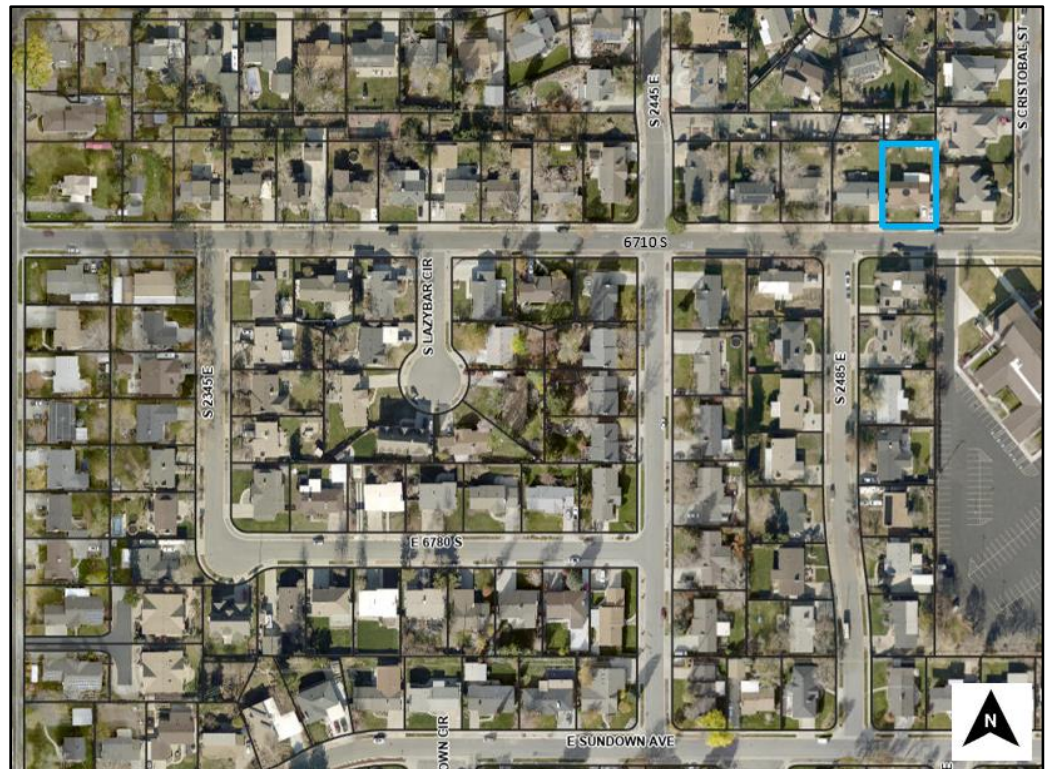
Summary

Recommendation:
Approve



Subject Property Streetview

Zoning:
Single-Family
Residential (R-1-8)



Subject Property Aerial

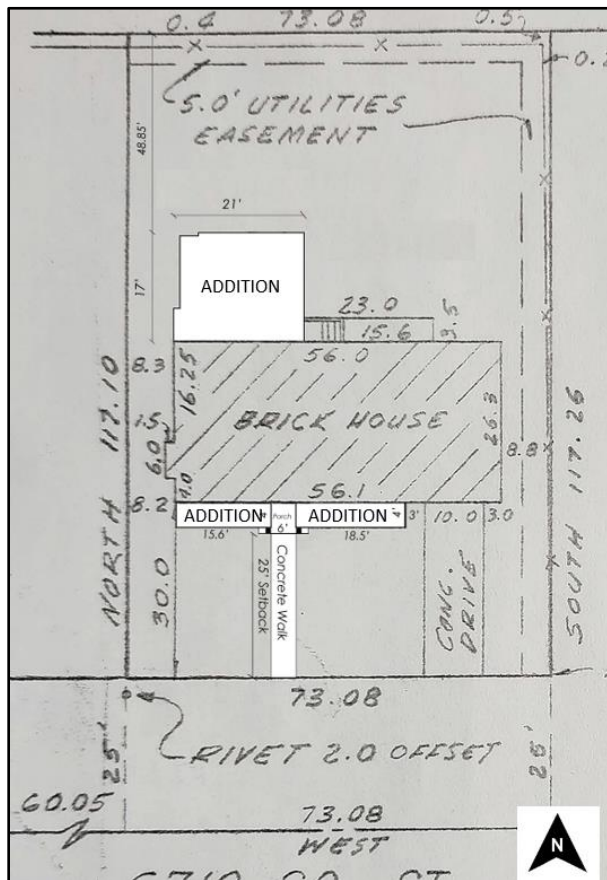
Overview

Request

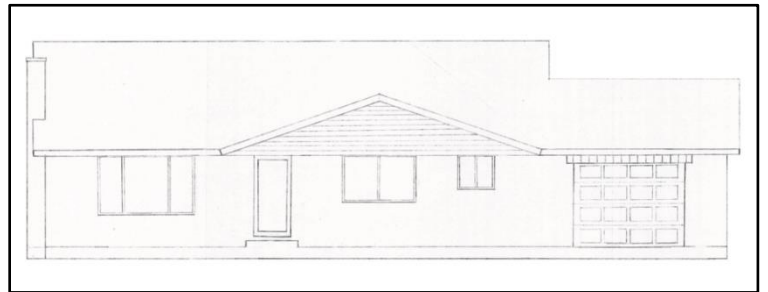
This application represents a request to construct an addition to an existing single-family home at 2495 E. 6710 S. The home was built in 1965, and is nonconforming in regard to side setback area, which is common of homes built prior to city incorporation.

At its nearest point, the existing home is 6.7' from the west property line and 8.8' from the east property line (15.5' total between both sides). City code requires both side setbacks to add to a minimum of 20', with neither side less than 8'.

The proposed addition would add 125 sq. ft. to the front of the home, and 605 sq. ft. to the rear of the home, as well as raise the structure's roofline. The proposed addition does not extend further into the nonconforming side yards (i.e., closer to property lines) than the home currently does, as it is proposed to follow the existing west wall of the structure (see the table on page 3 for existing and proposed setbacks). Thus, the project does not increase the degree of the home's nonconformity. However, given that additional square footage is proposed along a nonconforming setback, review and approval from the Appeals Hearing Officer is required.



Site plan showing proposed addition areas



Existing front elevation



Proposed front elevation, showing the adjusted roofline

Analysis

Development Standards

The following table summarizes the relevant development standards in the underlying R-1-8 (Residential Single-Family) zone, compared with the existing and proposed structure.

	City Code Requirement	Existing	Proposed Addition
Front Setback	Minimum 25'	30'	25'
Side Setbacks	Neither side less than 8', 20' when combined	6.7' and 8.8', 15.5' when combined	8.2' and 8.8', 17' when combined
Rear Setback	Minimum 20'	66'	48'
Building Height	Maximum 35'	17' 4.5"	25' 2"

Staff Analysis

The proposed addition complies with the requirement for individual side setbacks (neither side setback can be less than 8'). It is only the combination of side setbacks which remains nonconforming (side setbacks must add to 20'), though this measurement is more conforming than what exists today.

The addition will not extend any closer to side property lines than the home currently does, and is in fact farther from side property lines than the existing home is at its nearest point. (Measured from the chimney, the existing home is 6.7' from the west side property line, and the addition is 8.2' from this boundary).

Though raised from 17' 4.5" to 25' 2", the building's maximum height is fully compliant with the maximum of 35'. Technically, this increased height creates additional square footage that is nonconforming, but staff finds that this does not create a more significant impact on neighboring properties than any standard residential addition would, as the addition is still 8' away from both side property lines.

Appeals Hearing Officer Authority

Chapter 19.88 of the Cottonwood Heights Municipal Code allows for additions to non-conforming structures upon approval from the city's Appeals Hearing Officer:

19.88.070 Additions, enlargements, moving and reconstruction of building.

B. A building occupied by a nonconforming use or a building noncomplying as to height, area, or yard regulations may be added to or enlarged or moved to a new location on the lot or reconstructed at a new location on the lot upon a permit authorized by the Appeals Hearing Officer provided that the Appeals Hearing Officer, after the hearing, shall find:

- 1. The addition to, enlargement of, moving of, or reconstruction of the noncomplying building at a new location on the lot will be in harmony with one or more of the purposes stated in section 19.02.020, and shall be in keeping with the intent of this title;*
- 2. That the proposed change does not impose any unreasonable burden upon the lands located in the vicinity of the nonconforming use or noncomplying building.*

19.02.020 Purpose of provisions.

This title is designed and enacted for the purpose of promoting the health, safety, convenience, order, prosperity and welfare of the present and future inhabitants of the city, including, among other things, the lessening of congestion in the streets or roads, securing safety from fire and other dangers, providing adequate light and air, classification of land uses and distribution of land development and utilization, protection of the tax base, and securing economy in governmental expenditures, fostering the city's industries, and the protection of both urban and non-urban development.

Recommendation & Findings

Staff recommends **APPROVAL** of the request for an expansion of a nonconforming structure, based on the following findings:

1. The proposal will not negatively affect the health, safety, convenience, order, prosperity and welfare of the present and future inhabitants of the city because the use is the same as what currently exists;
2. The proposal will not create any additional congestion in the streets or roads;
3. The proposal will not create a fire safety issue;
4. The proposal will not affect air flow or block natural light from adjoining properties by conforming with all height regulations;
5. The proposal will have no apparent negative effect on the city's tax base;
6. The proposal will not place any type of unreasonable burden upon neighboring properties;
7. The proposal is in keeping with the intent of the Cottonwood Heights Zoning Ordinance.

MODEL MOTIONS:

Approval

I move to approve project AHO-24-002, based on the findings listed in the staff report dated March 7, 2024...

- Add any additional findings for approval...
- Add any conditions for approval...

