TOWN OF JACKSON PLANNING & BUILDING DEPARTMENT

TRANSMITTAL MEMO

Town of Jackson
- ☒ Public Works/Engineering
- ☒ Building
- ☐ Title Company-*Wyoming Title & Escrow*
- ☒ Town Attorney
- ☒ Police

Joint Town/County
- ☒ Parks and Recreation
- ☐ Pathways

Teton County
- ☐ Planning Division
- ☐ Engineer
- ☐ Surveyor- *Nelson*
- ☐ Assessor
- ☐ Clerk and Recorder
- ☐ Road and Levee
- ☒ Housing Authority

State of Wyoming
- ☐ Teton Conservation
- ☐ WYDOT
- ☐ TC School District #1
- ☐ Game and Fish
- ☐ DEQ

Federal Agencies
- ☐ Army Corp of Engineers

Utility Providers
- ☐ Qwest
- ☐ Lower Valley Energy
- ☐ Bresnan Communications

Special Districts
- ☒ START
- ☒ Jackson Hole Fire/EMS
- ☐ Irrigation Company

Date: March 28, 2016

Item #: P16-039

Planner: Paul Anthony

Phone: 733-0440 ext. 1303

Fax: 734-3563

Email: panthony@ci.jackson.wy.us

Applicant:
Hawtin Jorgensen Architects, PC
PO Box 1249
Jackson, WY
83001
307-733-4364
ajorgensen@hawtinjorgensen.com

Owner's
Jackson Hole Community Trust
PO Box 4498
Jackson, WY 83001
307-733-4364

Town of Jackson
PO Box 1687
Jackson, WY 83001

REQUESTS:

The applicant is submitting a request for a Planned Unit Development Plan of 26 affordable rental units located at 557 E. Hall, 575 E Hall, 585 E Hall and 335 S Redmond, legally known as LOT 6, JAMES G. & JULIA L. SCARLETT ADDITION 2ND FILING, LOT 1, JAMES G. & JULIA L. SCARLETT ADDITION, LOT 4, JAMES G. & JULIA L. SCARLETT ADDITION, and LOT 3, JAMES G. & JULIA L. SCARLETT ADDITION

For questions, please call Paul Anthony at 733-0440, x1303 or email to the address shown below. Thank you.

Please respond by: April 12, 2016 (for Sufficiency)
April 19, 2016 (with Comments)

RESPONSE: For Departments not using Trak-it, please send responses via email to:
jcarruth@ci.jackson.wy.us

JACKSON HOLE COMMUNITY
Housing Trust

REDMOND STREET RENTALS

PLANNED UNIT DEVELOPMENT & DEVELOPMENT PLAN SUBMITTAL
MARCH 25TH, 2016

Hawtin Jorgensen
ARCHITECTS

Jackson Hole Community Housing Trust
P.O. Box 4498;110 E Broadway, 2nd Floor; Jackson, Wyoming 83001; 307.739.0665; www.housingtrustjh.org

March 25, 2016

Mr. Paul Anthony, Principal Planner
Town of Jackson
P.O. Box 1687
Jackson, Wyoming 83001

Re: Planned Unit Development and Development Permit Application
Redmond/Hall - JH Community Housing Trust

Hawtin Jorgensen
ARCHITECTS

Dear Paul,

Please find attached an application for a Planned Unit Development and Development Permit to continue the planning process for the Jackson Hole Community Housing Trust's next project on the corner of Redmond and Hall. This project represents a partnership between the Town of Jackson and the Housing Trust: 335 Redmond Street and 585 Hall Avenue have been leased by the Town of Jackson to the Housing Trust as part of this partnership.

The proposed site contains 26 new units and 2 existing rental units. This project represents a focus on the provision of restricted stable rental housing, addressing an obvious void within our community.

The lots are clear of existing buildings except for a garage on Lot 4 (to be demolished), a house on Lot 1 (to be demolished), and a new 1,300 square foot two-story duplex built in 2013 on Lot 6 (which will be integrated into the larger project).

This submittal contains two site plan options – Sufficient and Preferred. The intent is to have the Preferred version reviewed and approved, which would require the use of the Administrative Adjustment. It is understood that the project would be reviewed by the Planning Commission and Town Council prior to the Administrative Adjustment. The Sufficient site is included to illustrate the clear benefit to the Preferred path.

Thank you for your consideration and please feel free to contact us with any comments or questions.

Sincerely,

Arne O. Jorgensen, AIA NCARB LEED AP
President, Hawtin Jorgensen Architects, PC

cc: Anne Creswell, Carrie Kruse, Chris Hancock

Jackson Hole Community Housing Trust
Redmond Street Rentals
Sufficient Site Plan
Final Development Plan
Planned Unit Development

- Cover Letter

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2. Application for Development Action
   - Planning Permit Application
   - Letters of Authorization
     - Town of Jackson
     - Jackson Hole Community Housing Trust

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   - Permits Requested
     - Final Development Plan
     - Planned Unit Development
   - Site Description and Planning History
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PREFERRED SITE OPTION

10. Letter of Justification
    - Applicants, Applicants Agent, and Planning Team
    - Permits Requested
        - Final Development Plan
        - Planned Unit Development
        - Administrative Adjustment
    - Site Description and Planning History
    - Final Development Plan – Standards
    - Planned Unit Development – Standards
    - Administrative Adjustment – Standards
11. Development Standards
12. Architectural and Site Design
    - Town of Jackson Design Guidelines
13. Landscape Statement
14. Housing Mitigation Plan
15. Traffic Analysis
16. Capital Improvements Plan
    - Water Supply
    - Wastewater Collection
    - Stormwater
    - Miscellaneous

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Architectural Drawings

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A0.3 Perspective
A0.4 Site Section
A0.5 Site Diagrams
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L1.0 Planting Plan
L2.0 Public Space Plan
L3.0 Plant Photos

APPENDICES

A. Civil Calculations
B. Geotechnical Report
C. Traffic Study
D. Neighborhood Meeting Comments

PLANNING PERMIT APPLICATION

Planning & Building Department
Planning Division

150 E Pearl Ave. | ph: (307) 733-0440
P.O. Box 1687 | fax: (307) 734-3563
Jackson, WY 83001 | www.townofjackson.com

For Office Use Only

Fees Paid_____

Check # _____ Credit Card_____ Cash_____

Application #s _____ _____ _____

PROJECT.

Name/Description: Jackson Hole Community Housing Trust - Redmond/Hall Rentals

Physical Address: 355 Redmond Street and 557 E. Hall Avenue

Lot, Subdivision: lot 3 and 4 Scarlett Addition PIDN: lot 3: 22-41-16-34-1-81-003
lot 4: 22-41-16-34-1-81-004

OWNER.

Name: Town of Jackson Phone: 307-733-3079

Mailing Address: P.O. Box 1687, Jackson, Wyoming ZIP: 83001

E-mail: rrobinson@ci.jackson.wy.us

APPLICANT/AGENT.

Name: Hawtin Jorgensen Architects, PC Phone: 307-733-4364

Mailing Address: P.O. Box 1249, Jackson, Wyoming ZIP: 83001

E-mail: ajorgensen@hawtinjorgensen.com

DESIGNATED PRIMARY CONTACT.

_____Owner X Applicant/Agent

TYPE OF APPLICATION. *Please check all that apply; see Fee Schedule for applicable fees.*

Use Permit

_____Basic Use
_____Conditional Use
_____Special Use

Physical Development

_____Sketch Plan
X Development Plan

Interpretations

_____Formal Interpretation
_____Zoning Compliance Verification

Relief from the LDRs

X Administrative Adjustment
_____Variance
_____Beneficial Use Determination
_____Appeal of an Admin. Decision

Development Option/Subdivision

_____Development Option Plan
_____Subdivision Plat
_____Boundary Adjustment (replat)
_____Boundary Adjustment (no plat)

Amendments to the LDRs

_____LDR Text Amendment
_____Zoning Map Amendment
X Planned Unit Development

PRE-SUBMITTAL STEPS. *Pre-submittal steps, such as a pre-application conference, environmental analysis, or neighborhood meeting, are required before application submittal for some application types. See Section 8.1.5, Summary of Procedures, for requirements applicable to your application package. If a pre-submittal step is required, please provide the information below. If you need assistance locating the project number or other information related to a pre-submittal step, contact the Planning Department.* ***If this application is amending a previous approval, indicate the original permit number.***

Pre-application Conference #: P15-078 & 079 Environmental Analysis #: _____

Original Permit #: _____ Date of Neighborhood Meeting: 2/25/2016

SUBMITTAL REQUIREMENTS. *Twelve (12) hard copies and one (1) digital copy of the application package (this form, plus all applicable attachments) should be submitted to the Planning Department.. Please ensure all submittal requirements are included. The Planning Department will not hold or process incomplete applications. Partial or incomplete applications will be returned to the applicant.*

Have you attached the following?

X **Application Fee.** Fees are cumulative. Applications for multiple types of permits, or for multiple permits of the same type, require multiple fees. See the currently adopted Fee Schedule in the Administrative Manual for more information.

X **Notarized Letter of Authorization.** A notarized letter of consent from the landowner is required if the applicant is not the owner, or if an agent is applying on behalf of the landowner. If the owner is a partnership or corporation, proof that the owner can sign on behalf of the partnership or corporation is also required. Please see the Letter of Authorization template in the Administrative Manual for a sample.

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FORMAT.

The main component of any application is demonstration of compliance with all applicable Land Development Regulations (LDRs) and Resolutions. The submittal checklists are intended to identify applicable LDR standards and to outline the information that must be submitted to sufficiently address compliance with those standards.

For some submittal components, minimum standards and formatting requirements have been established. Those are referenced on the checklists where applicable. For all other submittal components, the applicant may choose to make use of narrative statements, maps, drawings, plans and specifications, tables and/or calculations to best demonstrate compliance with a particular standard.

Note: Information provided by the applicant or other review agencies during the planning process may identify other requirements that were not evident at the time of application submittal or a Pre-Application Conference, if held. Staff may request additional materials during review as needed to determine compliance with the LDRs.

Under penalty of perjury, I hereby certify that I have read this application and associated checklists and state that, to the best of my knowledge, all information submitted in this request is true and correct. I agree to comply with all county and state laws relating to the subject matter of this application, and hereby authorize representatives of Teton County to enter upon the above-mentioned property during normal business hours, after making a reasonable effort to contact the owner/applicant prior to entering.

Anne Cresswell — 3-25-16

Signature of Owner or Authorized Applicant/Agent — Date

Anne Cresswell — Executive Director, JHCHT

Name Printed — Title

LETTER OF AUTHORIZATION

Town of Jackson ,"Owner" whose address is:

335 Redmond Street & 585 E. Hall Avenue, Jackson, Wyoming 83001

(NAME OF ALL INDIVIDUALS OR ENTITY OWNING THE PROPERTY)

Roxanne Robinson, Assistant Town Manager, Town of Jackson , as the owner of property

more specifically legally described as:

Lot 3 & 4, James G. & Julia Scarlett Addition

(If too lengthy, attach description)

HEREBY AUTHORIZES Jackson Hole Community Housing Trust **as agent to represent and act for Owner in making application for and receiving and accepting on Owners behalf, any permits or other action by the Town of Jackson, or the Town of Jackson Planning, Building, Engineering and/or Environmental Health Departments relating to the modification, development, planning or replatting, improvement, use or occupancy of land in the Town of Jackson. Owner agrees that Owner is or shall be deemed conclusively to be fully aware of and to have authorized and/or made any and all representations or promises contained in said application or any Owner information in support thereof, and shall be deemed to be aware of and to have authorized any subsequent revisions, corrections or modifications to such materials. Owner acknowledges and agrees that Owner shall be bound and shall abide by the written terms or conditions of issuance of any such named representative, whether actually delivered to Owner or not. Owner agrees that no modification, development, platting or replatting, improvement, occupancy or use of any structure or land involved in the application shall take place until approved by the appropriate official of the Town of Jackson, in accordance with applicable codes and regulations. Owner agrees to pay any fines and be liable for any other penalties arising out of the failure to comply with the terms of any permit or arising out of any violation of the applicable laws, codes or regulations applicable to the action sought to be permitted by the application authorized herein.**

Under penalty of perjury, the undersigned swears that the foregoing is true and, if signing on behalf of a corporation, partnership, limited liability company or other entity, the undersigned swears that this authorization is given with the appropriate approval of such entity, if required.

OWNER:

(SIGNATURE) (SIGNATURE OF CO-OWNER)

Title: Assistant Town Manager

(if signed by officer, partner or member of corporation, LLC (secretary or corporate owner) partnership or other non-individual Owner)

STATE OF Wyoming)
)SS.
COUNTY OF Teton)

The foregoing instrument was acknowledged before me by Roxanne Robinson this 21st day of August, 2015

WITNESS my hand and official seal.

(Seal)

(Notary Public)

My commission expires: 10-31-2017

Carl R. Pelletier - Notary Public
County of Teton
State of Wyoming
My Commission Expires 10-31-2017

PLANNING PERMIT APPLICATION

Planning & Building Department
Planning Division

150 E Pearl Ave. | ph: (307) 733-0440
P.O. Box 1687 | fax: (307) 734-3563
Jackson, WY 83001 | www.townofjackson.com

For Office Use Only

Fees Paid_____

Check # _____ Credit Card_____ Cash_____

Application #s _____ _____ _____

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Name/Description: Jackson Hole Community Housing Trust - Redmond/Hall Rentals

Physical Address: 355 Redmond Street and 557 E. Hall Avenue

Lot, Subdivision: lot 1 Scarlett Addition, lot 6 2nd Addition PIDN: lot 6: 22-41-16-34-1-AK-002
lot 1: 22-41-16-34-1-81-001

OWNER.

Name: Jackson Hole Community Housing Trust Phone: 307-739-0665

Mailing Address: P.O. Box 4498, Jackson, Wyoming ZIP: 83001

E-mail: anne@housingtrustjh.org

APPLICANT/AGENT.

Name: Hawtin Jorgensen Architects, PC Phone: 307-733-4364

Mailing Address: P.O. Box 1249, Jackson, Wyoming ZIP: 83001

E-mail: ajorgensen@hawtinjorgensen.com

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Under penalty of perjury, I hereby certify that I have read this application and associated checklists and state that, to the best of my knowledge, all information submitted in this request is true and correct. I agree to comply with all county and state laws relating to the subject matter of this application, and hereby authorize representatives of Teton County to enter upon the above-mentioned property during normal business hours, after making a reasonable effort to contact the owner/applicant prior to entering.

Anne Cresswell — 3.25.16

Signature of Owner or Authorized Applicant/Agent — Date

Anne Cresswell — Executive Director, JHCHT

Name Printed — Title

LETTER OF AUTHORIZATION

Jackson Hole Community Housing Trust ,"Owner" whose address is: _____

557 E Hall Avenue, Jackson, Wyoming 83001

(NAME OF ALL INDIVIDUALS OR ENTITY OWNING THE PROPERTY)

Anne Creswell, Executive Director, Jackson Hole Community Housing Trust , as the owner of property more specifically legally described as: _____

Lot 6, James G. & Julia L. Scarlett Addition, 2nd Filing

(If too lengthy, attach description)

HEREBY AUTHORIZES Hawtin Jorgensen Architects, PC **as agent to represent and act for Owner in making application for and receiving and accepting on Owners behalf, any permits or other action by the Town of Jackson, or the Town of Jackson Planning, Building, Engineering and/or Environmental Health Departments relating to the modification, development, planning or replatting, improvement, use or occupancy of land in the Town of Jackson. Owner agrees that Owner is or shall be deemed conclusively to be fully aware of and to have authorized and/or made any and all representations or promises contained in said application or any Owner information in support thereof, and shall be deemed to be aware of and to have authorized any subsequent revisions, corrections or modifications to such materials. Owner acknowledges and agrees that Owner shall be bound and shall abide by the written terms or conditions of issuance of any such named representative, whether actually delivered to Owner or not. Owner agrees that no modification, development, platting or replatting, improvement, occupancy or use of any structure or land involved in the application shall take place until approved by the appropriate official of the Town of Jackson, in accordance with applicable codes and regulations. Owner agrees to pay any fines and be liable for any other penalties arising out of the failure to comply with the terms of any permit or arising out of any violation of the applicable laws, codes or regulations applicable to the action sought to be permitted by the application authorized herein.**

Under penalty of perjury, the undersigned swears that the foregoing is true and, if signing on behalf of a corporation, partnership, limited liability company or other entity, the undersigned swears that this authorization is given with the appropriate approval of such entity, if required.

OWNER: Anne Creswell

(SIGNATURE) (SIGNATURE OF CO-OWNER)

***Title*:** executive director

(if signed by officer, partner or member of corporation, LLC (secretary or corporate owner) partnership or other non-individual Owner)

STATE OF Wyoming)
)SS.
COUNTY OF Teton)

The foregoing instrument was acknowledged before me by Annie Creswell this 21 day of August, ~~200~~2015

WITNESS my hand and official seal.

Caroline E. Kruse **(Seal)**

(Notary Public)

My commission expires: 2/12/19

CAROLINE E. KRUSE NOTARY PUBLIC
COUNTY OF TETON STATE OF WYOMING
MY COMMISSION EXPIRES FEBRUARY 12, 2019

JACKSON HOLE COMMUNITY Housing Trust

Jackson Hole Community Housing Trust
Redmond Street Rentals
Pre-Submittal Narrative
Development Plan
Planned Unit Development

On 7.5 town lots (4 parcels) in east Jackson, the Jackson Hole Community Housing Trust (JHCHT) would like to build 28 affordable rental units for dedicated members of our workforce in partnership with the Town of Jackson. Redmond Street Rentals will house over 50 people.

We are grateful for the feedback we have received to date from the planning staff, neighbors, and a variety of community stakeholders. This Final Development Plan application has been informed and strengthened by this feedback.

Project Goals:

- Provide sufficient parking for a functional new neighborhood yet balance parking for cars with the ultimate project objective: housing for people.
- Minimize curb cuts on Redmond Street.
- Reflect and comply with the design guidelines of the AR zone.
- Improve upon past PUDs and provide meaningful open space for the new community.
- Generate a recurring revenue stream that can be leveraged and invested in future affordable housing opportunities.

Sufficient Option vs. the Preferred Alternative:
With this project, we are confident we have designed a neighborhood that advances the purpose of the PUD. Unfortunately, the Landscape Surface Ratio required by the Base Development Standards have made it impossible to meet other essential objectives of the PUD. Fortunately, we are confident that this project meets all of the required findings for an Administrative Adjustment.

This application has been structured to clearly contrast the community benefits made possible by the **Preferred Alternative** (with an Administrative Adjustment) with the **Sufficient Option**, which complies with the Base Development LSR Standards for the PUD.

Process:
We would like the Planning Commission and Town Council to review and consider both development scenarios. A side-by-side analysis of the Sufficient Option and the Preferred Alternative will illuminate the multiple ways in which the Preferred Alternative better accomplishes the goals of the PUD and the Comprehensive Plan.

Summary of Community and Site Amenities Impacted by .45 LSR Requirement

	Base Dev. Standard	Sufficient Option	Preferred Alternative
Min. LSR	.45 (24,964.2 SF)	.45 (24,974.07 SF)	.38 (21,300 SF)
Max. FAR (+25% for affordable housing)	.40 + 25% =.50 (22,156.4 + 5539.1 = 27,695.5 SF)	.41 (22,580 SF)	.41 (22,580 SF)
# of Units		28	28
# of Bedrooms		33	33
Parking Spaces		32 spaces - 1 space/unit + 2 extra	39 spaces - 1 space/ bedroom + 2 extra
Private Hardscape at Units B and C		Minimal hardscape at door	Functional space provided at each unit
Drive Aisle		Dead-end, drivers may back into Hall Avenue	Traffic circulates from Hall Avenue to alley
Internal sidewalks		Fewer sidewalks - reduced pedestrian circulation	Functional system of pathways encourage pedestrian circulation, alternative transport

Planning Use Development (PUD): The intent of the PUD is "to provide a mechanism for land development through an overall, unified approach rather than the traditional lot-by-lot approach. The PUD-ToJ allows for a variety of types of residential development and encourages appropriate mixes of residential product types."

The purposes of the PUD include:

1. To encourage flexibility, innovation of design and variety of development types in order to promote the most suitable use of a site.
2. To facilitate efficient provision of streets, utilities and municipal services.
3. To provide a functional system of pathways, both on- and off-site.
4. To achieve a compatible land use relationship with the surrounding area.
5. To preserve the unique, natural, scenic, historical and cultural features of a site.
6. To develop and preserve usable open space.
7. To encourage a high quality of design.
8. To encourage the conservation of energy.
9. To promote and encourage affordable housing.

–TOJ LDRs 4.4.2

Administrative Adjustment:
The 2015 LDR update created the Administrative Adjustment to provide relief when the application of a standard creates practical difficulties in advancement of Comprehensive Plan goals or zoning district purposes. It allows for minor adjustments to certain requirements and numerical standards in these LDRs based on specific review standards. (TOJ LDRs 8.8.1.A)

The Administrative Adjustment recognizes that the standards of the PUD may occasionally conflict with the goals of the Comprehensive Plan and that the consequence of this conflict is reduced neighborhood and community benefits. Furthermore, nowhere in the LDRs does it state that this form of relief cannot be used in conjunction with the PUD.

Findings for an Administrative Adjustment:
An Administrative Adjustment may adjust the LSR by up to 20%. We understand that approval of an Administrative Adjustment is contingent on the following findings*:*

An administrative adjustment shall be approved upon finding the application:

1. Complies with the applicability standards of this Section:
Yes. The maximum adjustment is 20% and this project requires 13.5%.

2. Either:

a. Compensates for some unusual constraint of the site or proposal that is not shared by landowners generally,
Yes. The shape and location of the site presents an unusual limitation with a reduced amount of available alley as a percentage of site perimeter. Alleys are typically available to address parking uses.

b. Better protects natural and scenic resources,
Yes. The Redmond and Hall streetscapes are protected as a scenic resource.

c. Better supports the purpose of the zone:
Yes, every applicable purpose of the PUD is enhanced by the application of an Administrative Adjustment (purposes #1-#4, #6-#9).

3. Is consistent with the purpose of the zone and the desired future character for the area described in the Comprehensive Plan.
Yes. The proposed Preferred site layout will provide better on-site parking and circulation, which will benefit both the neighbors and the tenants.

4. Will not pose a danger to the public health or safety;
The Preferred Alternative offers better access for emergency service vehicles.

5. The site is not subject to a series of incremental administrative adjustments that circumvent the purpose of this Section.
N/A. The LSR adjustment is the only administrative relief we are seeking for this project.

- TOJ LDRs 8.8.1.B

Community Benefits of Sufficient Option vs. Preferred Alternative
One of the paramount goals of the Comprehensive Plan is providing workforce housing. Parking and the LSR requirement are consistently cited as the primary regulatory obstacles facing affordable housing developers. With the Administrative Adjustment, we can provide meaningful, functional open space and 1 parking space per bedroom without a reduction in the number of workforce housing units we are able to provide on the site.

We can develop 28 units and meet the LSR requirements without the Administrative Adjustment. However, the neighborhood and surrounding area will lose the benefits of the Preferred Alternative and will bear the burden of less parking and less efficient site circulation.

Pre-Submittal Process/Design Evolution
There are two significant pre-submittal reviews prior to submittal of this Final Development Plan and Planned Unit Development: the Pre-Application and the Neighborhood Meeting.

Staff Pre-Application:
The concept plan presented for the Pre Application contained 29 units. The main points of discussion included:

- Appropriate levels of parking. Consensus seemed to settle between parking at 1 space per unit to 1 space per bedroom.
- Protecting the uninterrupted street frontage of Redmond Street.
- Focusing on the development patterns of the underlying AR zoning.
- Reviewing the neighborhood PUDs and learning from what has been done in the past.
- Submittal process based on discussions of primary versus accessory units.
- Explore the use of the Administrative Adjustment to address Landscape Surface Ratio.

The Preferred Alternative was developed to present to the Neighborhood Meeting.

Neighborhood Meeting:
In February 2016, JHCHT presented the Preferred Alternative with 29 units, which incorporates the Administrative Adjustment, to 50-60 people from the neighborhood and larger community at a Neighborhood Meeting. Overall, the neighbors were comfortable with the design. A few people voiced concerns about parking. Unlike the Sufficient Option, the site plans and elevations we presented allow us to maximize parking by offering 1 parking spot per bedroom plus 2 extra.