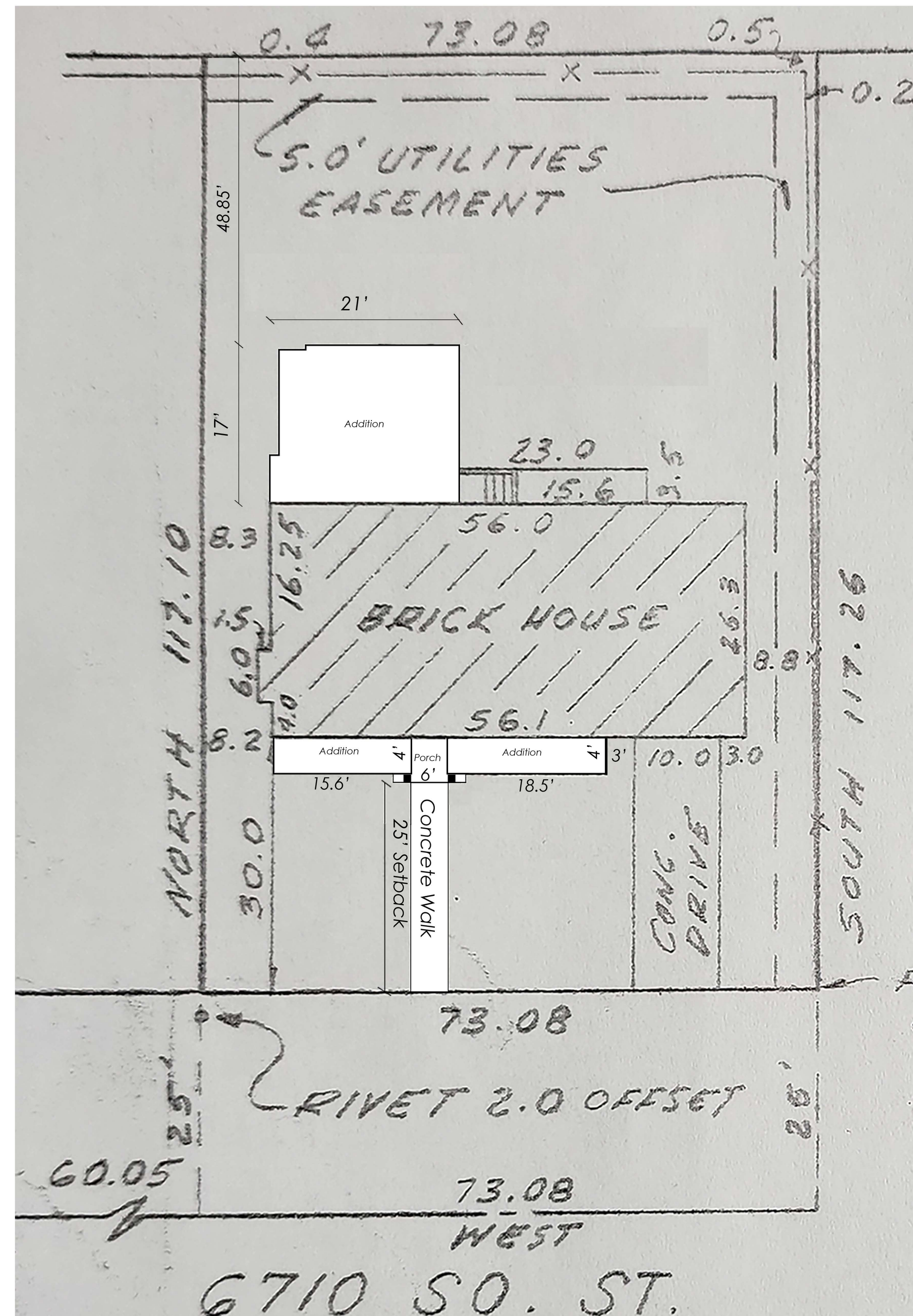
Denial

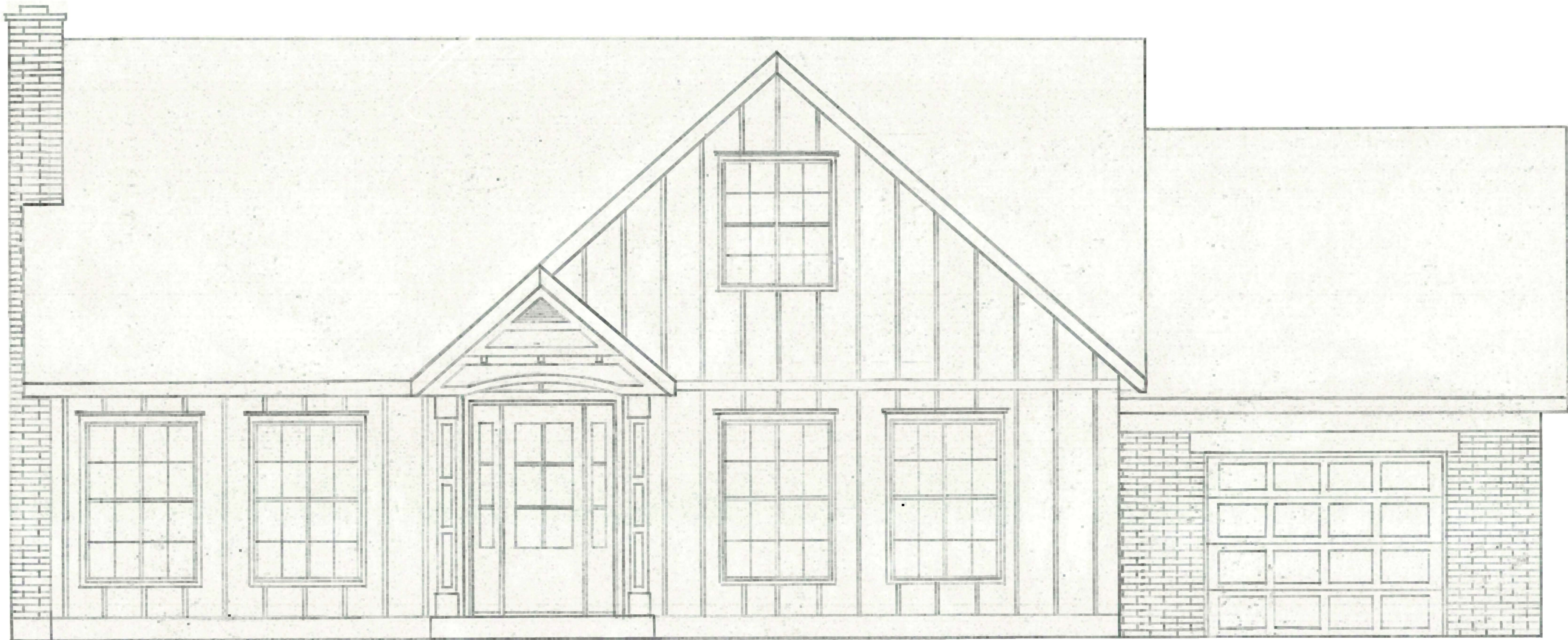
I move to deny project AHO-24-002, based on the following findings...

- List findings for denial...

Attachments

1. Proposed Addition Plans
2. Project Narrative





SHEET NAME

Front Elevation

PROJECT INFO

Pack Residence

2495 East 6710 South
Cottonwood Heights, UT 84121

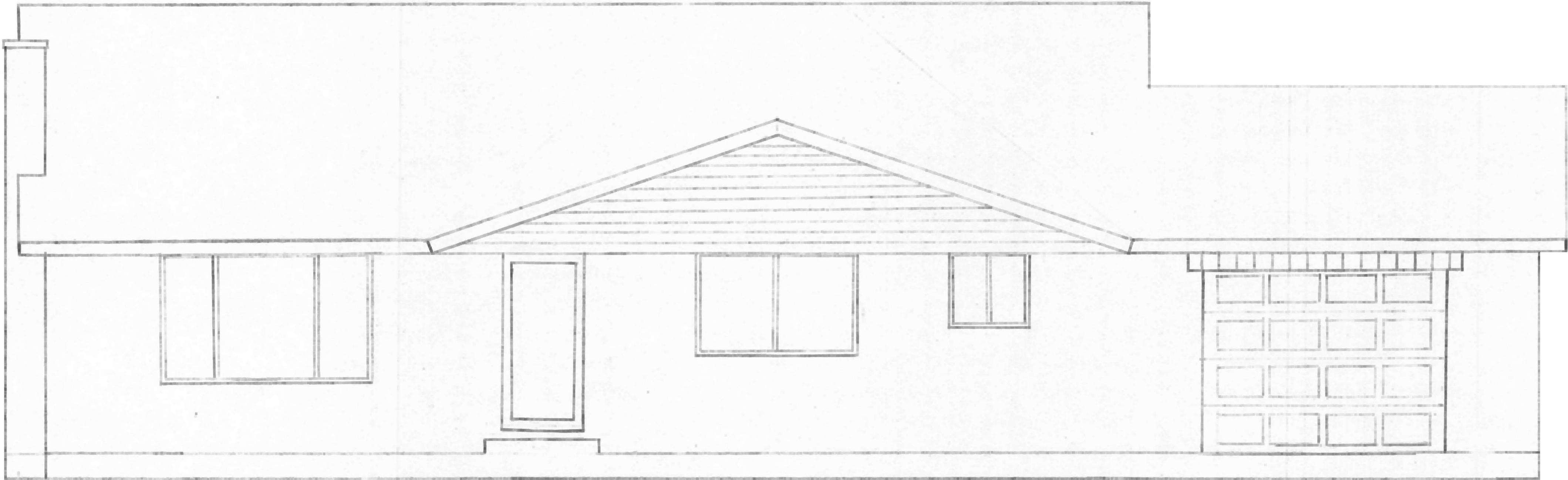
OWNER

Gerald and Chelise Pack

SHEET NUMBER:

1

Drawn By: Gerald Pack



SHEET NAME

Existing Front Elevation

PROJECT INFO

Pack Residence

2495 East 6710 South
Cottonwood Heights, UT 84121

OWNER

Gerald and Chelise Pack

SHEET NUMBER:

2

Drawn By: Gerald Pack



SHEET NAME

Rear Elevation

PROJECT INFO

Pack Residence

2495 East 6710 South
Cottonwood Heights, UT 84121

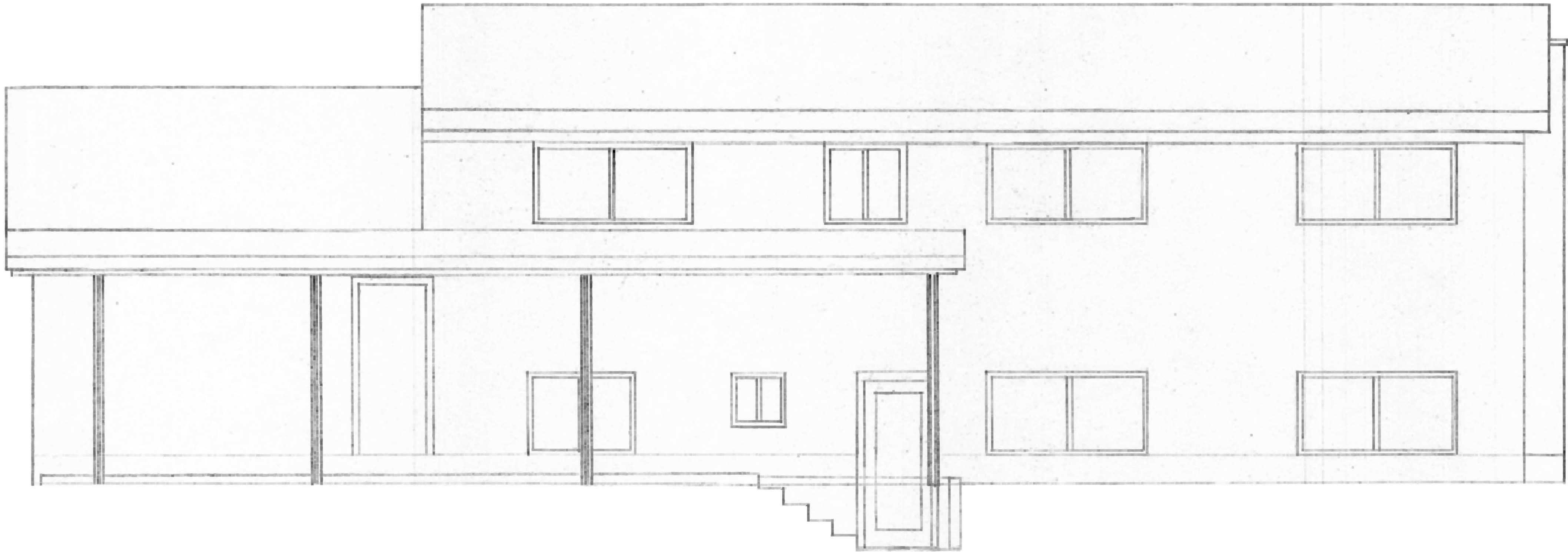
OWNER

Gerald and Chelise Pack

SHEET NUMBER:

3

Drawn By: Gerald Pack



SHEET NAME

Front Elevation

PROJECT INFO

Pack Residence

2495 East 6710 South
Cottonwood Heights, UT 84121

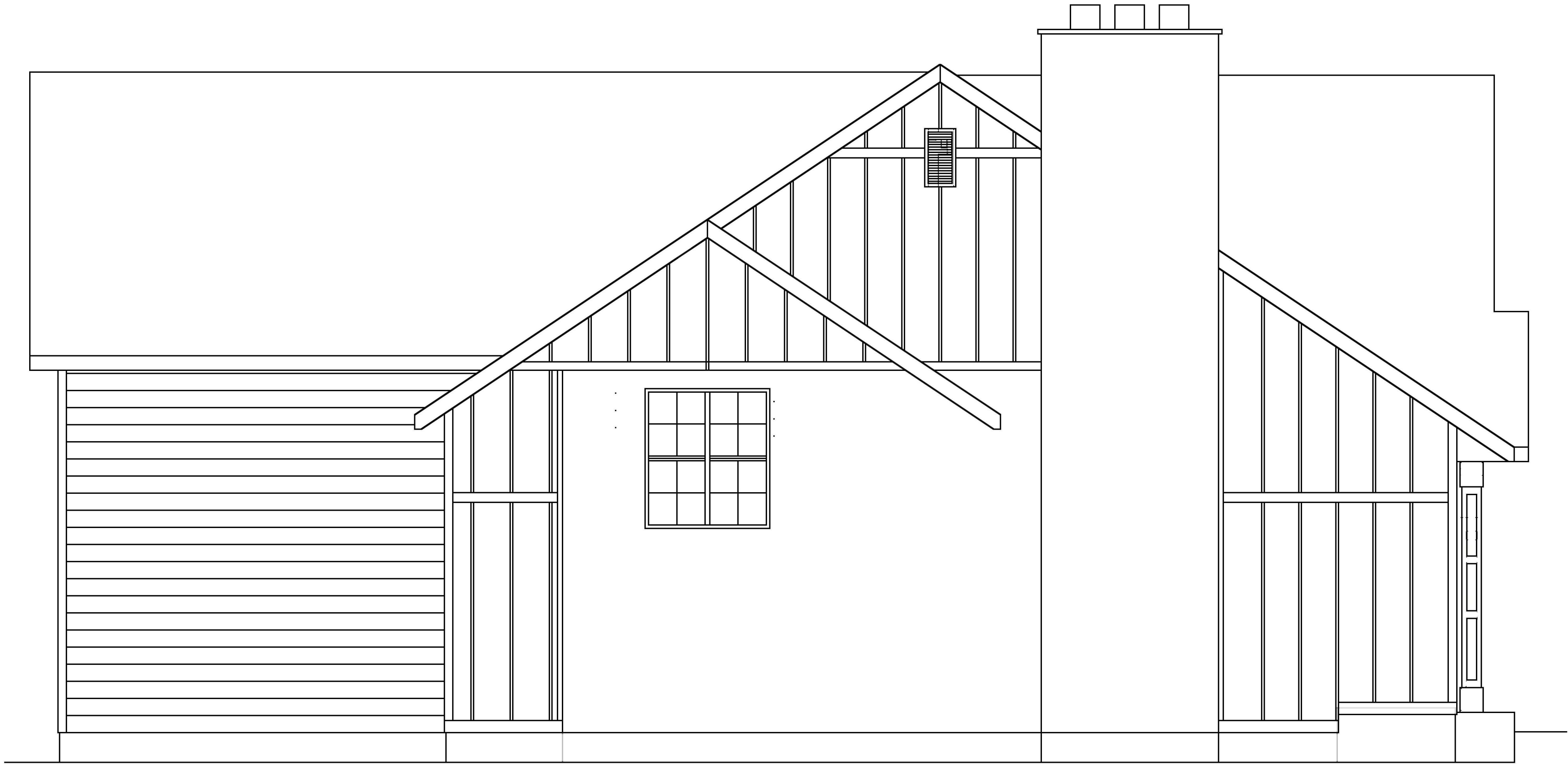
OWNER

Gerald and Chelise Pack

SHEET NUMBER:

1

Drawn By: Gerald Pack



SHEET NAME

West (Left) Elevation

PROJECT INFO

Pack Residence

2495 East 6710 South
Cottonwood Heights, UT 84121

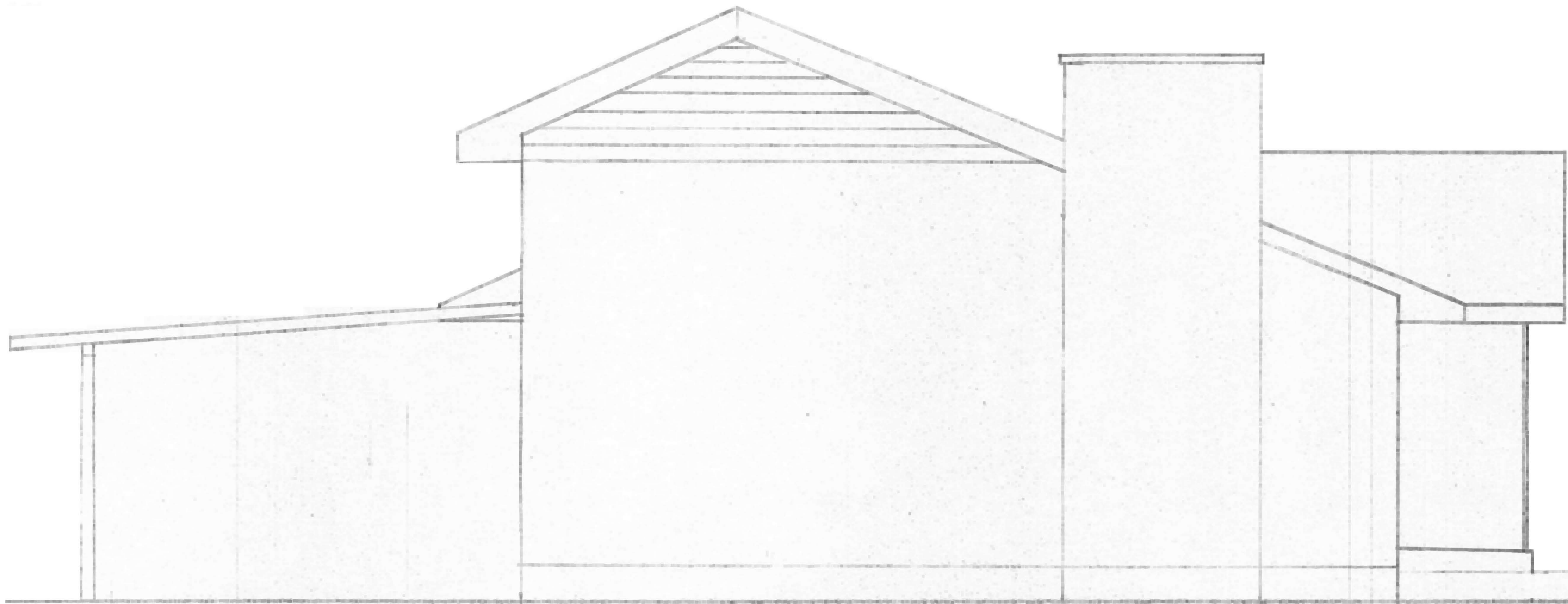
OWNER

Gerald and Chelise Pack

SHEET NUMBER:

5

Drawn By: Gerald Pack



SHEET NAME

Existing West (Left) Elevation

PROJECT INFO

Pack Residence

2495 East 6710 South
Cottonwood Heights, UT 84121

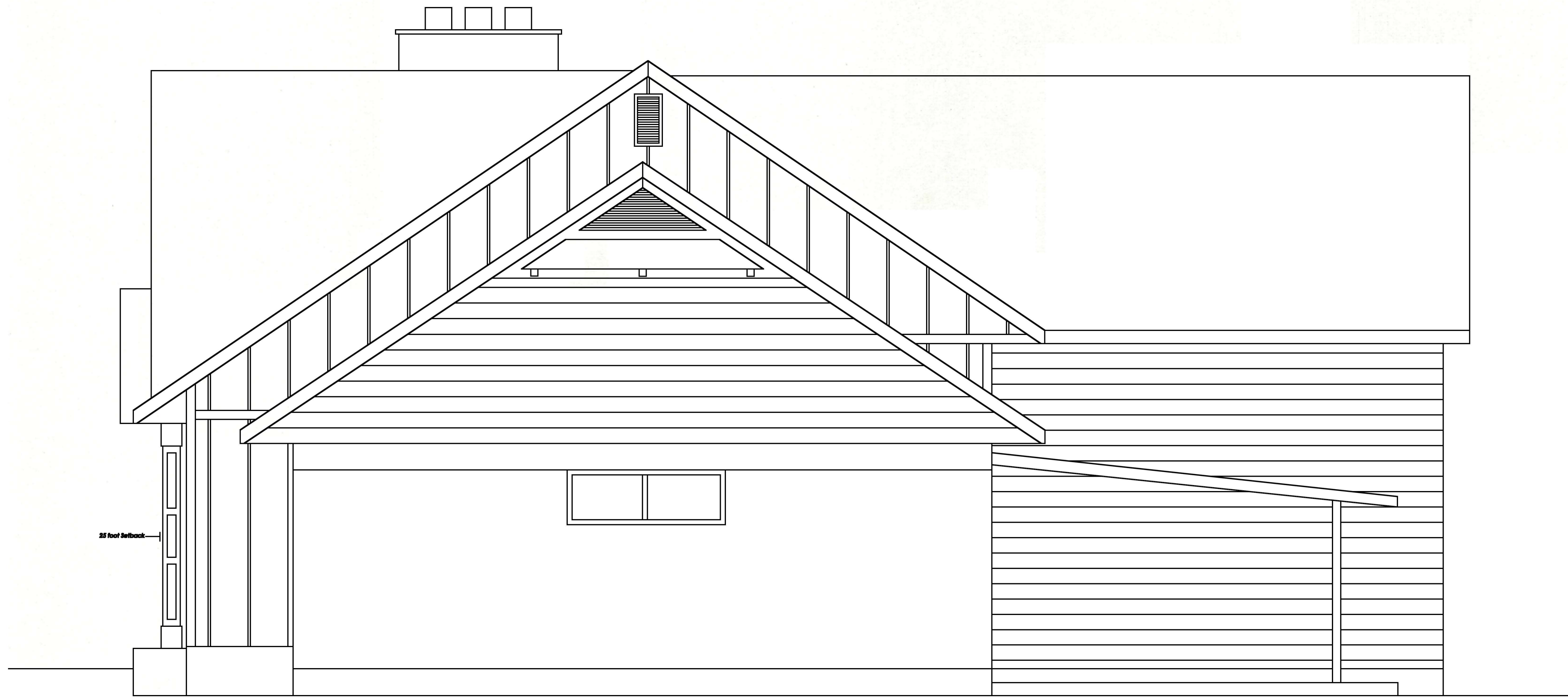
OWNER

Gerald and Chelise Pack

SHEET NUMBER:

6

Drawn By: Gerald Pack



SHEET NAME

East (Right) Elevation

SHEET NUMBER:

7

PROJECT INFO

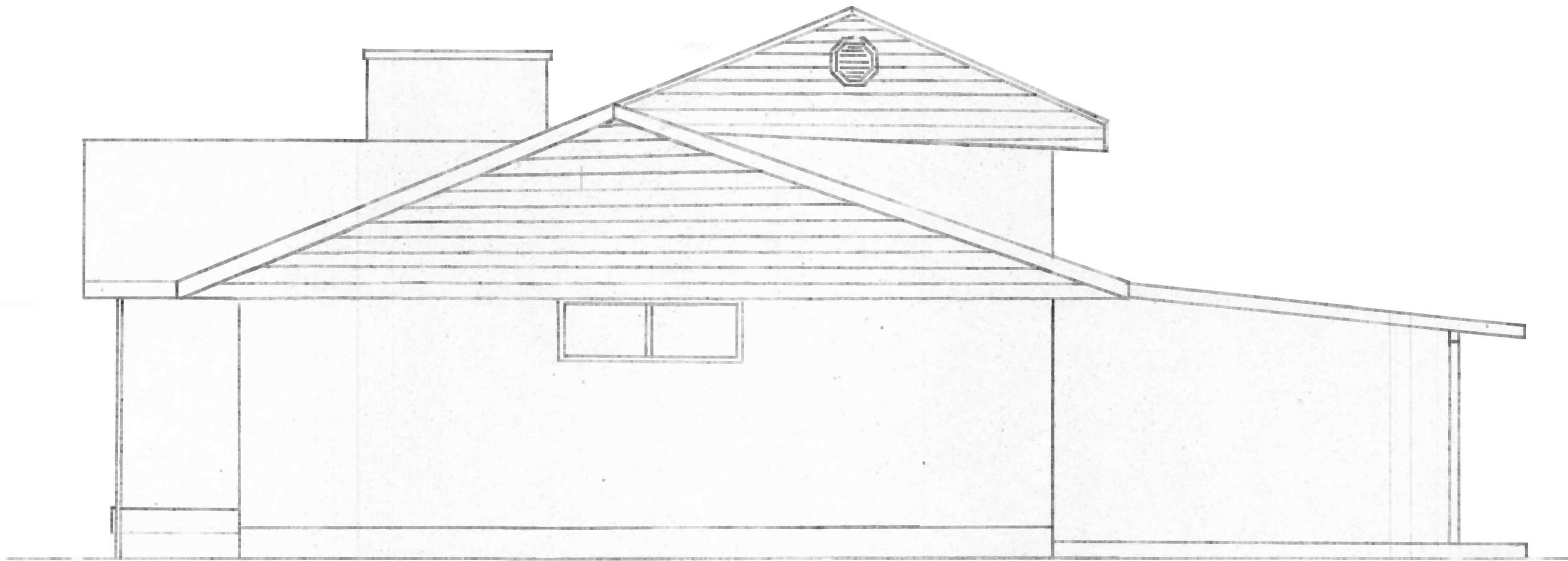
Pack Residence

2495 East 6710 South
Cottonwood Heights, UT 84121

OWNER

Gerald and Chelise Pack

Drawn By: Gerald Pack



SHEET NAME

Existing East (Right) Elevation

PROJECT INFO

Pack Residence

2495 East 6710 South
Cottonwood Heights, UT 84121

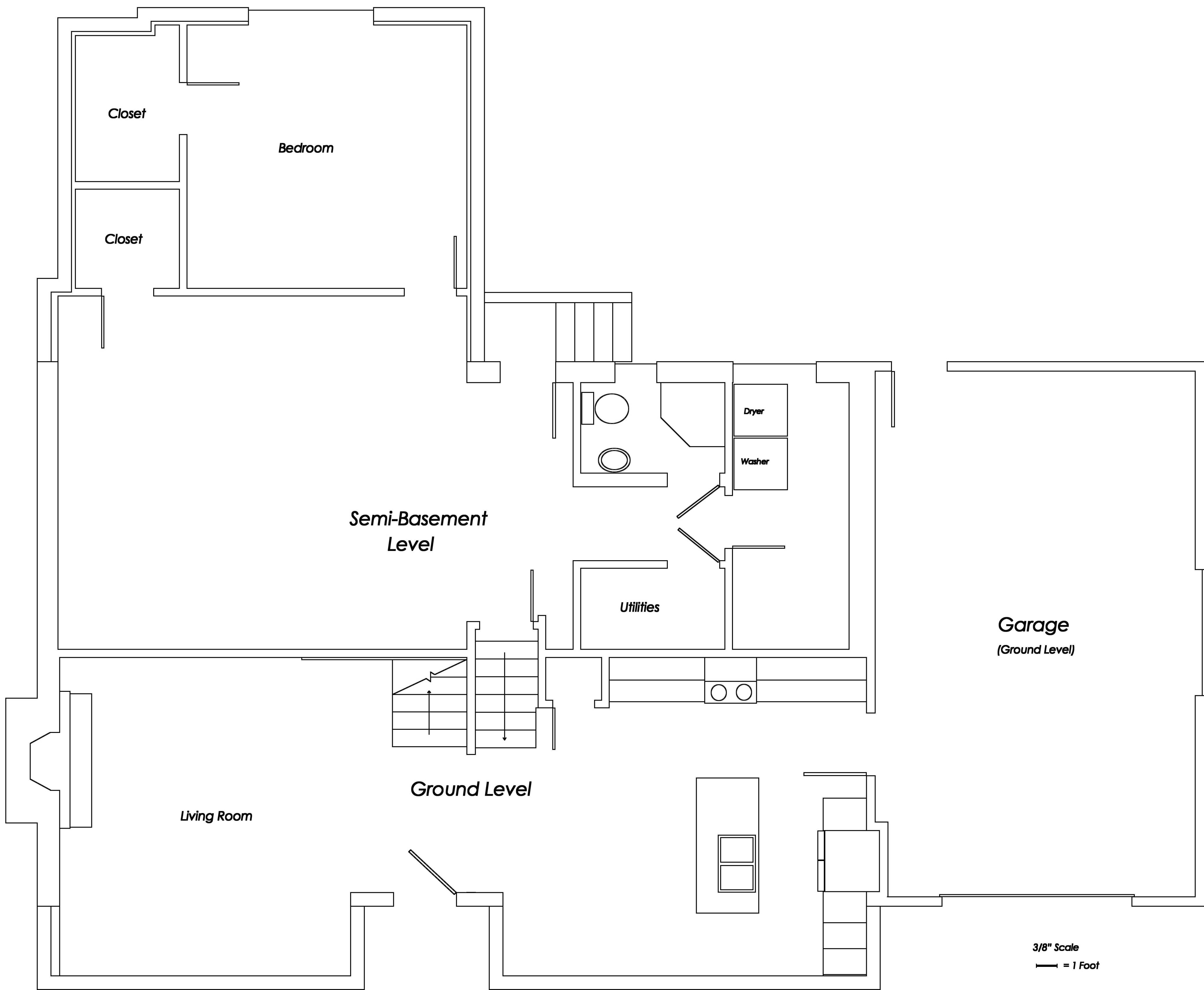
OWNER

Gerald and Chelise Pack

SHEET NUMBER:

08

Drawn By: Gerald Pack



OWNER

Gerald and Chelise Pack

PROJECT INFO

Pack Residence

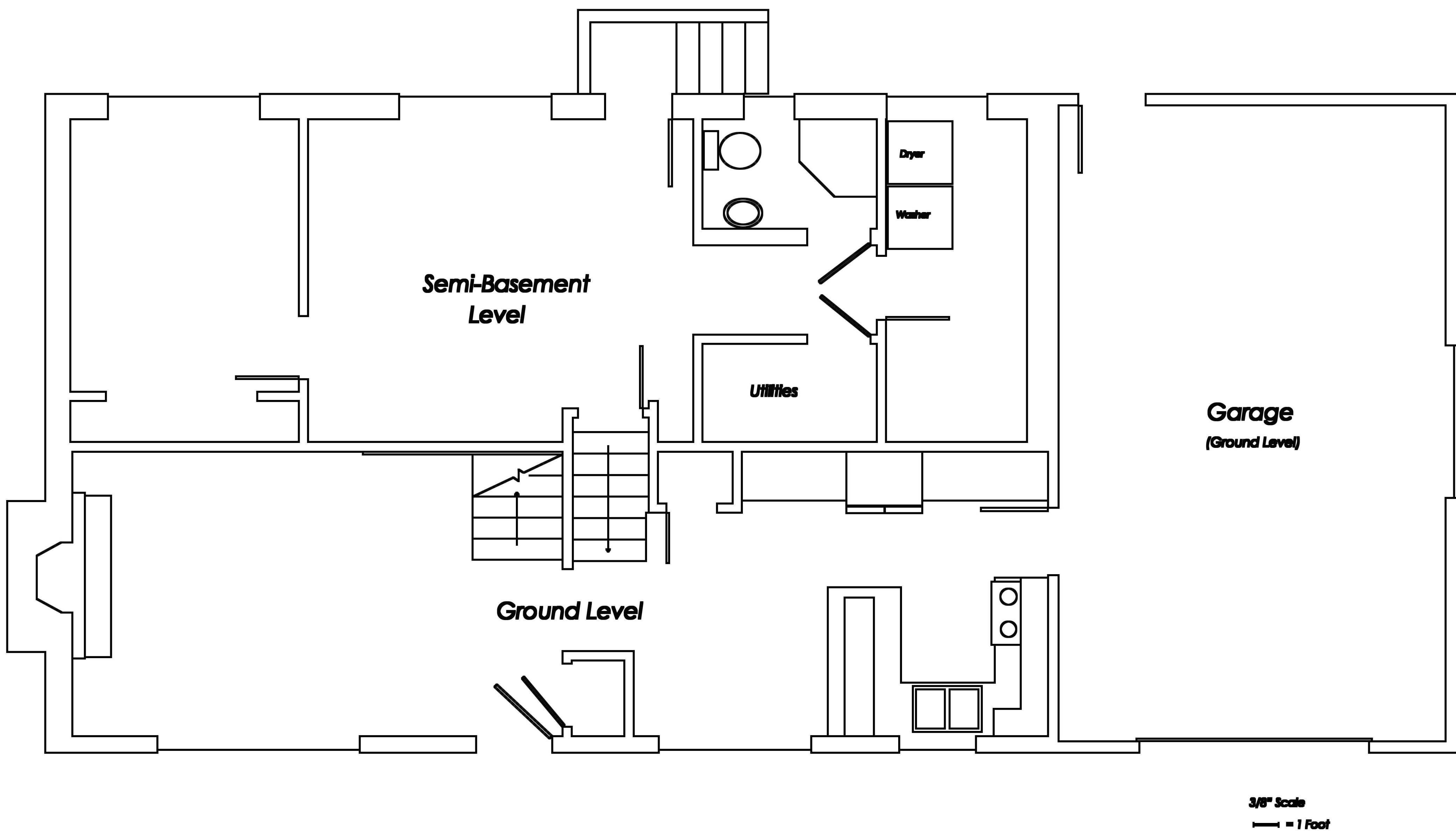
2495 East 6710 South
Cottonwood Heights, UT 84121

SHEET NAME

Semi-Basement and Ground

Drawn By: Gerald Pack

SHEET NUMBER:



SHEET NAME

Existing Semi-Basement

PROJECT INFO

Pack Residence

2495 East 6710 South
Cottonwood Heights, UT 84121

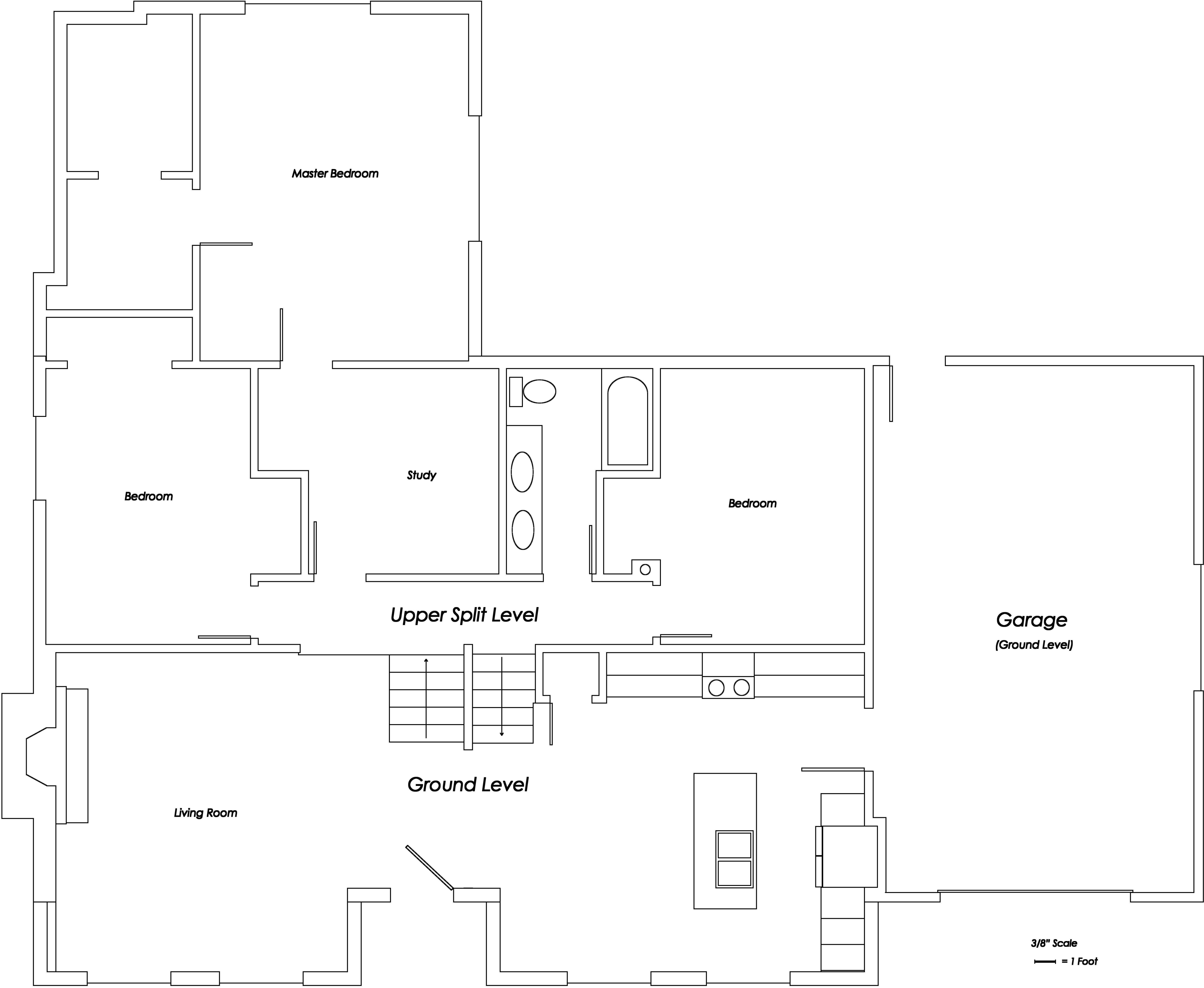
OWNER

Gerald and Chelise Pack

SHEET NUMBER:

12

Drawn By: Gerald Pack



OWNER

Gerald and Chelise Pack

PROJECT INFO

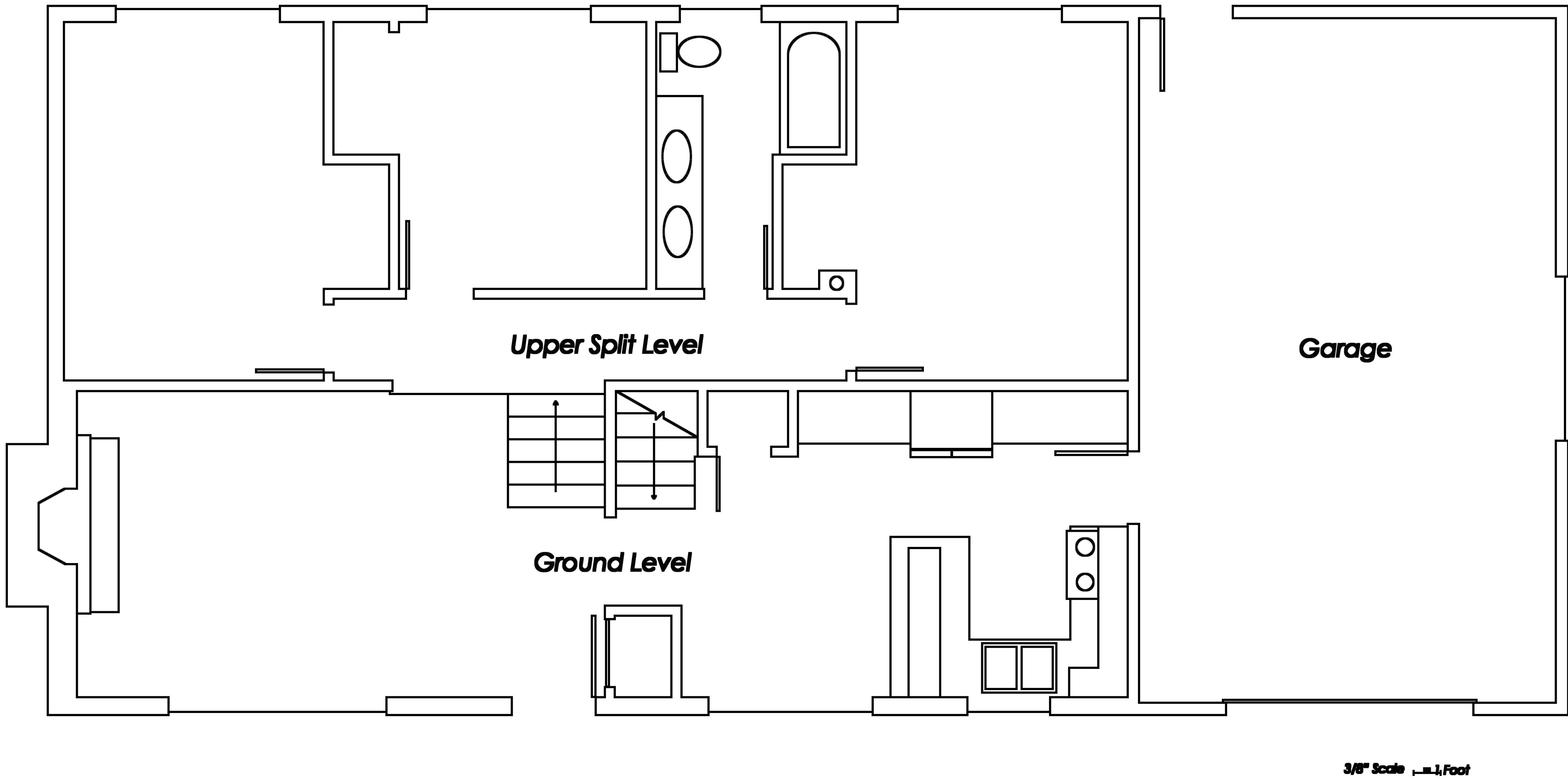
Pack Residence
2495 East 6710 South
Cottonwood Heights, UT 84121

SHEET NAME

Ground and Upper Split Level

Drawn By: Gerald Pack

SHEET NUMBER:



SHEET NAME

Existing Ground and Split Level

PROJECT INFO

Pack Residence

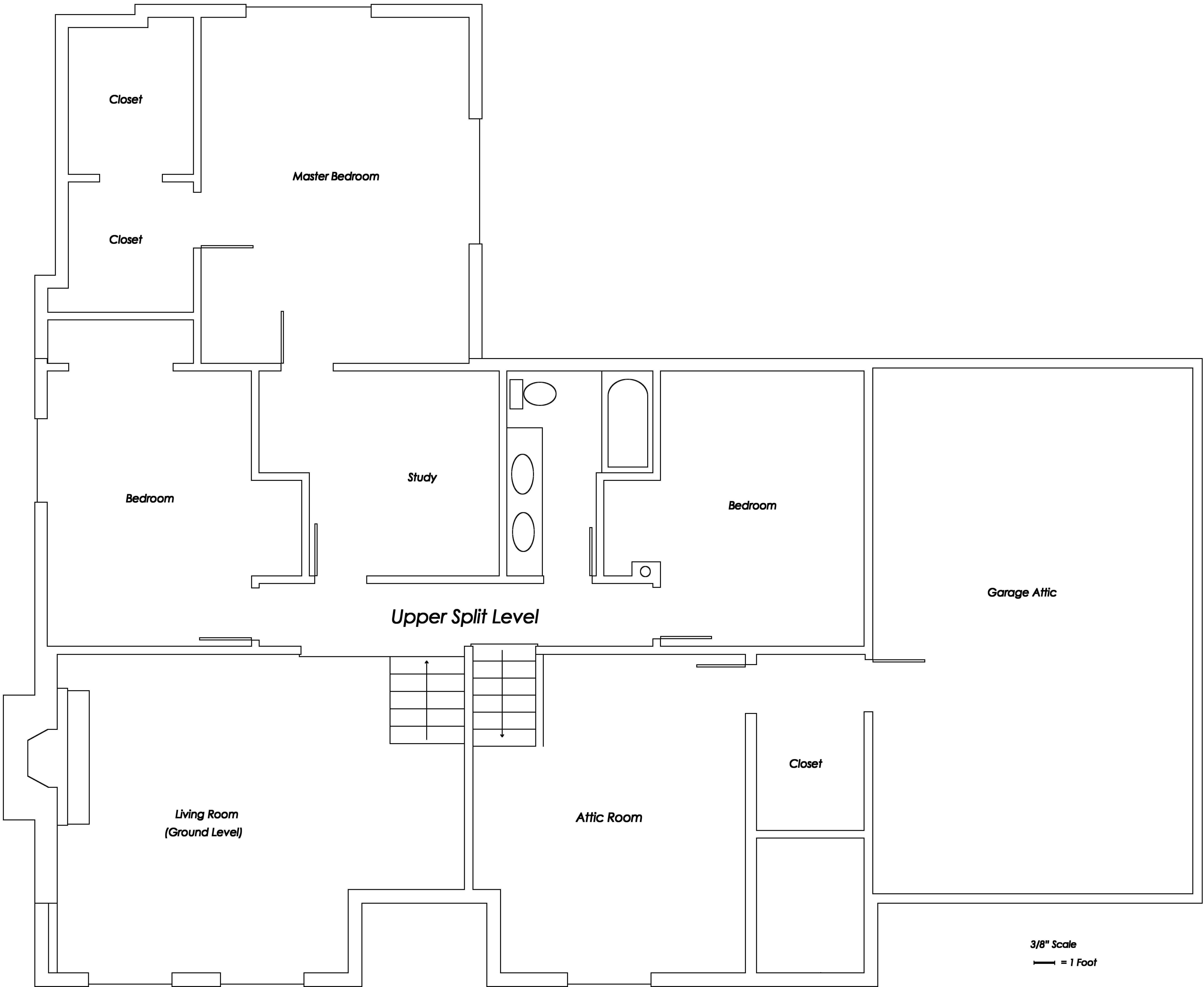
2495 East 6710 South
Cottonwood Heights, UT 84121

OWNER

Gerald and Chelise Pack

SHEET NUMBER:

Drawn By: Gerald Pack



OWNER

Gerald and Chelise Pack

PROJECT INFO

Pack Residence

2495 East 6710 South
Cottonwood Heights, UT 84121

SHEET NAME

Upper Split and Attic Room

Drawn By: Gerald Pack

SHEET NUMBER:

Non-Conforming Use Application Narrative

To my current understanding, my home, located at 2495 E 6710 S Cottonwood Heights, is non-conforming because the combination of both side yards is less than 20 feet. I assume the home was conforming in 1965 when the home was originally built. The left/west side yard is 8.2 feet, but because the original chimney extends 1.5 feet, the distance from the chimney to the west property line is 6.7 feet. The right/east side yard is 8.8 feet wide between the attached garage and the east property line.