The Preferred Alternative was developed to prepare for submittal for Final Development Plan and Planned Unit Development. One unit was removed to address some of the comments received at the Neighborhood Meeting. This removed some Landscape Surface Ratio and parking demands while increasing the quality of the interior public space.

3. LETTER OF JUSTIFICATION

APPLICANT
Jackson Hole Community Housing Trust
Anne Cresswell, Executive Director
P.O. Box 4498
110 E Broadway, 2nd Floor
Jackson, Wyoming 83001
307.739.0665

APPLICANTS AGENT
Hawtin Jorgensen Architects, PC
Arne O. Jorgensen
P.O. Box 1249
265 E. Kelly Avenue
Jackson, Wyoming 83001
307.733.4364

OWNERSHIP
Jackson Hole Community Housing Trust
575 E. Hall Ave.: Lot 1, James G. and Julia L. Scarlett Addition
557 E. Hall Ave.: Lot 6, James G. and Julia L. Scarlett Addition, 2nd Filing

Town of Jackson
335 S. Redmond St.: Lot 3, James G. and Julia L. Scarlett
585 E. Hall Ave.: Lot 4, James G. and Julia L. Scarlett

PLANNING TEAM

Nelson Engineering
Dan Smith
P.O. Box 1599
430 South Cache Street
Jackson, Wyoming 83001
307.733.2087

Inside Out Landscape Architecture
Allison Fleury
5263 Torrence Road
Wilson, Wyoming 83014
307.690.4907

PERMITS REQUESTED

The Jackson Hole Community Housing Trust is requesting approval for a Development Plan to allow for the construction of 26 affordable rental units clustered in modular groupings of three main buildings and five detached garage buildings. The standards for this zone allow the Development Plan submittal without the Sketch Plan submittal as there are less than 10 primary units (seven primary units with two accessory units each, plus five detached accessory units above the garages).

As a result of the irregularity of the property lines on the site, a Planned Unit Development (PUD) is also being requested to make more efficient use of the property by combining the four properties into a single development.

A subdivision plat and zoning map amendment will be required after planning approval to document the development boundaries.

SITE DESCRIPTION AND PLANNING HISTORY

The site location is at the northwest corner of the intersection of Hall Avenue and Redmond Street and is zoned Auto Urban Residential (AR). The development proposes to combine the existing four parcels (Lots 1, 3, 4, and 6 - Scarlett Addition, 1st and 2nd Filings) into a single PUD. The Town of Jackson and the Jackson Hole Community Housing Trust are partnering to create this affordable rental development.

There are existing buildings on three of the properties. The duplex on lot 6 will be maintained and included in the Development Plan. The house on Lot 1 and garage on Lot 4 will be demolished during the building permitting process.

The site is accessible from three sides – Redmond Street to the east, Hall Avenue to the south and an alley to the north. Other physical features include a low slope site, a bus stop directly in front of the site on Redmond Street, and access to all the basic town utilities and infrastructure. Mike Yokel Park is located just to the west at the end of Hall Avenue.

DEVELOPMENT PLAN

The information presented within this submittal is intended to demonstrate project compliance with the requirements in the Land Development Regulations.

Response to Development Plan Standards:
Approval of a Development Plan shall be dependent upon findings that the proposed use, as conditioned, fully complies with all the standards of these Land Development Regulations. The Town Council may also attach any other conditions deemed appropriate, including conformity to a specific site plan, to ensure compliance with the following standards.

Findings for Approval
1. Consistent with Comprehensive Plan. *Is consistent with the desired future character described for the site in the Jackson/Teton County Comprehensive Plan;*
The proposed development is consistent with the 2012 Comprehensive Plan priorities:

- Ecosystem Stewardship that promotes energy conservation by encouraging public transportation and energy efficiency in buildings and land use. -(Section 2: Principle 2.3, 2.4)
- Growth Management that encourages Complete Neighborhoods – ground floor living, useable public spaces. -(Section 3:Principle 3.2)
- Town as Heart values that help to create desirable residential neighborhoods –(Section 4:Principle 4.1,4.3)
- Local workforce housing strategies offering a variety of affordable housing options and incentives –(Section 5:5.1, 5.2, 5.3, 5.4)

2. NRO/SRO. *Achieves the standards and objective of the Natural Resource Overlay (NRO) and Scenic Resources Overlay (SRO), if applicable;*
Not Applicable, the site is not located within either the NRO or SRO.

3. Impact on Public Facilities. *Does not have significant impact on public facilities and services, including transportation, potable water and wastewater facilities, parks, schools, police, fire, and EMS facilities;*
Potential impacts on Public Facilities have been mitigated with the proposed site plan. In particular, utility connections, storm-water management, circulation connections (including emergency vehicles), alternative transportation options, and traffic impacts have been considered.

4. Design Guidelines. *Complies with the Town of Jackson Design Guidelines, if applicable;*
The development complies with the town design guidelines as it relates to a residential scale project. See Architectural and Site Design.

5. Other relevant standards of these Land Development Regulations. *Complies with all relevant standards of these LDRs and other Town Ordinances.*

The proposed project conforms with the LDRs, particularly as it relates to the neighboring patterns of development. The proposal is utilizing the PUD to provide design flexibility as it relates to certain standards (see PUD finding below) and the project conforms to other relevant LDR standards within the underlying zoning (AR).

6. Previous conditions/standards. *Is in substantial conformance with all standards or conditions of any prior applicable permits or approvals.*
Not applicable, the project site has no previous permits, approvals or conditions

PLANNED UNIT DEVELOPMENT (PUD)

The information presented within this submittal is intended to demonstrate project compliance with the PUD requirements in the Land Development Regulations.

Purpose and Intent:

As stated in Section 4.4.2.A of the Town of Jackson Land Development Regulations, the purpose and intent of the PUD is:

The Planned Unit Development - Town (PUD-ToJ) *option is intended to provide a mechanism for land development through an overall, unified approach rather than the traditional lot by lot approach. The PUD-ToJ allows for a variety of types of residential development and encourages appropriate mixes of residential product types. The purpose of the PUD-ToJ option is:*

1. *To encourage flexibility, innovation of design and variety of development types in order to promote the most suitable use of a site.*
2. *To facilitate efficient provision of streets, utilities and municipal services.*
3. *To provide a functional system of pathways, both on and off site.*
4. *To achieve a compatible land use relationship with the surrounding area.*
5. *To preserve the unique, natural, scenic, historical and cultural features of a site.*
6. *To develop and preserve usable open space.*
7. *To encourage a high quality of design.*
8. *To encourage the conservation of energy.*
9. *To promote and encourage affordable housing.*

Response to Planned Unit Development Standards:
Approval of a Planned Unit Development shall be dependent upon findings that the proposed use, as conditioned, fully complies with all the standards of these Land Development Regulations. The Town Council may also attach any other conditions deemed appropriate, including conformity to a specific site plan, to ensure compliance with the following standards.

Findings for Approval

a. Achieves purpose and intent. *That the proposed project substantially achieves the stated purposes (as applicable) of this Section, and that it is an appropriate and legitimate application of the PUD-ToJ process;*
Because of the site's irregular shape, the PUD provides greater flexibility and innovation with the design to use the site more efficiently. The proposed development achieves all of the above purposes of the PUD through a unified approach that:

1. Offers a variety of dwelling units (including accessible units);
2. Does not include curb cuts on Redmond Street;
3. Includes a series of pathways that lead from the streets to the internal courtyard and parking areas;
4. Respects the residential land-use of the surrounding area;
5. Preserves natural features on site;
6. Provides usable open space, both on the street frontages and internal to the site;
7. Was generated using a disciplined design approach;
8. Incorporates energy-efficient design measures;
9. And, most importantly, provides high quality, high demand affordable housing.

b. Meets standards and criteria. *That the proposed project is in substantial compliance with all applicable standards and criteria of this Section;*
This proposal meets all the Base Development Standards established in the Auto Urban Residential underlying zone, except as modified by the PUD. The flexible standards allowed with the PUD are met as follows:

1. **Front Setbacks (Street Yards).** The front setbacks are 20' from Redmond Street (with a four foot architectural projection) and 19.5' from Hall Street, with one building corner at 10.9'. This standard varies slightly from the AR zone, which is a 20' front setback.
2. **Side and Rear Setbacks.** The side setback has been established by the existing duplex that will remain as part of this development. This side setback is 10' and meets the standard for the underlying zone. The rear setback is 26' from the alley with one building corner setback at 8.4'. This meets the standards for rear setbacks for detached accessory units in the AR zone.
3. **Density.** The AR zone typically allows for a primary unit, an attached accessory unit and a detached accessory unit. A reasonable assumption would be an average of 6 bedrooms per lot. This development encompasses 7.5 AR lots with a total of 39 bedrooms. This averages to 5.2 bedrooms per AR lot. This complies with density allowed in the AR zone as measured by bedrooms.
4. **Height of Structures.** The height of the primary units vary slightly from unit to unit, but all are less than 28' from finished grade to roof ridge. The underlying standard is 26'. The PUD provides flexibility with the height of the structures as long as they are in scale with the neighborhood. The heights of the units vary in response to the changing grade on site and to provide a massing to reinforce the rhythm of 7 primary units.
5. **Parking Requirements.** This proposal has assessed the parking needs based on project location, unit types, size/value of units, and target market. The proposal provides <u>one</u>

parking space per unit with two extra spaces for guest parking. The existing duplex will maintain its four parking spaces for its two units. This is a total of 32 parking spaces.

6. **Cross Aisles.** The proposal provides a 20' drive aisle entrance that opens to 30' between the double-loaded garages and parking spaces.
7. **Tandem Parking.** There is one tandem parking layout (one parking space in front of the garage) at the existing duplex.
8. **Backing onto Roads and Streets.** No curb cuts are proposed along Redmond Street as the parking has been internalized off of the alley. There are two curb cuts on Hall Avenue, a minor residential street. One curb cut is 20' to provide parking at the existing duplex. The other curb cut is 41' for four parking spaces, two of which are accessible spaces with a shared aisle.
9. **Public and Private Streets.** Not Applicable. No changes to public streets are proposed.

c. Character Objectives. *That the proposed project substantially meets the character objectives of preservation or enhancement of the zoning district and neighborhood in which it is to be located. Projects which are found to be out of scale and character with their surroundings will not be approved;*

The development plan is located in character district 3.1 East Jackson. This is a stable residential district with a mix of single-family, duplex and tri-plex units. Additional attached and detached accessory units are allowed in this zone. The proposal reflects this underlying residential pattern by repeating the building module along the street frontage. This module is comprised of a primary two-bedroom unit and two attached one-bedroom units that are modeled after the typical single family massing and pattern in the district. The detached garage units are accessed off the alley, which is typical of the detached unit arrangement. The development plan meets this district's character objectives.

d. Street Safety and Service. *That streets and intersections serving the project will not be reduced to unacceptable levels of service, nor will the safety of motorists, pedestrians, and cyclists be jeopardized;*

Parking on site is largely internalized and is accessed from the alley. No curb cuts are proposed on Redmond Street, which is the primary street. No significant traffic will be added to Hall Avenue as the bedroom count accessed off of Hall Avenue is similar to the existing homes on the property. This project improves pedestrian safety by adding new sidewalks along Hall Avenue.

e. Density Burden. *That the density and distribution of population resulting from the project will not overburden schools, parks, utilities, or other public services;*

As based on bedroom count, the overall density of the development is less than what is allowed in the underlying zoning. The existing public services and infrastructure allow for this type of development without being overburdened, see utility studies below.

f. Adverse Impacts. *That all adverse impacts associated with the proposed project are effectively mitigated to the extent possible.*

The site design has mitigated any adverse effects by internalizing parking, storm-water management, and open space provisions all of which are in keeping with the intent and criteria of the PUD and the character district.

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4. DEVELOPMENT STANDARDS

SUFFICIENT SITE PLAN

LDR Calculations (AR-PUD)

Standard	Required	Proposed	Complies?
Gross Acreage	N/A (See Base Site Area)	56,170 sq ft (1.29 acres)	N/A
Min. Base Site Area	22,500 sq ft (.52 acres)	55,391 sq ft (1.27 acres)	Yes
Max. Gross Density (dus/acre)	N/A	N/A	N/A
Min. LSR	.45 (24,964.2 sq ft)	.45 (24,974.07 sq ft)	Yes
Max. FAR (+25% for affordable housing)	.40 + 25% =.50 (22,156.4 + 5539.1 = 27,695.5 sq ft)	.41 (22,580 sq ft)	Yes
Max. Lot Coverage	.30 (16,617 sq ft)	.29 (16,282 sq ft)	Yes
Street Yard Setback	N/A	20’	N/A
Side Yard Setback	N/A	10’	N/A
Rear Yard Setback	N/A	26’	N/A
Height	N/A	28’	N/A
Parking Spaces	N/A	32 spaces (1 space per unit, plus two extra)	N/A

Base Site Area Calculation

Gross Site Acreage:	56,170 sq ft
Minus the following:	
Sidewalk Easement:	779 sq ft
Base Site Area:	**55,391 sq ft**

Landscape Surface Ratio Calculation

Base Site Area:	55,391 sq ft
Required Landscape Area:	24,964 sq ft
Proposed Landscape Area:	24,974 sq ft
Resulting Ratio	**.45**

Floor Area Ratio Calculation

Base Site Area:	55,391 sq ft
Required Floor Area:	27,696 sq ft
Proposed Floor Area:	22,580 sq ft
Resulting Ratio	**.41**

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5. ARCHITECTURE AND SITE DESIGN

The overall concept for this development was to create a building module that complements the existing neighborhood pattern of development. This module is repeated and attached to other modules to create a rhythm that is consistent with the surrounding area.

The site is organized around an internalized drive aisle that eliminates the need for curb cuts along Redmond Street. This provides for safer pedestrian/vehicular interactions. By attaching some of the modules together, substantial pathways and a meaningful courtyard are created.

The design process was driven by reviewing the surrounding development, both what is permitted as-of-right and recent PUDs. There are 4 PUDs in the immediate area that serves as comparisons, these include 525 Hall, Olie Riniker, Aspen Stand, and Twelve Pines. The main points of comparison were units, bedrooms, and parking. In order to create a fair comparison, each PUD area was divided by 7,500 square feet to create typical AR lot factor. The proposed design either fits well within the existing ranges or stands out on the lower dense range.

	Size	Lots	Units	Bedrooms	Parking
Proposed					
Total	56,168	7.5	28	37	32
Per Lot Equivalent			3.7	4.9	4.3
Aspen Stand					
Total	24,100	3.2	10	20	26
Per Lot Equivalent			3.1	6.3	8.1
Twelve Pines					
Total	30,000	4.0	16	32	32
Per Lot Equivalent			4.0	8.0	8.0
Olie Riniker					
Total	22,500	3.0	6	18	10
Per Lot Equivalent			2.0	6.0	3.3
525 Hall					
Total	35,100	4.7	12	24	25
Per Lot Equivalent			2.6	5.1	5.3
Typical Lot	7,500	1.0	3.0	6	5

The existing numbers have been pulled from the public record with conservative assumptions as to bedrooms. Aspen Stand and 525 Hall had additional assumptions about site area.

While the Town Design Guidelines are more specifically written for non-residential developments, the guidelines were used as a resource that helped shape the final proposal.

- The design utilizes two distinct and engaging PUBLIC SPACES 1) a courtyard that is accessible to all units and provides desirable circulation and screening from the parking areas and 2) a strong, well defined front yard along both Hall Avenue and Redmond Street.

- The COMPOSITION of the design utilizes a refined proportion and rhythm along the elevations of the two primary street elevations.
- The distinct MASSING of additive forms and roof planes are well defined as they relate to the entry points for each unit reinforcing the single-family home pattern of the adjacent residential zoning and context.
- While the STREET WALL guideline is not strictly applicable to this residential project, the proposal has removed all curb cuts along Redmond Street (and only two curb cuts along Hall Avenue). This minimizes pedestrian conflicts and provides a clean and unobstructed elevation as it relates to the streetscape.
- The MATERIALS selected for this project are appropriate for an affordable housing project. The fiber-cement siding and composite roof shingles provide durability and limited maintenance over time.

6. LANDSCAPE STATEMENT

The overall goal for the landscape design is to provide private outdoor space for each of the units in addition to a meaningful public open space in the center of complex.

The required Landscape Surface Ratio for the development (sufficient alternative) is 24,964.2 sq ft with 24,974 sq ft provided. Required plant units are one plant unit per dwelling unit (28) plus one plant unit per 12 parking spaces (33/12=2.75). A total of 31 plant units will be provided.

Plant material was selected for hardiness, minimum maintenance, and at least 3 seasons of interest. Large shrubs separate each unit's outdoor space, while smaller shrubs and perennials are shown in front of the buildings under windows.

The central public space is a flexible open area that will be the hub of activity 365 days a year. The public space is accessible from sidewalks from both Hall Avenue and Redmond Street. Overall, the landscape will provide a sense of space for the residents of the development, as well as providing a human scale along the street with the continuation of the street trees.

Irrigation Narrative

This project is separated into four complementary systems that total 38 zones. Once the buildings are constructed and the actual flow rate of available water can be determined, there may be a possibility to combine some of the zones. By utilizing the convenience of having 4 separate points of connection to the water source, it enables the systems to run simultaneously to irrigate during the best hours of the day for water conservation and public enjoyment. The design includes back flow devices at each point of connection to a municipal water line. The installation of a pressure reduction valve may be necessary at each point of connection as well. Some of the design will need to be adjusted to the actual site conditions. Rain sensors will be used for each of the four controllers.

All of the irrigation zones are designed to maximize efficiency as either Hunter MP Rotator or drip zones. One system is built around the southernmost building on the corner of Hall and Redmond. This system has 10 zones. Next, the northernmost building on Redmond houses the point of connection and controller for the land surrounding it. This area made up 8 zones. The building on Hall Avenue has 14 zones. This water supply will service the triangle courtyard (public space) that connects the back of the buildings. Lastly, the westernmost building has 6 zones. Orientation to the sun was taken into consideration for each zone's designation.

Plant Units

Plant Units - Teton County/Town of Jackson LDR's

Plant Unit	Quantity	Description	Cost Ea.	Cost Total	
A	1	3" caliper deciduous tree	$550	$550	
	6	6'-8' large shrub	$450	$2,700	
	4	5 gallon shrub	$65	$260	
					$3,510
B	2	3" caliper deciduous tree	$550	$1,100	
	2	6'-8' large shrub	$450	$900	
	2	8' evergreen tree	$750	$1,500	
					$3,500
C	3	6'-8' large shrub	$450	$1,350	
	3	8' evergreen tree	$750	$2,250	
	2	5 gallon shrub	$65	$130	
					$3,730

Average cost per plant unit: **$3,580**

Plant Units Required for JHCHT Hall Redmond Rental Project Sufficient Plan

1 per dwelling unit =	28	
1 per 12 parking spaces (33 total)	2.75	
Total Plant Units required	31	$110,085

Plant Material Proposed

	Quantity	Botanical Name	Common Name	Size	Cost Ea.	Total Cost
Trees:						
	12	Picea pungens	Colorado Spruce	10'-12'	$1,100	$13,200
	2	Populus tremuloides	Quaking Aspen	3" cal.	$550	$1,100
	6	Fraxinus americana 'Autumn Purple'	Autumn Purple Ash	3" cal.	$550	$3,300
	3	Malus x 'Snowdrift'	Snowdrift Crab Apple	3" cal.	$550	$1,650
	12	Populus tremula 'Erecta'	Columnar Aspen	3" cal.	$550	$6,600
	4	Prunus virginiana 'Canada Red'	Canada Red Chokecherry Single Stem	3" cal.	$550	$2,200
Shrubs:						
	92	Acer glabrum	Rocky Mountain Maple	6' - 8'	$450	$41,400
	62	Aronia arbutifolia 'Brilliantissima'	Brilliant Red Chokeberry	5 gal.	$65	$4,030
	32	Cornus sericea 'Arctic Fire'	Artic Fire Dogwood	4' min.	$280	$8,960
	26	Cotoneaster acutifolius	Peking Cotoneaster	6' - 8'	$450	$11,700
	12	Pinus mugo 'Compacta'	Dwarf mugo pine	5 gal.	$65	$780
	19	Prunus virginiana	Chokecherry	6'-8'	$450	$8,550

Plant Units - Teton County/Town of Jackson LDR's

Plant Unit	Quantity	Description	Cost Ea.	Cost Total	
A	1	3" caliper deciduous tree	$550	$550	
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	2	8' evergreen tree	$750	$1,500	
					$3,500
C	3	6'-8' large shrub	$450	$1,350	
	3	8' evergreen tree	$750	$2,250	
	2	5 gallon shrub	$65	$130	
					$3,730
Average cost per plant unit:					**$3,580**

Plant Units Required for JHCHT Hall Redmond Rental Project Sufficient Plan

1 per dwelling unit =		28	
1 per 12 parking spaces (33 total)		2.75	
	Total Plant Units required	31	$110,085

Plant Material Proposed

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	26	Cotoneaster acutifolius	Peking Cotoneaster	6' - 8'	$450	$11,700
	12	Pinus mugo 'Compacta'	Dwarf mugo pine	5 gal.	$65	$780
	19	Prunus virginiana	Chokecherry	6'-8'	$450	$8,550

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7. HOUSING MITIGATION PLAN

Division 7.4.2 require housing mitigation efforts for new developments in the Town of Jackson. Exemptions are in place for developments that are designed specifically for affordable housing. This project is an affordable housing project.

7.4.2.B Purpose. *The purpose of this Division is to ensure that new residential development including condominium and townhouse subdivisions in Jackson and Teton County include a reasonable supply of affordable housing to meet the needs of the community's citizens. This Division sets forth standards for affordable housing to be provided in conjunction with market rate residential development and condominium and townhouse subdivisions. Where the provision of such housing is determined to be impractical, this Division will set forth standards for the conveyance of land or an in-lieu fee.*

7.4.2.D.9. Exemptions. *Affordable Housing Development. Residential developments that are designed and administered to meet the objectives of this Division, as determined by the Jackson Town Council. This may include projects developed or sponsored by non-profit organizations that are charged to promote affordable housing and projects for which agreements have been executed that provided affordable housing or land for said purpose.*

The Housing Authority Departmental review of this project for the pre-application conference suggests the applicability of this exemption. See attached memo statement from the Housing Authority.

JACKSON HOLE COMMUNITY Housing Trust

SUFFICIENT

Type of Review	Status	Dates			
Contact		Sent	Due	Received	Remarks

Notes
(9/18/2015 8:20 AM JC)
MEMORANDUM

To: Paul Anthony
Principle Planner, Town of Jackson Planning and Building

From: Valerie Adams
Housing Specialist, Teton County Housing Authority

Re: Pre-App, P15-078 & 079
557 E. Hall Avenue & 335 Redmond Street

Date: September 8, 2015

The applicant is requesting Pre-Application meeting for a Physical Development for 557 E. Hall Avenue legally known as Lot 6, JAMES G. & JULIA L. SCARLETT ADDITION 2ND FILING and 335 Redmond Street legally known as LOT 3, JAMES G. & JULIA L. SCARLETT ADDITION. Teton County Housing Authority (TCHA) staff's review is based on Division7.4 of the Town of Jackson Land Development Regulations (LDRs).

TOWN OF JACKSON LAND DEVELOPMENT REGULATIONS REVIEW

AFFORDABLE HOUSING MITIGATION PLAN (DIVISION 7.4): The applicant is proposing to clear all existing structures, replat, and redevelop with 18 affordable rental units for dedicated members of our workforce. Per section 7.4.2.D.9. Of the LDRs residential developments that are designed and administered to meet the objectives of this Division, as determined by the Jackson Town Council. This may include projects developed or sponsored by non-profit organizations that are charged to promote affordable housing and projects for which agreements have been executed that provided affordable housing or land for said purposes. This project is being developed by a non-profit organization with the intent to provide affordable rental units. If the Town Council determines that this development meets the objectives of this division, there will be no housing requirements per the LDRs.

A covenant should be recorded on the property that describes the method of calculating rental rates along with occupancy and use restrictions as called for in the Lease agreement with the Town.

Thank you for the opportunity to review this application. Please contact me with any questions.

Project Reviews

Report By: Paul Anthony

CRW ASSOCIATES

8. TRAFFIC ANALYSIS

Proposed Project
The proposed project will construct 33 new bedrooms of affordable rental housing at the northwest corner of Redmond Street and Hall Avenue.