My desire is to remodel and update the home with some additions to the front, moving the front wall forward 4 feet excluding the front entry door and garage. Additionally, I intend to extend the left/west corner 17 feet back/north by 21 feet wide with a 1-foot jog inward to the west wall away from the side property line, making the back of the addition 20 feet wide.

I have been told that these additions alone do not cause a problem with the left/west side yard requirements. However, I would also like to replace the entire roof to tie the home together both structurally and esthetically. Apparently, the proposed additions to the front, rear, and top do cause a side yard requirement problem because construction would proceed on both the right and left of the home. The proposed roof changes will make the home taller, measuring 23 feet 2 inches at the highest peak and 25 feet 2 inches to the top of the brick chimney. There will also be an addition of 125 Sq Ft to the home from and 605 Sq Ft to the west rear of the home. None of these proposed additions further extend into the side yards that are at issue with the home's non-conformity compared to present day side yard requirements. All other yard measurements, including front set back, height, and rear yard will remain in compliance with the current yard and set back requirements.

COTTONWOOD HEIGHTS CITY APPEALS HEARING OFFICER STAFF REPORT



March 7, 2024

Summary

Action Requested:

Approval of Six Variances

Applicant:

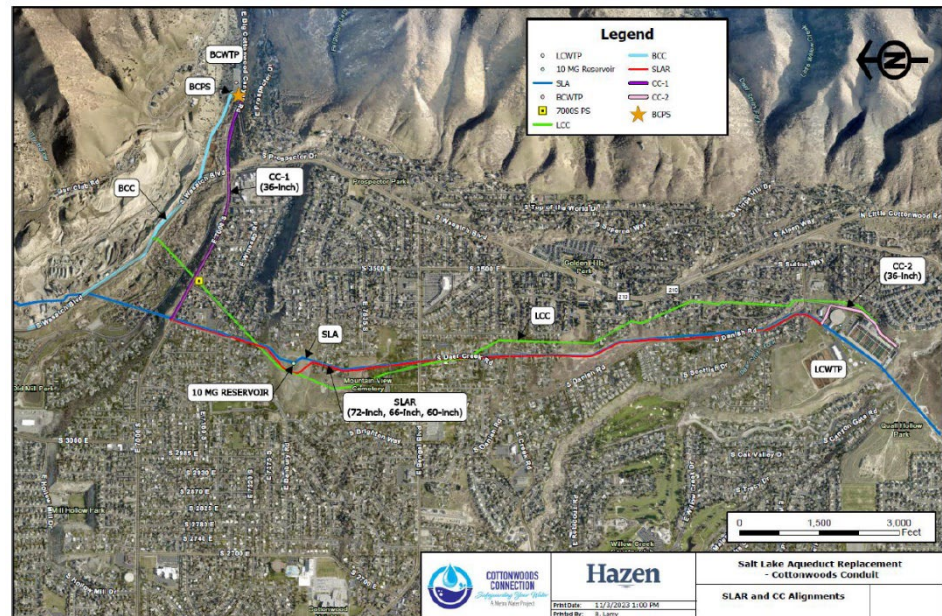
Jeremy Williams, P.E.

Recommendation:

Approval of 4 Variances;
2 Requests Not
Applicable

Project #:

AHO-24-001



Proposed Project Alignment Summary

Background and Context

The following is a general summary of the subject variance requests. A more detailed summary can be found in the applicant's written narrative, which is on file with the city's Community & Economic Development Department but not attached due to file size.

The Metropolitan Water District of Salt Lake and Sandy (MWDSLS) is a special service district that provides wholesale supplemental drinking water to two member cities, Salt Lake City and Sandy City. The residents of those service areas (approximately 400,000 in total) rely on MWDSLS for drinking water. The primary MWDSLS treatment facility is located within Cottonwood Heights at 3430 E. Danish Rd., known as the Little Cottonwood Water Treatment Plant. This facility serves as a hub for the Salt Lake Aqueduct, which is a regional aqueduct pipe measuring 69" in interior diameter, and 84" in outside diameter. Per the applicant's narrative, this pipe carries untreated water from Provo Canyon to the treatment facility, treats the water, and then carries it onto a terminal reservoir near the mouth of Parley's Canyon.

As part of recent master plan efforts (by MWDSLS and Salt Lake City Public Utilities), it has been determined that the existing Salt Lake Aqueduct line needs to be replaced 'to restore capacity and address aging infrastructure that is vulnerable to geologic hazards.' The existing pipeline, as well as the proposed replacements, runs through much of the eastern portion of the city, crossing numerous private properties and public rights of way. At various portions along its alignment, it is located within dedicated easements, while other areas along the alignment are owned outright by MWDSLS. Replacement of the pipeline constitutes phase 1 of a multi-phase process and is now funded and anticipated to begin later this year through construction of two new pipelines known as the *Cottonwood*

Connect (CC) and the *Salt Lake Aqueduct Replacement (SLAR)*. For simplicity and the purposes of this variance request, they will be referenced as a singular project in this staff report known as the *Cottonwoods Connection* project.

As part of preliminary planning efforts, the pipeline was analyzed to determine the best alignment for planned upgrades. The aqueduct is gravity-fed infrastructure, and its terminus points are static, so flexibility in future alignment options is limited. That said, the following criteria were examined as MWDSLS determined a preferred alignment for the upgraded aqueduct:

- Trench section
- Utility separation requirements
- Minimum depth of cover required
- Traffic disruptions and community impact
- Topography and terrain
- Geologic hazards: fault crossings, landslides, debris flow, liquefaction, steep slopes, and ground shaking (these represent many of the city's identified sensitive lands hazards)
- Construction loading and proximity to the existing Salt Lake Aqueduct
- Corridor width

While this analysis and the preferred alignment attempted to avoid as many hazards as possible, it is acknowledged that it is impossible to fully do so. Based on this technical analysis (detailed further in the application materials), the determination was made by MWDSLS that the new aqueduct should follow the same alignment as the existing waterway.

The city's Development Review Committee (DRC), consisting of staff from the Public Works Department, Community and Economic Development Department, and the city's geologic hazards consultant (GeoStrata), began meeting with MWDSLS after this analysis was done. MWDSLS submitted its full engineering reports for its preferred alignment, and the city's DRC began reviewing those documents for compliance with generally accepted engineering and geotechnical practices, and for compliance with the city's Sensitive Lands Evaluation and Development Standards (SLEDS) ordinance.

After several rounds of reviews between the DRC and MWDSLS' engineering consultants (Gerhart Cole, Delve Underground, and Hazen & Sawyer), the DRC concluded the following:

"It is the opinion of GeoStrata that the July 21, 2023 Gerhart Cole geotechnical/geologic study report generally addresses the geotechnical and geologic issues associated with the Cottonwood Connection Project (SLAR-CC design project) consistent with reasonable standards of practice and in accordance with Cottonwood Heights City's Sensitive Lands Evaluation & Development Standards....However, it appears that Gerhart Cole, Delve Underground, and Hazen & Sawyer did not reference the specific requirements outlined in Cottonwood Heights City's [SLEDS] and therefore did not provide discussions regarding the conflicts between some of their recommendations and the requirements and restrictions provided in the city's ordinance..."

While the city's review feedback was much more detailed and technical in nature, the above excerpt included in the applicant's narrative is correct, and generally means that from a technical engineering perspective, the project complies with all reasonable standards and practices for a project of this scale. It also recognizes that portions of the project and its alignment conflict with specific terms and

provisions of the city's SLEDs ordinance. As such, MWDSLs has submitted a formal request for several variances from the ordinance to proceed with the project.

There remain concerns from the city regarding the impact and scope of the development, which are included by reference at the end of this staff report. However, the following section includes a specific analysis of each requested variance:

Summary of Requests

The following variances have been requested by MWDSLs in order to proceed with the Cottonwoods Connection project.

- 1. Development on Slope Areas Exceeding 30% (19.72.040.A)**
 - Code Requirement: No development shall occur on natural slope areas in excess of 30%.
 - Variance Request: Permission for development and disturbance of several slope areas exceeding 30%.
- 2. Development Over Fault Line Hazards (19.72.040.H.3 and J.2)**
 - Code Requirement: No habitable structures or critical facilities shall be located over a fault, or on/within 20' of any identified fault.
 - Variance Request: Permission for development of a critical facility on a fault.
- 3. Requirement for Utilities to Use Flexible Expansion Joints in Fault Areas (19.72 Appendix B, Subsection 2.6.1.xiv) - *Staff note – the applicant's provided code reference is incorrect and should be 19.72 Appendix B, Subsection 2.6.3.xiv***
 - Code Requirement: Sewer and water lines that cross any fault must use flexible expansion joints.
 - Variance Request: Allowed use of alternate design to mitigate hazard of the proposed water line crossing a fault.
- 4. Maximum Seismic Displacement Allowed (19.72 Appendix C, Subsection 12.3.a)**
 - Code Requirement: Calculated seismic displacement shall be 15 cm or less, or mitigation measures shall be proposed to limit calculated displacement to 15 cm or less.
 - Variance Request: Calculated seismic displacement of more than 15 cm, given that the pipeline is designed to resist seismic displacement.
- 5. Off-Site Improvements Within Active Landslide Areas (19.72.040.J.1)**
 - Code Requirement: No structures or off-site improvements shall be allowed on any active landslide area.
 - Variance Request: Applicant finds that request may not be applicable but would request development in several landslide areas identified within the city's sensitive lands hazard maps.
- 6. Utilities in New Subdivisions that Cross a Fault or are Prone to Ground Shifting Require Flexible Expansion Joints (19.72.040.R)**

- Code Requirement: New utilities in proposed subdivisions require flexible expansion joints within fault or ground shaking areas.
- Variance Request: Applicant finds that request may not be applicable but would request a variance from this provision following the same finding as in request #3 above.

Variance Regulations

In Cottonwood Heights, variances are regulated by provisions of both city and state code, excerpts of which are outlined below.

City Code

19.92.30 Variances

C.1 The appeal hearing officer may authorize in specific cases variance from the terms of this title only if:

- a. Literal enforcement of the zoning ordinance would cause an unreasonable hardship for the applicant that is not necessary to carry out the general purpose of the zoning ordinance;*
- b. There are special circumstances attached to the property that do not generally apply to other properties in the same district;*
- c. Granting the variance is essential to the enjoyment of a substantial property right possessed by other property in the same district;*
- d. The variance will not substantially affect the general plan and will not be contrary to the public interest; and*
- e. The spirit of the zoning ordinance is observed and substantial justice is done.*

C.2 In determining whether enforcement of the zoning ordinance would cause unreasonable hardship under Subsection C(1)(a) of this section, the appeals hearing officer may not find an unreasonable hardship unless the alleged hardship:

- a. Is located on or associated with the property for which the variance is sought, and*
- b. Comes from circumstances particular to the property, not from conditions which are general to the neighborhood.*

C.3 In determining whether or not enforcement of the zoning ordinance would cause unreasonable hardship under Subsection C(1)(a) of this section, the appeals hearing officer may not find an unreasonable hardship if the hardship is self-imposed or economic.