Impact Assessment Methodology
To perform a traffic impact assessment, the methodology is to compare the traffic levels in an existing state with those of a projected situation. The incremental difference between the pre-development and post-development traffic levels can be considered to be the impact caused by the development. Traffic counts performed by WYDOT in the summer of 2006 were adjusted to account for increased traffic volume and used to determine a peak traffic hour factor. The peak hour factor was applied to field data collected in February 2016 to accurately assess the impact of the development during summer traffic conditions.

Standard of Measurement
The performance of an intersection is measured by its "Level of Service," or LOS.
The LOS of an intersection is determined by referring to the average total delay (sec/veh) for the intersection, as set forth in the table below:

Level-of-Service (LOS)	Average Total Delay, sec/veh
A	≤ 5
B	> 5 and ≤ 10
C	> 10 and ≤ 20
D	> 20 and ≤ 30
E	> 30 and ≤ 45
F	> 45

Existing Trip Generation

The proposed project site currently has a duplex that will remain in the post-development condition, and a single-family residence that will be demolished.

A.M. PEAK HOUR TRIP GENERATION

LAND USE	ITE LAND USE DESIGNATION CODE	GROSS sq ft (1,000 sq ft)	UNITS	A.M. PEAK HOUR TRIP GENERATION RATE	TRIP GENERATION
SF DETACHED HOUSING	210		1	0.75	0.75
TOWNHOUSE	230		2	0.44	0.88
TOTAL					2

P.M. PEAK HOUR TRIP GENERATION

LAND USE	ITE LAND USE DESIGNATION CODE	GROSS sq ft (1,000 sq ft)	UNITS	P.M. PEAK HOUR TRIP GENERATION RATE	TRIP GENERATION
SF DETACHED HOUSING	210		1	1.01	1.01
TOWNHOUSE	230		2	0.52	1.04
TOTAL					2

SOURCE: TRIP GENERATION RATES TAKEN FROM
INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) *TRIP GENERATION, 7TH EDITION*

Existing Intersection LOS

The location of the project gives it the potential to increase traffic levels at a number of nearby intersections. The intersections of Redmond Street with East Broadway Avenue and East Kelly Avenue are the areas of interest for this traffic study. The existing intersection Levels of Service were developed by analyzing the results of traffic counts. Morning traffic was counted between 7:00 and 9:00 A.M., and afternoon traffic was counted for the period between 4:00 and 6:00 P.M. (See Appendix for LOS worksheets for calculations)

Redmond Street – Broadway Avenue

The A.M. Peak Hour Level of Service for the Redmond Street–Broadway Avenue intersection was found to be a Level of Service A, with an average total delay of 4.48 seconds per vehicle. The A.M. Peak Hour Level of Service adjusted for summer conditions was determined to be Level of Service C, with an average total delay of 10.92 seconds per vehicle.

The P.M. Peak Hour Level of Service for the Redmond Street–Broadway Avenue intersection was found to be a Level of Service B, with an average total delay of 5.07 seconds per vehicle. The P.M. Peak Hour Level of Service adjusted for summer conditions was determined to be Level of Service C, with an average total delay of 12.98 seconds per vehicle.

Redmond Street – Kelly Avenue

The A.M. Peak Hour Level of service for the Redmond Street–Kelly Avenue intersection was found to be a Level of Service A, with an average total delay of 1.36 seconds per vehicle. The A.M. Peak Hour Level of Service adjusted for summer conditions was determined to be Level of Service A, with an average total delay of 1.66 seconds per vehicle.

The P.M. Peak Hour Level of Service for the Redmond Street–Kelly Avenue intersection was found to be a Level of Service A, with an average total delay of 1.84 seconds per vehicle. The P.M. Peak Hour Level of Service adjusted for summer conditions was determined to be Level of Service A, with an average total delay of 1.88 seconds per vehicle.

Proposed Trip Generation

A.M. PEAK HOUR TRIP GENERATION

LAND USE	ITE LAND USE DESIGNATION CODE	GROSS sq ft (1,000 sq ft)	UNITS	A.M. PEAK HOUR TRIP GENERATION RATE	TRIP GENERATION
APARTMENTS	220		33	0.55	18.15
TOWNHOUSE	230		2	0.44	0.88
TOTAL					20

P.M. PEAK HOUR TRIP GENERATION

LAND USE	ITE LAND USE DESIGNATION CODE	GROSS sq ft (1,000 sq ft)	UNITS	P.M. PEAK HOUR TRIP GENERATION RATE	TRIP GENERATION
APARTMENTS	220		33	0.67	22.11
TOWNHOUSE	230		2	0.52	1.04
TOTAL					23

SOURCE: TRIP GENERATION RATES TAKEN FROM INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) *TRIP GENERATION, 7TH EDITION*

Proposed Intersection LOS

The proposed intersection traffic levels in this analysis were derived by creating an appropriate distribution of the trip generation associated with the proposed development to the intersection in question. Per discussion with Town of Jackson Engineering staff, the additional trip generation associated with the proposed development was assumed to be split equally between each intersection under analysis. After applying the additional trips to the intersection, the Level of Service analysis was performed for the intersection.

Redmond Street – Broadway Avenue

The A.M. Peak Hour Level of Service for the Redmond Street–Broadway Avenue intersection under proposed development conditions was found to be a Level of Service A, with an average total delay of 4.74 seconds per vehicle. The post-development A.M. Peak Hour Level of Service adjusted for summer conditions was determined to be Level of Service C, with an average total delay of 11.21 seconds per vehicle.

The P.M. Peak Hour Level of Service for the Redmond Street–Broadway Avenue intersection under proposed development conditions was found to be a Level of Service B, with an average total delay of 5.03 seconds per vehicle. The post-development P.M. Peak Hour Level of Service adjusted for summer conditions was determined to be Level of Service C, with an average total delay of 13.51 seconds per vehicle.

Redmond Street – Kelly Avenue

The A.M. Peak Hour Level of service for the Redmond Street–Kelly Avenue intersection under proposed development conditions was found to be a Level of Service A, with an average total delay of 1.32 seconds per vehicle. The post-development A.M. Peak Hour Level of Service adjusted for summer conditions was determined to be Level of Service A, with an average total delay of 1.66 seconds per vehicle.

The P.M. Peak Hour Level of Service for the Redmond Street–Kelly Avenue intersection under proposed development conditions was found to be a Level of Service A, with an average total delay of 1.79 seconds per vehicle. The post-development P.M. Peak Hour Level of Service adjusted for summer conditions was determined to be Level of Service A, with an average total delay of 2.23 seconds per vehicle.

The worksheets used for intersection analysis may be found in the Appendix.

The tables below summarize the traffic impact on the intersections due to the proposed development under adjusted summer conditions.

REDMOND STREET/BROADWAY AVENUE INTERSECTION TRAFFIC LEVEL IMPACTS					
		EXISTING		PROJECTED	
	LANE	AVG. TOTAL DELAY [sec]	LOS	AVG. TOTAL DELAY [sec]	LOS
AM PEAK HOUR	EB	17	C	18	C
	WB	8	B	8	B
	NB	6	B	6	B
	SB	6	B	5	A
	INTERSECTION	**10.92**	**C**	**11.21**	**C**
PM PEAK HOUR	EB	21	D	22	D
	WB	5	A	5	A
	NB	4	A	5	A
	SB	8	B	7	B
	INTERSECTION	**12.98**	**C**	**13.51**	**C**

REDMOND STREET/KELLY AVENUE INTERSECTION TRAFFIC LEVEL IMPACTS					
		EXISTING		PROJECTED	
	LANE	AVG. TOTAL DELAY [sec]	LOS	AVG. TOTAL DELAY [sec]	LOS
AM PEAK HOUR	EB	5	A	18	A
	WB	5	A	8	A
	NB	1	A	6	A
	SB	2	A	5	A
	INTERSECTION	**10.92**	**A**	**11.21**	**A**
PM PEAK HOUR	EB	4	A	5	A
	WB	4	A	4	A
	NB	1	A	1	A
	SB	2	B	2	A
	INTERSECTION	**12.98**	**A**	**13.51**	**A**

Vehicular Access to Public Right-of-Way

The proposed development will access Redmond Street from both Hall Avenue and the existing alley between Hall and Hansen Avenues. As stated above, the traffic generated by the proposed development was assumed to be split equally between northbound and southbound traffic on Redmond Street.

Alternative Modes Analysis

With provisions for ample bicycle storage and proximity to public transportation (START facilities), residents of the employee housing units can be expected to make substantial use of alternative modes of transportation. The latest edition of the AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities gives an acceptable distance for a pedestrian to walk in order to use public transit as 0.25 miles (1,280ft). The route from the development to the transit stops on Redmond Street is approximately 650 feet in length along existing Town standard (and maintained) public sidewalks. This discussion is provided to further illustrate a minimal impact on neighborhood traffic – no reduction in trip generation was assumed due to proximity to public transportation and the likelihood of residents bicycling or walking to their destinations during peak summer traffic season.

9. CAPITAL IMPROVEMENTS

The Redmond Street Rentals consists of 28 units that will provide 37 total bedrooms (33 new, 4 existing) and is located on property at the northwest corner of Redmond Street and Hall Avenue. Two of the units are an existing duplex that will remain on-site; the remainder will be new construction consisting of seven two-story, three-unit modules (two one-bedroom units and one two-bedroom unit per module) and five one-bedroom carriage units that will be on the second story above at-grade parking spaces.

Water Supply

The Redmond Street Rentals project will tie into the 8" ductile iron water lines that were installed under Hall Avenue during the reconstruction of Redmond Street in 2011. The static water pressure in this location is approximately 88 psi per Town of Jackson personnel, and hydrant flow test data in this vicinity yields fire flow of 3216 gpm at 20 psi residual pressure.

Domestic, fire, and irrigation demands were considered while sizing the water service to the Redmond Rentals project. The recommended water service for the development is a four-inch water line. The services to the two-story, three-unit modules should be three-inch diameter with a two-inch meter for domestic service. The carriage units should be served by a two-inch service with a two-inch meter for domestic service. It is likely that the existing duplex will be able to continue using its existing water service. The service to the existing house in the south central portion of the project will be removed and plugged at the main immediately following demolition of the house.

Domestic services will provide a dual check valve for backflow prevention, fire sprinkler system will use a double check valve for backflow prevention, and the irrigation system will provide a reduced pressure principal back flow preventer. Sizing calculations are provided in the appendix.

Wastewater Collection

The Redmond Street Rentals project will connect to an existing 8" clay sewer main in the alley between Hall Avenue and Hansen Avenue that ultimately flows west to Town of Jackson treatment facilities. In the project vicinity, this sewer is laid at a slope of 1.2% and has a pipe-full capacity of approximately 550 gallons per minute (gpm). Per the Wyoming DEQ, the maximum day wastewater generation is 150 gallons/bedroom, resulting in 5,550 gallons per day of wastewater from the entire development. Applying a peaking factor of ten yields a peak hour wastewater generation of approximately 39 gpm. The existing Town of Jackson infrastructure will have approximately 510 gpm of remaining capacity. Wastewater sizing and capacity calculations are provided in the appendix.

The sewer mains within the development will be 6-inch diameter PVC pipe laid at a minimum slope of 0.6%. All sewer services will be 4-inch diameter PVC pipe at a minimum slope of 1%, with 2% preferred. 48" diameter manholes will be used at all bends in the main and its intersection with the existing main in the alley. Cleanouts will be provided approximately five

feet from the building foundation at each installed service and after 100 feet or 135° of accumulated bends. It is likely that the existing duplex will have its sewer service disturbed during construction. A cleanout near the building and a connection to the new sewer main under the drive aisle will be installed.

Stormwater

The Town of Jackson LDRs require that the release rate of storm water from the post-development site does not exceed the pre-development runoff for the 10- through 100-year events. Calculations were performed for the Preferred Alternative (LSR of .38), rather than for the Sufficient site plan as presented here (LSR of .45), in order to present a more conservative runoff projection. The rational method was used to determine the rate of runoff and the modified rational method was utilized to determine the volume of storm water required for detention. The pre-development runoff for the 10-year storm is 0.34 cfs and the pre-development runoff for the 100-year storm is 0.53 cfs.

Stormwater runoff from the drive aisle and the front yards of the units facing Redmond Street and Hall Avenue will be allowed to flow via gravity into the street and ultimately into the Town of Jackson's stormwater conveyance system. The release associated with these areas is 0.52 cfs for the 100-year event. All other stormwater will be collected in area drains and piped to a subsurface stormwater storage facility located in the central courtyard area. This storage system will consist of a 30" diameter perforated PVC pipe surrounded with 1" diameter washed rock to provide storage for the runoff generated by all storms up to the 100-year event. The design length of the pipe and drainage trench is based on an assumed percolation rate of 20 minutes per inch (a percolation test will be performed prior to final design to refine the design based on *in situ* conditions) and will allow the total volume of water required for the 100-year event to infiltrate into the ground in less than one day. An overflow pipe from the infiltration gallery to the existing storm sewer in Hall Avenue will be provided to allow conveyance of any runoff associated with an event larger than the 100-year design storm. Stormwater calculations are provided in the appendix.

Miscellaneous Utilities

There is an existing LVE vault on the alley just east of the project location. A padmount transformer can be set that will connect to this vault and provide electric service. A gas main is located in the alley and could provide gas service if desired.
All other wire utilities are accessible from existing pedestals located along the alley and near to the project location.

3. LETTER OF JUSTIFICATION

APPLICANT
Jackson Hole Community Housing Trust
Anne Cresswell, Executive Director
P.O. Box 4498
110 E Broadway, 2nd Floor
Jackson, Wyoming 83001
307.739.0665

APPLICANTS AGENT
Hawtin Jorgensen Architects, PC
Arne O. Jorgensen
P.O. Box 1249
265 E. Kelly Avenue
Jackson, Wyoming 83001
307.733.4364

OWNERSHIP
Jackson Hole Community Housing Trust
575 E. Hall Ave.: Lot 1, James G. and Julia L. Scarlett Addition
557 E. Hall Ave.: Lot 6, James G. and Julia L. Scarlett Addition, 2nd Filing

Town of Jackson
335 S. Redmond St.: Lot 3, James G. and Julia L. Scarlett
585 E. Hall Ave.: Lot 4, James G. and Julia L. Scarlett

PLANNING TEAM

Nelson Engineering
Dan Smith
P.O. Box 1599
430 South Cache Street
Jackson, Wyoming 83001
307.733.2087

Inside Out Landscape Architecture
Allison Fleury
5263 Torrence Road
Wilson, Wyoming 83014
307.690.4907

PERMITS REQUESTED

The Jackson Hole Community Housing Trust is requesting approval for a Development Plan to allow for the construction of 26 affordable rental units clustered in modular groupings of three main buildings and five detached garage buildings. The standards for this zone allow the Development Plan submittal without the Sketch Plan submittal as there are less than 10 primary units (seven primary units with two accessory units each, plus five detached accessory units above the garages).

As a result of the irregularity of the property lines on the site, a Planned Unit Development (PUD) is also being requested to make more efficient use of the property by combining the four properties into a single development.

A subdivision plat and zoning map amendment will be required after planning approval to document the development boundaries.

An Administrative Adjustment is being requested to allow a 13.5% relief from the Landscape Area Ratio requirement. The Preferred site plan includes a lower LSR than the Sufficient site plan to achieve several significant improvements:

1. Extension of the drive aisle from the alley to Hall Avenue, enabling better use of the site for maintenance, service, and emergency access.
2. Provide for 7 additional parking spaces to achieve a goal of 1 parking space per bedroom that is felt to be a better fit for rental units compared to 1 parking spot per unit.
3. Accommodate more functional private hardscape at units B and C.
4. Maintaining all of the positive attributes of the open space with highly functioning street yards along Redmond and Hall and the internal public space.

SITE DESCRIPTION AND PLANNING HISTORY

The site location is at the northwest corner of the intersection of Hall Avenue and Redmond Street and is zoned Auto Urban Residential (AR). The development proposes to combine the existing four parcels (Lots 1, 3, 4, and 6 - Scarlett Addition, 1st and 2nd Filings) into a single PUD. The Town of Jackson and the Jackson Hole Community Housing Trust are partnering to create this affordable rental development.

There are existing buildings on three of the properties. The duplex on lot 6 will be maintained and included in the Development Plan. The house on Lot 1 and garage on Lot 4 will be demolished during the building permitting process.

The site is accessible from three sides – Redmond Street to the east, Hall Avenue to the south and an alley to the north. Other physical features include a low slope site, a bus stop directly in front of the site on Redmond Street, and access to all the basic town utilities and infrastructure. Mike Yokel Park is located just to the west at the end of Hall Avenue.

DEVELOPMENT PLAN

The information presented within this submittal is intended to demonstrate project compliance with the requirements in the Land Development Regulations.

Response to Development Plan Standards:
Approval of a Development Plan shall be dependent upon findings that the proposed use, as conditioned, fully complies with all the standards of these Land Development Regulations. The Town Council may also attach any other conditions deemed appropriate, including conformity to a specific site plan, to ensure compliance with the following standards.

Findings for Approval
1. Consistent with Comprehensive Plan. *Is consistent with the desired future character described for the site in the Jackson/Teton County Comprehensive Plan;*
The proposed development is consistent with the 2012 Comprehensive Plan priorities:

- Ecosystem Stewardship that promotes energy conservation by encouraging public transportation and energy efficiency in buildings and land use. -(Section 2: Principle 2.3, 2.4)
- Growth Management that encourages Complete Neighborhoods – ground floor living, useable public spaces. -(Section 3:Principle 3.2)
- Town as Heart values that help to create desirable residential neighborhoods –(Section 4:Principle 4.1,4.3)
- Local workforce housing strategies offering a variety of affordable housing options and incentives –(Section 5:5.1, 5.2, 5.3, 5.4)

2. NRO/SRO. *Achieves the standards and objective of the Natural Resource Overlay (NRO) and Scenic Resources Overlay (SRO), if applicable;*
Not Applicable, the site is not located within either the NRO or SRO.

3. Impact on Public Facilities. *Does not have significant impact on public facilities and services, including transportation, potable water and wastewater facilities, parks, schools, police, fire, and EMS facilities;*
Potential impacts on Public Facilities have been mitigated with the proposed site plan. In particular, utility connections, storm-water management, circulation connections (including emergency vehicles), alternative transportation options, and traffic impacts have been considered.

4. Design Guidelines. *Complies with the Town of Jackson Design Guidelines, if applicable;*
The development complies with the town design guidelines as it relates to a residential scale project. See Architectural and Site Design.

5. Other relevant standards of these Land Development Regulations. *Complies with all relevant standards of these LDRs and other Town Ordinances.*

The proposed project conforms with the LDRs, particularly as it relates to the neighboring patterns of development. The proposal is utilizing the PUD to provide design flexibility as it relates to certain standards (see PUD finding below) and the project conforms to other relevant LDR standards within the underlying zoning (AR).The Preferred site plan option is requesting an administrative adjustment for minor relief to the LSR requirement.

6. Previous conditions/standards. *Is in substantial conformance with all standards or conditions of any prior applicable permits or approvals.*
Not applicable, the project site has no previous permits, approvals or conditions

PLANNED UNIT DEVELOPMENT (PUD)

The information presented within this submittal is intended to demonstrate project compliance with the PUD requirements in the Land Development Regulations.

Purpose and Intent:

As stated in Section 4.4.2.A of the Town of Jackson Land Development Regulations, the purpose and intent of the PUD is::

The Planned Unit Development - Town (PUD-ToJ) *option is intended to provide a mechanism for land development through an overall, unified approach rather than the traditional lot by lot approach. The PUD-ToJ allows for a variety of types of residential development and encourages appropriate mixes of residential product types. The purpose of the PUD-ToJ option is:*

1. *To encourage flexibility, innovation of design and variety of development types in order to promote the most suitable use of a site.*
2. *To facilitate efficient provision of streets, utilities and municipal services.*
3. *To provide a functional system of pathways, both on and off site.*
4. *To achieve a compatible land use relationship with the surrounding area.*
5. *To preserve the unique, natural, scenic, historical and cultural features of a site.*
6. *To develop and preserve usable open space.*
7. *To encourage a high quality of design.*
8. *To encourage the conservation of energy.*
9. *To promote and encourage affordable housing.*

Response to Planned Unit Development Standards:
Approval of a Planned Unit Development shall be dependent upon findings that the proposed use, as conditioned, fully complies with all the standards of these Land Development Regulations. The Town Council may also attach any other conditions deemed appropriate, including conformity to a specific site plan, to ensure compliance with the following standards.

Findings for Approval

a. Achieves purpose and intent. *That the proposed project substantially achieves the stated purposes (as applicable) of this Section, and that it is an appropriate and legitimate application of the PUD-ToJ process;*

Because of the site's irregular shape, the PUD provides greater flexibility and innovation with the design to use the site more efficiently. The proposed development achieves all of the above purposes of the PUD through a unified approach that:

1. Offers a variety of dwelling units (including accessible units);
2. Does not include curb cuts on Redmond Street;
3. Includes a series of pathways that lead from the streets to the internal courtyard and parking areas;
4. Respects the residential land-use of the surrounding area;
5. Preserves natural features on site;
6. Provides usable open space, both on the street frontages and internal to the site;
7. Incorporates energy-efficient design measures;
8. And, most importantly, provides high quality, high demand affordable housing.

b. Meets standards and criteria. *That the proposed project is in substantial compliance with all applicable standards and criteria of this Section;*

This proposal meets all the Base Development Standards established in the Auto Urban Residential underlying zone, except as modified by the PUD. The flexible standards allowed with the PUD are met as follows:

1. **Front Setbacks (Street Yards).** The front setbacks are 20' from Redmond Street (with a four foot architectural projection) and 19.5' from Hall Street, with one building corner at 10.9'. This standard varies slightly from the AR zone, which is a 20' front setback.
2. **Side and Rear Setbacks.** The side setback has been established by the existing duplex that will remain as part of this development. This side setback is 10' and meets the standard for the underlying zone. The rear setback is 26' from the alley with one building corner setback at 8.4'. This meets the standards for rear setbacks for detached accessory units in the AR zone.
3. **Density.** The AR zone typically allows for a primary unit, an attached accessory unit and a detached accessory unit. A reasonable assumption would be an average of 6 bedrooms per lot. This development encompasses 7.5 AR lots with a total of 39 bedrooms. This averages to 5.2 bedrooms per AR lot. This complies with density allowed in the AR zone as measured by bedrooms.
4. **Height of Structures.** The height of the primary units vary slightly from unit to unit, but all are less than 28' from finished grade to roof ridge. The underlying standard is 26'. The PUD provides flexibility with the height of the structures as long as they are in scale with the neighborhood. The heights of the units vary in response to the changing grade on site and to provide a massing to reinforce the rhythm of 7 primary units.
5. **Parking Requirements.** This proposal has assessed the parking needs based on project location, unit types, size/value of units, and target market. The proposal provides <u>one parking space per bedroom</u> with two extra spaces for guest parking. The use of the bedroom reference has been done in response to the neighborhood and to better

accommodate individual renters. The existing duplex will maintain its four parking spaces for its two units. This is a total of 39 parking spaces.

6. **Cross Aisles.** The proposal provides a 20' drive aisle entrance that opens to 30' between the double-loaded garages and parking spaces. There is also a 13' one-way drive aisle with 45° diagonal parking that meets the parking standards.
7. **Tandem Parking.** There is one tandem parking layout (one parking space in front of the garage) at the existing duplex.
8. **Backing onto Roads and Streets.** No curb cuts are proposed along Redmond Street as the parking has been internalized off of the alley. There are two curb cuts on Hall Avenue, a minor residential street. One curb cut is 20' to provide parking at the existing duplex. The other curb cut is 13' to access the one-way drive aisle.
9. **Public and Private Streets.** There is a proposed drive thru to reduce impacts on the existing dead end alley.

c. Character Objectives. *That the proposed project substantially meets the character objectives of preservation or enhancement of the zoning district and neighborhood in which it is to be located. Projects which are found to be out of scale and character with their surroundings will not be approved;*

The development plan is located in character district 3.1 East Jackson. This is a stable residential district with a mix of single-family, duplex and tri-plex units. Additional attached and detached accessory units are allowed in this zone. The proposal reflects this underlying residential pattern by repeating the building module along the street frontage. This module is comprised of a primary two-bedroom unit and two attached one-bedroom units that are modeled after the typical single family massing and pattern in the district. The detached garage units are accessed off the alley, which is typical of the detached unit arrangement. The development plan meets this district's character objectives.

d. Street Safety and Service. *That streets and intersections serving the project will not be reduced to unacceptable levels of service, nor will the safety of motorists, pedestrians, and cyclists be jeopardized;*

Parking on site is largely internalized and is accessed from the alley. No curb cuts are proposed on Redmond Street, which is the primary street. Only two existing parking spaces back out onto Hall Avenue. The drive aisle linking Hall Avenue to the Alley internalizes all the other parking. This project improves pedestrian safety by adding new sidewalks along Hall Avenue.

e. Density Burden. *That the density and distribution of population resulting from the project will not overburden schools, parks, utilities, or other public services;*

As based on bedroom count, the overall density of the development is less than what is allowed in the underlying zoning. The existing public services and infrastructure allow for this type of development without being overburdened, see utility studies below.

f. Adverse Impacts. *That all adverse impacts associated with the proposed project are effectively mitigated to the extent possible.*

The site design has mitigated any adverse effects by including internalizing parking, storm-water management, and open space provisions all of which are in keeping with the intent and criteria of the PUD and the character district.