C.4 In determining whether or not there are special circumstances attached to the property under Subsection C(1)(b) of this section, the appeals hearing officer may find that special circumstances exist only if special circumstances:

- a. Relate to the hardship complained of; and*
- b. Deprive the property of the privileges granted to other properties in the same district.*

D. The applicant shall bear the burden of proving that all the conditions justifying a variance have been met.

E. Variances run with the land.

F. The appeals hearing officer shall not grant a variance that:

- 1. Is intended as a temporary measure only;*
- 2. Is greater than the minimum variation necessary to relieve the unnecessary hardship demonstrated by the applicant; or*
- 3. Authorizes uses not allowed by law (i.e., a “use variance”).*

G. In granting a variance, the appeals hearing officer may impose additional requirements on the applicant that will:

- 1. Mitigate any harmful effects of the variance; or*
- 2. Serve the purpose of the standard or requirement that is waived or modified.*

H. A variance less than or different than that requested may be authorized when the record supports the applicant’s right to some relief but not to the relief requested.

State Code

10-9a-702 Variances

1. Any person or entity desiring a waiver or modification of the requirements of a land use ordinance as applied to a parcel of property that he owns, leases, or in which he holds some other beneficial interest may apply to the applicable appeal authority for a variance from the terms of the ordinance.

2. a. The appeal authority may grant a variance only if:

- i. literal enforcement of the ordinance would cause an unreasonable hardship for the applicant that is not necessary to carry out the general purpose of the land use ordinances;*
- ii. there are special circumstances attached to the property that do not generally apply to other properties in the same zone;*
- iii. granting the variance is essential to the enjoyment of a substantial property right possessed by other property in the same zone;*
- iv. the variance will not substantially affect the general plan and will not be contrary to the public interest; and*

- v. *the spirit of the land use ordinance is observed and substantial justice done.*

2.b.

- i. *In determining whether or not enforcement of the land use ordinance would cause unreasonable hardship under Subsection (2)(a), the appeal authority may not find an unreasonable hardship unless the alleged hardship:*
 - A. *is located on or associated with the property for which the variance is sought; and*
 - B. *comes from circumstances peculiar to the property, not from conditions that are general to the neighborhood.*
 - ii. *In determining whether or not enforcement of the land use ordinance would cause unreasonable hardship under Subsection (2)(a), the appeal authority may not find an unreasonable hardship if the hardship is self-imposed or economic.*
 - c. *In determining whether or not there are special circumstances attached to the property under Subsection (2)(a), the appeal authority may find that special circumstances exist only if the special circumstances:*
 - i. *relate to the hardship complained of; and*
 - ii. *deprive the property of privileges granted to other properties in the same zone.*
3. *The applicant shall bear the burden of proving that all of the conditions justifying a variance have been met.*
4. *Variances run with the land.*
5. *The appeal authority may not grant a use variance.*
6. *In granting a variance, the appeal authority may impose additional requirements on the applicant that will:*
 - a. *mitigate any harmful effects of the variance; or*
 - b. *serve the purpose of the standard or requirement that is waived or modified.*

Staff Analysis

Utilizing the criteria outlined in city and state code, staff has provided the following analysis and recommendation for each of the six variance requests.

1. DEVELOPMENT ON SLOPE AREAS OVER 30%

Code Requirement:

19.72.040.A - "Slope areas in excess of 30% may not be developed, and no more than 30% of a development's slope areas in excess of 30% may be included in the area calculation to determine residential density..."

Variance Request: The applicant has identified four specific areas along the proposed waterway alignment which exceed 30% in slope.

Applicant Responses to Variance Criteria:

- **How would literal enforcement of the zoning ordinance cause an unreasonable hardship for the applicant that is not necessary to carry out the general purpose of the zoning ordinance?**
 - *The applicant states that construction of the new pipeline in the preferred alignment inevitably impacts steep slope areas, as alignment options are limited given the regional nature of the pipeline's full alignment through the eastern portion of Cottonwood Heights.*
- **What are the special circumstances attached to the property that do not generally apply to other properties in the same district?**
 - *"...the Cottonwoods Connection Project is unique in that it necessarily requires construction within areas exceeding 30% slope. The same is not generally true with the district, as other development does not typically (if ever) involve a critical public infrastructure project such as this."*
- **How is granting this variance essential to the enjoyment of a substantial property right possessed by other property in the same district?**
 - *The applicant states that this criterion does not perfectly apply to the project, as it involves critical infrastructure rather than development of personally owned property. It further states that MWDSLs has statutory authority to 'construct works, facilities, and improvements necessary or convenient to the full exercise of the district's powers, and operate, control, maintain, and use those works, facilities, and improvements.' It further states that granting the proposed variance is essential for the applicant to exercise those statutory powers.*
- **How will this variance not substantially affect the general plan and will not be contrary to the public interest?**
 - *The applicant states that the variance promotes the public interest by ensuring reliable water service, including water service for fire protection and to protect public safety and health following a seismic event, and that the project satisfies goals of the general plan.*
- **How will the spirit of the zoning ordinance be observed, and substantial justice be done?**
 - *"...the design of the Cottonwoods Connection Project observed the spirit of the zoning ordinance. Substantial justice would be done through allowing the variance as this*

critical public infrastructure project cannot be completed in strict compliance with SLEDs. The City's geotechnical consultant (GeoStrata) recognizes that a variance will likely be necessary."

Staff Recommendation and Findings For Request #1

Staff recommends **APPROVAL** of this variance request **WITH THE FOLLOWING CONDITIONS:**

- Any utility development on areas exceeding 30% slope shall require hillside restoration that, at a minimum, maintains the existing slope stability factor of safety for the pre-disturbance condition of the hillside. A plan shall be submitted that properly demonstrates the proposed engineering and construction methodology, to the satisfaction of the DRC. The plan shall also show specific locations of all such disturbance areas.

This recommendation is based on the following findings:

- The nature of the applicant's proposal is unique in that it constitutes a large, regional-scale critical infrastructure project that traverses a large portion of the city and is not contained neatly within one property or project area. Avoidance of all 30% slope areas in this case is not possible.
- The alignment options for the project are limited by the necessity of the pipeline to function properly, and the pipe is located within easements and not on fee title land for the full extent of the alignment.
- The applicant made an apparent attempt to limit the locations where this particular variance is necessary. There are four locations identified which cross areas that exceed 30% slope, and each has been carefully analyzed by the applicant. In one impacted area, the applicant will be replacing an existing retaining wall made of railroad ties with an engineered concrete block wall, improving the slope stability.
- The new pipe follows a similar alignment to the existing pipeline, so the degree of non-conformity with the Sensitive Lands Ordinance is not getting substantially greater.
- The applicant has statutory authority and right to properly provide the culinary water services, which includes necessary improvements and maintenance of existing infrastructure.

2. DEVELOPMENT OVER FAULT LINES

Code Requirement:

19.72.040.H.3 – "No habitable structure, essential facility or critical facility shall be located over a fault. Determinations of the appropriate setback distance from the fault shall be made using data obtained in the geological report by the person or firm who prepared the geological report, but in no case shall the distance be less than 20 feet."

19.72.040.J.2 – “No habitable structure or critical or essential infrastructure shall be built on or within 20 feet of any identified fault. Actual setbacks shall be determined through the process outlined in Appendix B.”

Variance Request: The applicant requests approval to allow development over fault lines.

Applicant Responses to Variance Criteria:

- **How would literal enforcement of the zoning ordinance cause an unreasonable hardship for the applicant that is not necessary to carry out the general purpose of the zoning ordinance?**
 - *“SLEDs absolute prohibition of any essential facility or critical facility being located over a fault is not necessary to carry out the stated purpose of ‘ensur[ing] that development is regulated in a manner that will minimize the potential impact from natural and man-made hazards and will reasonably preserve natural scenic beauty and ecologic integrity.’”*
 - *Further, the applicant states that ‘given the location of the BCWTP, LCWTP, and the fault zone, it is impossible to complete the Cottonwood Connection without crossing a fault. There is no path from the BCWTP to the Salt Lake Valley that does not cross a fault line.’*
 - *The applicant also states that the lines are designed to remain intact and in service following an event of 6.0 magnitude, which allows for continual provision of water during and immediately after a seismic event.*
- **What are the special circumstances attached to the property that do not generally apply to other properties in the same district?**
 - *“As discussed above, the Cottonwoods Connection Project is unique in that it necessarily requires the crossing of a fault. The same is not generally true within the district, as other development does not typically (if ever) involve a critical public infrastructure project such as this.”*
- **How is granting this variance essential to the enjoyment of a substantial property right possessed by other property in the same district?**
 - *“Again, this criterion does not apply neatly to the Cottonwoods Connection Project, as it involves construction of critical public infrastructure rather than development of personally-owned property. Granting the requested variance from Subsection 19.72.040(J)(1) is essential to exercise and enjoyment of the District’s statutory powers discussed above.”*
- **How will this variance not substantially affect the general plan and will not be contrary to the public interest?**
 - *“As discussed above in response to criterion (a), the variance is not contrary to the public interest, as the Cottonwoods Connection Project was designed to an appropriate safety factor to protect MWDSLs, SLCDPU, and the public. Instead, the variances promotes the public interest by ensuring reliable water service, including water service for fire protection and to protect public safety and health following a seismic event.”*
- **How will the spirit of the zoning ordinance be observed, and substantial justice be done?**

- *“As discussed above in response to criterion (a), the design of the Cottonwoods Connection Project observed the spirit of the zoning ordinance. Substantial justice would be done through allowing the variance as this critical public infrastructure project cannot be completed in strict compliance with SLEDs. The City’s geotechnical consultant (GeoStrata) recognizes that a variance will likely be necessary.”*

Staff Recommendation and Findings For Request #2

Staff recommends **APPROVAL** of this variance request, based on the following findings:

- The nature of the applicant’s proposal is unique in that it constitutes a large, regional-scale critical infrastructure project that traverses a large portion of the city and is not contained neatly within one property or project area. Avoidance of all fault lines in this case is not possible.
- The alignment options for the project are limited by the necessity of the pipeline to function properly, and the pipe is located within easements and not on fee title land for the full extent of the alignment.
- The DRC staff finds that the pipe design follows reasonable industry standards for a large utility line of this nature, and is properly designed to withstand tensile stress and impacts of seismic activity to keep the pipe intact and functional during any potential seismic event.
- During a seismic event, the pipe could lift out of the road and damage other smaller utilities and/or roadways in the city. However, DRC staff finds that this is favorable to the pipe rupturing, and roads/utilities would likely be damaged regardless of the new proposed pipe.
- The DRC staff has requested that the applicant properly disclose potential hazards and impacts, and the applicant has done this.
- The applicant has statutory authority and right to properly provide the culinary water services, which includes necessary improvements and maintenance of existing infrastructure.

3. REQUIRED USE OF FLEXIBLE EXPANSION JOINTS IN FAULT AREAS

Code Requirement:

19.72 Appendix B, Subsection 2.6.3.xiv – “All sewer and water lines that cross any fault on the subject site shall be equipped with flexible expansion joints to prevent the rupture and consequential damage in the event of an earthquake.”