ADMINSTRATIVE ADJUSTMENT

The information presented within this submittal is intended to demonstrate project compliance with the Administrative Adjustment requirements in the Land Development Regulations. It should be noted that nowhere in the Administrative Adjustments Purpose or Applicability is it suggested that this tool is not available to be used for a PUD.

As stated in Section 8.8.1 of the Town of Jackson Land Development Regulations, the purpose and intent of the Administrative Adjustment is: *to allow minor adjustments to certain requirements and numerical standards in these LDRs based on specific review standards. The intent is to provide relief when application of a standard creates practical difficulties in advancement of Comprehensive Plan goals or zoning district purposes.*

Applicability
An application may be made for administrative adjustment of the following standards of the LDRs.

1. Landscape Surface Ratio may be adjusted up to 20%.

Findings
An administrative adjustment shall be approved upon finding the application:

1. **Complies with the applicability standards of this Section:**
   Yes. The maximum adjustment is 20% and this project requires 13.5%.
2. **Either:**
   a. Compensates for some unusual constraint of the site or proposal that is not shared by landowners generally,
   Yes. The shape and location of the site presents an unusual limitation with a reduced amount of available alley as a percentage of site perimeter. Alleys are typically available to address parking uses.
   b. Better protects natural and scenic resources,
   Yes. The Redmond and Hall streetscapes are protected as a scenic resource.
   c. Better supports the purpose of the zone:
   Yes, every applicable purpose of the PUD is enhanced by the application of an Administrative Adjustment (purposes #1-#4, #6-#9).

3. **Is consistent with the purpose of the zone and the desired future character for the area described in the Comprehensive Plan.**
   Yes. The proposed Preferred site layout alternative will provide better on-site parking and circulation, which will benefit both the neighbors and the tenants.
4. **Will not pose a danger to the public health or safety;**
   The Preferred Alternative offers better access for emergency service vehicles.

5. **The site is not subject to a series of incremental administrative adjustments that circumvent the purpose of this Section.**
   N/A. The LSR adjustment is the only administrative relief we are seeking for this project.

4. DEVELOPMENT STANDARDS

PREFERRED SITE PLAN

LDR Calculations (AR-PUD)

Standard	Required	Proposed	Complies?
Gross Acreage	N/A (See Base Site Area)	56,170 sq ft (1.29 acres)	N/A
Min. Base Site Area	22,500 sq ft (.52 acres)	55,391 sq ft (1.27 acres)	Yes
Max Gross Density (dus/acre)	N/A	N/A	N/A
Min. LSR	.45 (24,964.2 sq ft)	.38 (21,300 sq ft)	Yes*
Max. FAR (+25% for affordable housing)	.40 + 25% =.50 (22,156.4 + 5539.1 = 27,695.5 sq ft)	.41 (22,580 sq ft)	Yes
Max. Lot Coverage	.30 (16,617 sq ft)	.29 (16,282 sq ft)	Yes
Street Yard Setback	N/A	20'	N/A
Side Yard Setback	N/A	10'	N/A
Rear Yard Setback	N/A	26'	N/A
Height	N/A	28'	N/A
Parking Spaces	N/A	39 spaces (1 space per bedroom, plus two extra)	N/A

Base Site Area Calculation

Gross Site Acreage: 56,170 sq ft
Minus the following:
Sidewalk Easement: 779 sq ft
Base Site Area: 55,391 sq ft

Landscape Surface Ratio Calculation

Base Site Area: 55,391 sq ft
Required Landscape Area: 24,964 sq ft
Proposed Landscape Area: 21,300 sq ft (under by 13.5%)
Resulting Ratio .38
*** Complies with an Administrative Adjustment for LSR relief of less than 20%**

Floor Area Ratio Calculation

Base Site Area: 55,391 sq ft
Required Floor Area: 27,696 sq ft
Proposed Floor Areas: 22,580 sq ft
Resulting Ratio .41

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5. ARCHITECTURE AND SITE DESIGN

The overall concept for this development was to create a building module that complements the existing neighborhood pattern of development. This module is repeated and attached to other modules to create a rhythm that is consistent with the surrounding area.

The site is organized around an internalized drive aisle that eliminates the need for curb cuts along Redmond Street. This provides for safer pedestrian/vehicular interactions. By attaching some of the modules together, substantial pathways and a meaningful courtyard are created.

The design process was driven by reviewing the surrounding development, both what is permitted as-of-right and recent PUDs. There are 4 PUDs in the immediate area that serves as comparisons, these include 525 Hall, Olie Riniker, Aspen Stand, and Twelve Pines. The main points of comparison were units, bedrooms, and parking. In order to create a fair comparison, each PUD area was divided by 7,500 square feet to create typical AR lot factor. The proposed design falls within the density and parking ranges for the surrounding PUDs.

	Size	Lots	Units	Bedrooms	Parking
Proposed					
Total	56,168	7.5	28	37	32
Per Lot Equivalent			3.7	4.9	4.3
Aspen Stand					
Total	24,100	3.2	10	20	26
Per Lot Equivalent			3.1	6.3	8.1
Twelve Pines					
Total	30,000	4.0	16	32	32
Per Lot Equivalent			4.0	8.0	8.0
Olie Riniker					
Total	22,500	3.0	6	18	10
Per Lot Equivalent			2.0	6.0	3.3
525 Hall					
Total	35,100	4.7	12	24	25
Per Lot Equivalent			2.6	5.1	5.3
Typical Lot	7,500	1.0	3.0	6	5

The existing numbers have been pulled from the public record with conservative assumptions as to bedrooms. Aspen Stand and 525 Hall had additional assumptions about site area.

While the Town Design Guidelines are more specifically written for non-residential developments, the guidelines were used as a resource that helped shape the final proposal.

- The design utilizes two distinct and engaging PUBLIC SPACES 1) a courtyard that is accessible to all units and provides desirable circulation and screening from the parking areas and 2) a strong, well defined front yard along both Hall Avenue and Redmond Street.

- The COMPOSITION of the design utilizes a refined proportion and rhythm along the elevations of the two primary street elevations.
- The distinct MASSING of additive forms and roof planes are well defined as they relate to the entry points for each unit reinforcing the single-family home pattern of the adjacent residential zoning and context.
- While the STREET WALL guideline is not strictly applicable to this residential project, the proposal has removed all curb cuts along Redmond Street (and only two curb cuts along Hall Avenue). This minimizes pedestrian conflicts and provides a clean and unobstructed elevation as it relates to the streetscape.
- The MATERIALS selected for this project are appropriate for an affordable housing project. The fiber-cement siding and composite roof shingles provide durability and limited maintenance over time.

6. LANDSCAPE STATEMENT

The overall goal for the landscape design is to provide private outdoor space for each of the units in addition to a meaningful public open space in the center of complex.

The required Landscape Surface Ratio for the development (preferred alternative) is 24,927.3 sq ft with 21,300 sq ft provided. Required plant units are one plant unit per dwelling unit (28) plus one plant unit per 12 parking spaces (39/12=3.25). A total of 32 plant units will be provided.

Plant material was selected for hardiness, minimum maintenance, and at least 3 seasons of interest. Large shrubs separate each unit's outdoor space, while smaller shrubs and perennials are shown in front of the buildings under windows.

The central public space is a flexible open area that will be the hub of activity 365 days a year. The public space is accessible from sidewalks from both Hall Avenue and Redmond Street. Overall, the landscape will provide a sense of space for the residents of the development, as well as providing a human scale along the street with the continuation of the street trees.

Irrigation Narrative

This project is separated into four complementary systems that total 38 zones. Once the buildings are constructed and the actual flow rate of available water can be determined, there may be a possibility to combine some of the zones. By utilizing the convenience of having 4 separate points of connection to the water source, it enables the systems to run simultaneously to irrigate during the best hours of the day for water conservation and public enjoyment. The design includes back flow devices at each point of connection to a municipal water line. The installation of a pressure reduction valve may be necessary at each point of connection as well. Some of the design will need to be adjusted to the actual site conditions. Rain sensors will be used for each of the four controllers.

All of the irrigation zones are designed to maximize efficiency as either Hunter MP Rotator or drip zones. One system is built around the southernmost building on the corner of Hall and Redmond. This system has 10 zones. Next, the northernmost building on Redmond houses the point of connection and controller for the land surrounding it. This area made up 8 zones. The building on Hall Avenue has 14 zones. This water supply will service the triangle courtyard (public space) that connects the back of the buildings. Lastly, the westernmost building has 6 zones. Orientation to the sun was taken into consideration for each zone's designation.

Plant Units

Plant Units - Teton County/Town of Jackson LDR's

Plant Unit	Quantity	Description	Cost Ea.	Cost Total	
A	1	3" caliper deciduous tree	$550	$550	
	6	6'-8' large shrub	$450	$2,700	
	4	5 gallon shrub	$65	$260	
					$3,510
B	2	3" caliper deciduous tree	$550	$1,100	
	2	6'-8' large shrub	$450	$900	
	2	8' evergreen tree	$750	$1,500	
					$3,500
C	3	6'-8' large shrub	$450	$1,350	
	3	8' evergreen tree	$750	$2,250	
	2	5 gallon shrub	$65	$130	
					$3,730
Average cost per plant unit:					**$3,580**

Plant Units Required for JHCHT Hall Redmond Rental Project Preferred Plan

1 per dwelling unit =		28	
1 per 12 parking spaces (39 total)		3.25	
	Total Plant Units required	32	$114,560

Plant Material Proposed

	Quantity	Botanical Name	Common Name	Size	Cost Ea.	Total Cost
Trees:						
	15	Picea pungens	Colorado Spruce	10'-12'	$1,100	$16,500
	1	Populus tremuloides	Quaking Aspen	3" cal.	$550	$550
	7	Fraxinus americana 'Autumn Purple'	Autumn Purple Ash	3" cal.	$550	$3,850
	3	Malus x 'Snowdrift'	Snowdrift Crab Apple	3" cal.	$550	$1,650
	10	Populus tremula 'Erecta'	Columnar Aspen	3" cal.	$550	$5,500
	6	Prunus virginiana 'Canada Red'	Canada Red Chokecherry Single Stem	3" cal.	$550	$3,300
Shrubs:						
	92	Acer glabrum	Rocky Mountain Maple	6' - 8'	$450	$41,400
	64	Aronia arbutifolia 'Brilliantissima'	Brilliant Red Chokeberry	5 gal.	$65	$4,160
	28	Cornus sericea 'Arctic Fire'	Artic Fire Dogwood	4' min.	$280	$7,840
	26	Cotoneaster acutifolius	Peking Cotoneaster	6' - 8'	$450	$11,700
	11	Pinus mugo 'Compacta'	Dwarf mugo pine	5 gal.	$65	$715
	28	Prunus virginiana	Chokecherry	6'-8'	$450	$12,600

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7. HOUSING MITIGATION PLAN

Division 7.4.2 require housing mitigation efforts for new developments in the Town of Jackson. Exemptions are in place for developments that are designed specifically for affordable housing. This project is an affordable housing project.