Variance Request: Utilization of mitigation measures other than flexible expansion joints where the proposed pipelines cross through fault areas. **Staff note – This variance actually pertains to 2.6.3.xiv, rather than 2.6.1.xiv, which was incorrectly cited by the applicant in its written narrative.**

Applicant Responses to Variance Criteria:

- **How would literal enforcement of the zoning ordinance cause an unreasonable hardship for the applicant that is not necessary to carry out the general purpose of the zoning ordinance?**

- *The applicant states that its pipeline has been designed in accordance with industry-accepted standards for major infrastructure such as this, in a way that these lines can cross broad seismic uncertainty zones and be designed to remain undamaged or intact. Rather than use of expansion joints, the design employed by the applicant is known as ‘hardening,’ which is a design term utilizing models to establish steel pipe tensile strength, wall thickness, and joint types to withstand a seismic event.*
- *The applicant states that the city’s geotechnical consultant (GeoStrata) found in its course of review that the design is consistent with reasonable standards of practice, and that strict enforcement of the ordinance is not necessary to carry out the general purpose of the zoning ordinance.*
- **What are the special circumstances attached to the property that do not generally apply to other properties in the same district?**
 - *“As discussed above, the Cottonwoods Connection Project is unique in that it necessarily requires the crossing of a fault. The same is not generally true within the district, as other development does not typically (if ever) involve a critical public infrastructure project such as this.”*
- **How is granting this variance essential to the enjoyment of a substantial property right possessed by other property in the same district?**
 - *“Again, this criterion does not apply neatly to the Cottonwoods Connection Project, as it involves construction of critical public infrastructure rather than development of personally-owned property. Granting the requested variance from Subsection 2.6.1(xiv) of Appendix B is essential to exercise and enjoyment of the District’s statutory powers discussed above.”*
- **How will this variance not substantially affect the general plan and will not be contrary to the public interest?**
 - *“...the variance is not contrary to the public interest, as the Cottonwoods Connection Project was designed such that CC-1 and the SLAR are ‘hardened’ so that they will either remain undamaged or remain intact but damaged so they can be repaired after the seismic event. Instead, the variance promotes the public interest by ensuring reliable water service, include water service for fire protection and to protect public safety and health following a seismic event because the mitigation approach used is more appropriate for this infrastructure.”*
- **How will the spirit of the zoning ordinance be observed, and substantial justice be done?**
 - *“As discussed above in response to criterion (a), the design of the Cottonwoods Connection Project observed the spirit of the zoning ordinance. Substantial justice would be done through allowing the variance as this critical public infrastructure cannot be completed in strict compliance with SLEDs. The City’s geotechnical consultant (GeoStrata) recognizes that a variance will likely be necessary.”*

Staff Recommendation and Findings for Request #3

Staff recommends **APPROVAL** of this variance request, based on the following findings:

- The correct code reference for this requested variance should be **19.72 Appendix B 2.6.3.xiv** (minor correction from provision cited in applicant’s narrative).
- The nature of the applicant’s proposal is unique in that it constitutes a large, regional-scale critical infrastructure project that traverses a large portion of the city and is not contained neatly within one property or project area. Avoidance of all fault lines in this case is not possible.
- The alignment options for the project are limited by the necessity of the pipeline to function properly, and the pipe is located within easements and not on fee title land for the full extent of the alignment.
- The DRC staff acknowledges that the referenced ordinance provision doesn’t properly address major critical infrastructure utility lines such as the one being proposed by the applicant, and the regulations are more applicable to smaller utilities at a property-specific scale or subdivision level.
- DRC staff requested design specifications that would resolve any concerns regarding the lack of use of flexible expansion joints, and the applicant’s design was found to be appropriate and within reasonable standard practice.
- The applicant has statutory authority and right to properly provide the culinary water services, which includes necessary improvements and maintenance of existing infrastructure.

4. SEISMIC DISPLACEMENT REQUIREMENTS

Code Requirement:

19.72 Appendix C, Subsection 12.3(a) - *[C]alculated seismic displacement shall be 15 cm or less, or mitigation measures shall be proposed to limit calculated displacement to 15 cm or less.*

Variance Request: Construction of the Cottonwoods Connection Project through areas where seismic displacement may be 15 cm or more, with mitigation measures applied to the pipeline so that the pipeline can mitigate the effects of displacement of 15 cm or more, rather than apply mitigation measures to the ground to limit displacement.

Applicant Responses to Variance Criteria:

- **How would literal enforcement of the zoning ordinance cause an unreasonable hardship for the applicant that is not necessary to carry out the general purpose of the zoning ordinance?**
 - *“...the Cottonwoods Connection project cannot avoid the areas with displacements of 15 cm or more. In addition, CC-1 and the SLAR will be installed in public rights-of-way and in easements on private property. MWDSLs does not own the parcels where seismic displacements may be 15 cm (6 inches) or more, and therefore the ability to perform ground improvements is out of MWDSLs’s control.”*

- *The pipeline is designed to resist seismic displacement, and this design has been reviewed by the city's geotechnical consultant (GeoStrata) and found to be 'consistent with reasonable standards of practice and in accordance with Cottonwood Heights City's Sensitive Lands Evaluation & Development Standards.'*
- **What are the special circumstances attached to the property that do not generally apply to other properties in the same district?**
 - *"...because MWDSLS does not own the parcels where seismic displacements may be 15 cm (6 inches) or more, ability perform ground improvements is out of MWDSLS's control. As noted above, ground improvements are not required because mitigation measures can be applied to the pipeline itself so that MWDSLS can meet the intent of the SLEDs ordinance."*
- **How is granting this variance essential to the enjoyment of a substantial property right possessed by other property in the same district?**
 - *"This criterion does not apply neatly to the Cottonwoods Connection Project, as it involves construction of critical public infrastructure in public rights-of-way and easements rather than development of personally-owned property. Granting the variance is essential to the exercise and enjoyment of statutory powers discussed above."*
- **How will this variance not substantially affect the general plan and will not be contrary to the public interest?**
 - *"...the variance is not contrary to the public interest, as the Cottonwoods Connection Project was designed to an appropriate safety factor to protect MWDSLS, SLCDPU, and the public. Instead, the variance promotes the public interest by ensuring reliable water service, including water service for fire protection and to protect public safety and health following a seismic event."*
- **How will the spirit of the zoning ordinance be observed, and substantial justice be done?**
 - *"...the design of the Cottonwoods Connection Project observed the spirit of the zoning ordinance. Substantial justice would be done through allowing the variance as this critical public infrastructure project cannot be completed in strict compliance with SLEDs. The City's geotechnical consultant (GeoStrata) recognizes that a variances will likely be necessary."*
 - *"Modeling results presented in Geotechnical/Geological Study, Cottonwoods Connection Appendix F Seismic Deformation Pipeline Evaluation Report (Delve, 2023) and Analysis of SLAR and CC-1 Pipelines Response to Seismic Slope Displacement (D.G. Honegger Consulting, 2023) demonstrate that the design techniques used to mitigate the effects of settlement are sufficient to maintain pipeline integrity."*

Staff Recommendation and Findings for Request #4

Staff recommends **APPROVAL** of this variance request **WITH THE FOLLOWING CONDITIONS**:

- Subject to DRC review and approval, the applicant shall submit its methodology for mitigating the impact of potential displacement greater than 15 cm. and provide a plan for how it will restore unstable slopes if disturbed. The applicant shall also demonstrate that cutting into unstable slopes will not worsen the existing conditions of the slopes.
- Any utility development on areas of 30% slope or greater shall require hillside restoration that, at a minimum, maintains the existing slope stability factor of safety for the pre-disturbance condition of the hillside. A plan shall be submitted that properly demonstrates the proposed engineering and construction methodology, to the satisfaction of the DRC. The plan shall also show specific locations of such areas.

This recommendation is based on the following findings:

- The nature of the applicant's proposal is unique in that it constitutes a large, regional-scale critical infrastructure project that traverses a large portion of the city and is not contained neatly within one property or project area. Avoidance of seismic displacement hazards in this case is not possible.
- The alignment options for the project are limited by the necessity of the pipeline to function properly, and the pipe is located within easements and not on fee title land for the full extent of the alignment.
- Upon satisfaction of the recommended conditions of approval above, the DRC finds that disturbance of areas with risk of seismic displacement greater than 15 cm can be reasonably mitigated through appropriate land disturbance methodology.
- The applicant has statutory authority and right to properly provide the culinary water services, which includes necessary improvements and maintenance of existing infrastructure.

5. DEVELOPMENT IN ACTIVE LANDSLIDE AREAS

Code Requirement:

19.72.040.J.1 – No structures or off-site improvements shall be allowed on any active landslide area...as determined by the City Engineer.

Variance Request: The applicant suggests that this ordinance provision is not applicable as the mapped landslide deposits over which the pipeline is to be located are not an active landslide area. While they show as landslide study areas on SLEDs ordinance maps, they should not constitute active landslide areas as the areas were regraded many years ago and several homes have been built on them. That said, the applicant has provided variance justification criteria in its application (not included in this staff report) in case the city should find that the provision is applicable.

Staff Recommendation and Findings for Request #5

DRC staff has reviewed the requested variance and finds that the code provision is not applicable to the subject application. As such, no variance analysis is required.

6. FACILITIES IN NEW SUBDIVISION REQUIRE USE OF FLEXIBLE EXPANSION JOINTS

Code Requirement:

19.72.040.R – All new utilities or existing facilities located within a proposed subdivision and that cross a major fault or located in areas that are prone to ground shifting shall be equipped with a flexible expansion joint that is capable of withstanding the maximum anticipated offset as a result of settling or seismic displacement as required by the city. The flexible expansion joint shall be an integrated cast ball and socket type joist with expansion sleeves and have a minimum 2:1 safety factor with a 350 psi pressure rating and meet USA factory certifications, as per the city engineer.

Variance Request: While similar to the requirement above, the applicant suggests that this ordinance provision is not applicable, as the proposed project is not part of a proposed subdivision. The applicant has provided variance justification criteria in its application (not included in this staff report) in case the city should find that the provision is applicable.

Staff Recommendation and Findings for Request #6

DRC staff has reviewed the requested variance and finds that the code provision is not applicable to the subject application. As such, no variance analysis is required.

Additional City Requirements

While not recommended as conditions of the requested variances, the following are additional city requirements that the applicant is expected to address as part of the full scope of work being proposed:

- MWDSLS shall obtain a public right-of-way permit for all work in a public right-of-way.
- MWDSLS shall submit development permits for any work on private property that would otherwise require a permit by City Code. This includes, but is not limited to retaining walls, building permits, demolition permits, land disturbance permits, etc.
- An interlocal agreement is pending between the city and MWDSLS. That agreement shall be finalized prior to the commencement of the project.

Summary of Recommendations

As detailed above, the following summarizes the staff recommendation for each requested variance:

1. Development in 30% slope areas – Staff recommends **APPROVAL WITH CONDITIONS**
2. Development over fault lines – Staff recommends **APPROVAL**
3. Development of infrastructure without flexible expansion joints – Staff recommends **APPROVAL**
4. Development exceeding 15 cm maximum seismic displacement – Staff recommends **APPROVAL WITH CONDITIONS**
5. Development in active landslide areas – Staff finds that this provision is **NOT APPLICABLE**
6. Required use of expansion joints in new subdivisions – Staff finds that this provision is **NOT APPLICABLE**

Model Motions

Approval

“I approve, with conditions, the variances requested as part of project AHO-24-001 based on the analysis, recommendations, and findings summarized in the staff report:”

- *List the approved variance requests*
- *List any additional findings or conditions for approval*

Denial

"I move to deny the following variance requests based on the findings outlined in the staff report:"

- *List any denied variance requests*
- *List any additional findings for denial*

Attachments

1. Applicant Narrative (distributed separately from the report due to file size)