7.4.2.B Purpose. *The purpose of this Division is to ensure that new residential development including condominium and townhouse subdivisions in Jackson and Teton County include a reasonable supply of affordable housing to meet the needs of the community's citizens. This Division sets forth standards for affordable housing to be provided in conjunction with market rate residential development and condominium and townhouse subdivisions. Where the provision of such housing is determined to be impractical, this Division will set forth standards for the conveyance of land or an in-lieu fee.*

7.4.2.D.9. Exemptions. *Affordable Housing Development. Residential developments that are designed and administered to meet the objectives of this Division, as determined by the Jackson Town Council. This may include projects developed or sponsored by non-profit organizations that are charged to promote affordable housing and projects for which agreements have been executed that provided affordable housing or land for said purpose.*

The Housing Authority Departmental review of this project for the pre-application conference suggests the applicability of this exemption. See attached memo statement from the Housing Authority.

Type of Review	Status	Dates			
Contact		Sent	Due	Received	Remarks

Notes
(9/18/2015 8:20 AM JC)
MEMORANDUM

To: Paul Anthony
Principle Planner, Town of Jackson Planning and Building

From: Valerie Adams
Housing Specialist, Teton County Housing Authority

Re: Pre-App, P15-078 & 079
557 E. Hall Avenue & 335 Redmond Street

Date: September 8, 2015

The applicant is requesting Pre-Application meeting for a Physical Development for 557 E. Hall Avenue legally known as Lot 6, JAMES G. & JULIA L. SCARLETT ADDITION 2ND FILING and 335 Redmond Street legally known as LOT 3, JAMES G. & JULIA L. SCARLETT ADDITION. Teton County Housing Authority (TCHA) staff's review is based on Division7.4 of the Town of Jackson Land Development Regulations (LDRs).

TOWN OF JACKSON LAND DEVELOPMENT REGULATIONS REVIEW

AFFORDABLE HOUSING MITIGATION PLAN (DIVISION 7.4): The applicant is proposing to clear all existing structures, replat, and redevelop with 18 affordable rental units for dedicated members of our workforce. Per section 7.4.2.D.9. Of the LDRs residential developments that are designed and administered to meet the objectives of this Division, as determined by the Jackson Town Council. This may include projects developed or sponsored by non-profit organizations that are charged to promote affordable housing and projects for which agreements have been executed that provided affordable housing or land for said purposes. This project is being developed by a non-profit organization with the intent to provide affordable rental units. If the Town Council determines that this development meets the objectives of this division, there will be no housing requirements per the LDRs.

A covenant should be recorded on the property that describes the method of calculating rental rates along with occupancy and use restrictions as called for in the Lease agreement with the Town.

Thank you for the opportunity to review this application. Please contact me with any questions.

Project Reviews

Report By: Paul Anthony

8. TRAFFIC ANALYSIS

Proposed Project
The proposed project will construct 33 new bedrooms of affordable rental housing at the northwest corner of Redmond Street and Hall Avenue.

Impact Assessment Methodology
To perform a traffic impact assessment, the methodology is to compare the traffic levels in an existing state with those of a projected situation. The incremental difference between the pre-development and post-development traffic levels can be considered to be the impact caused by the development. Traffic counts performed by WYDOT in the summer of 2006 were adjusted to account for increased traffic volume and used to determine a peak traffic hour factor. The peak hour factor was applied to field data collected in February 2016 to accurately assess the impact of the development during summer traffic conditions.

Standard of Measurement
The performance of an intersection is measured by its "Level of Service," or LOS.
The LOS of an intersection is determined by referring to the average total delay (sec/veh) for the intersection, as set forth in the table below:

Level-of-Service (LOS)	Average Total Delay, sec/veh
A	≤ 5
B	> 5 and ≤ 10
C	> 10 and ≤ 20
D	> 20 and ≤ 30
E	> 30 and ≤ 45
F	> 45

Existing Trip Generation

The proposed project site currently has a duplex that will remain in the post-development condition, and a single-family residence that will be demolished.

A.M. PEAK HOUR TRIP GENERATION

LAND USE	ITE LAND USE DESIGNATION CODE	GROSS sq ft (1,000 sq ft)	UNITS	A.M. PEAK HOUR TRIP GENERATION RATE	TRIP GENERATION
SF DETACHED HOUSING	210		1	0.75	0.75
TOWNHOUSE	230		2	0.44	0.88
TOTAL					2

P.M. PEAK HOUR TRIP GENERATION

LAND USE	ITE LAND USE DESIGNATION CODE	GROSS sq ft (1,000 sq ft)	UNITS	P.M. PEAK HOUR TRIP GENERATION RATE	TRIP GENERATION
SF DETACHED HOUSING	210		1	1.01	1.01
TOWNHOUSE	230		2	0.52	1.04
TOTAL					2

SOURCE: TRIP GENERATION RATES TAKEN FROM
INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) *TRIP GENERATION, 7TH EDITION*

Existing Intersection LOS

The location of the project gives it the potential to increase traffic levels at a number of nearby intersections. The intersections of Redmond Street with East Broadway Avenue and East Kelly Avenue are the areas of interest for this traffic study. The existing intersection Levels of Service were developed by analyzing the results of traffic counts. Morning traffic was counted between 7:00 and 9:00 A.M., and afternoon traffic was counted for the period between 4:00 and 6:00 P.M. (See Appendix for LOS worksheets for calculations)

Redmond Street – Broadway Avenue

The A.M. Peak Hour Level of Service for the Redmond Street–Broadway Avenue intersection was found to be a Level of Service A, with an average total delay of 4.48 seconds per vehicle. The A.M. Peak Hour Level of Service adjusted for summer conditions was determined to be Level of Service C, with an average total delay of 10.92 seconds per vehicle.

The P.M. Peak Hour Level of Service for the Redmond Street–Broadway Avenue intersection was found to be a Level of Service B, with an average total delay of 5.07 seconds per vehicle. The P.M. Peak Hour Level of Service adjusted for summer conditions was determined to be Level of Service C, with an average total delay of 12.98 seconds per vehicle.

Redmond Street – Kelly Avenue

The A.M. Peak Hour Level of service for the Redmond Street–Kelly Avenue intersection was found to be a Level of Service A, with an average total delay of 1.36 seconds per vehicle. The A.M. Peak Hour Level of Service adjusted for summer conditions was determined to be Level of Service A, with an average total delay of 1.66 seconds per vehicle.

The P.M. Peak Hour Level of Service for the Redmond Street–Kelly Avenue intersection was found to be a Level of Service A, with an average total delay of 1.84 seconds per vehicle. The P.M. Peak Hour Level of Service adjusted for summer conditions was determined to be Level of Service A, with an average total delay of 1.88 seconds per vehicle.

Proposed Trip Generation

A.M. PEAK HOUR TRIP GENERATION

LAND USE	ITE LAND USE DESIGNATION CODE	GROSS SQ. FT. (1,000 sq ft)	UNITS	A.M. PEAK HOUR TRIP GENERATION RATE	TRIP GENERATION
APARTMENTS	220		33	0.55	18.15
TOWNHOUSE	230		2	0.44	0.88
TOTAL					20

P.M. PEAK HOUR TRIP GENERATION

LAND USE	ITE LAND USE DESIGNATION CODE	GROSS SQ. FT. (1,000 sq ft)	UNITS	P.M. PEAK HOUR TRIP GENERATION RATE	TRIP GENERATION
APARTMENTS	220		33	0.67	22.11
TOWNHOUSE	230		2	0.52	1.04
TOTAL					23

SOURCE: TRIP GENERATION RATES TAKEN FROM INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) *TRIP GENERATION, 7TH EDITION*

Proposed Intersection LOS

The proposed intersection traffic levels in this analysis were derived by creating an appropriate distribution of the trip generation associated with the proposed development to the intersection in question. Per discussion with Town of Jackson Engineering staff, the additional trip generation associated with the proposed development was assumed to be split equally between each intersection under analysis. After applying the additional trips to the intersection, the Level of Service analysis was performed for the intersection.

Redmond Street – Broadway Avenue

The A.M. Peak Hour Level of Service for the Redmond Street–Broadway Avenue intersection under proposed development conditions was found to be a Level of Service A, with an average total delay of 4.74 seconds per vehicle. The post-development A.M. Peak Hour Level of Service adjusted for summer conditions was determined to be Level of Service C, with an average total delay of 11.21 seconds per vehicle.

The P.M. Peak Hour Level of Service for the Redmond Street–Broadway Avenue intersection under proposed development conditions was found to be a Level of Service B, with an average total delay of 5.03 seconds per vehicle. The post-development P.M. Peak Hour Level of Service adjusted for summer conditions was determined to be Level of Service C, with an average total delay of 13.51 seconds per vehicle.

Redmond Street – Kelly Avenue

The A.M. Peak Hour Level of service for the Redmond Street–Kelly Avenue intersection under proposed development conditions was found to be a Level of Service A, with an average total delay of 1.32 seconds per vehicle. The post-development A.M. Peak Hour Level of Service adjusted for summer conditions was determined to be Level of Service A, with an average total delay of 1.66 seconds per vehicle.

The P.M. Peak Hour Level of Service for the Redmond Street–Kelly Avenue intersection under proposed development conditions was found to be a Level of Service A, with an average total delay of 1.79 seconds per vehicle. The post-development P.M. Peak Hour Level of Service adjusted for summer conditions was determined to be Level of Service A, with an average total delay of 2.23 seconds per vehicle.

The worksheets used for intersection analysis may be found in the Appendix.

The tables below summarize the traffic impact on the intersections due to the proposed development under adjusted summer conditions.

REDMOND STREET/BROADWAY AVENUE INTERSECTION TRAFFIC LEVEL IMPACTS					
		EXISTING		PROJECTED	
	LANE	AVG. TOTAL DELAY [sec]	LOS	AVG. TOTAL DELAY [sec]	LOS
AM PEAK HOUR	EB	17	C	18	C
	WB	8	B	8	B
	NB	6	B	6	B
	SB	6	B	5	A
	INTERSECTION	**10.92**	**C**	**11.21**	**C**
PM PEAK HOUR	EB	21	D	22	D
	WB	5	A	5	A
	NB	4	A	5	A
	SB	8	B	7	B
	INTERSECTION	**12.98**	**C**	**13.51**	**C**

REDMOND STREET/KELLY AVENUE INTERSECTION TRAFFIC LEVEL IMPACTS					
		EXISTING		PROJECTED	
	LANE	AVG. TOTAL DELAY [sec]	LOS	AVG. TOTAL DELAY [sec]	LOS
AM PEAK HOUR	EB	5	A	18	A
	WB	5	A	8	A
	NB	1	A	6	A
	SB	2	A	5	A
	INTERSECTION	**10.92**	**A**	**11.21**	**A**
PM PEAK HOUR	EB	4	A	5	A
	WB	4	A	4	A
	NB	1	A	1	A
	SB	2	B	2	A
	INTERSECTION	**12.98**	**A**	**13.51**	**A**

Vehicular Access to Public Right-of-Way

The proposed development will access Redmond Street from both Hall Avenue and the existing alley between Hall and Hansen Avenues. As stated above, the traffic generated by the proposed development was assumed to be split equally between northbound and southbound traffic on Redmond Street.

Alternative Modes Analysis

With provisions for ample bicycle storage and proximity to public transportation (START facilities), residents of the employee housing units can be expected to make substantial use of alternative modes of transportation. The latest edition of the AASHTO Guide for the Planning,

Design, and Operation of Pedestrian Facilities gives an acceptable distance for a pedestrian to walk in order to use public transit as 0.25 miles (1,280ft). The route from the development to the transit stops on Redmond Street is approximately 650 feet in length along existing Town standard (and maintained) public sidewalks. This discussion is provided to further illustrate a minimal impact on neighborhood traffic – no reduction in trip generation was assumed due to proximity to public transportation and the likelihood of residents bicycling or walking to their destinations during peak summer traffic season.

9. CAPITAL IMPROVEMENTS

The Redmond Street Rentals consists of 28 units that will provide 37 total bedrooms (33 new, 4 existing) and is located on property at the northwest corner of Redmond Street and Hall Avenue. Two of the units are an existing duplex that will remain on-site; the remainder will be new construction consisting of seven two-story, three-unit modules (two one-bedroom units and one two-bedroom unit per module) and five one-bedroom carriage units that will be on the second story above at-grade parking spaces.

Water Supply

The Redmond Street Rentals project will tie into the 8" ductile iron water lines that were installed under Hall Avenue during the reconstruction of Redmond Street in 2011. The static water pressure in this location is approximately 88 psi per Town of Jackson personnel, and hydrant flow test data in this vicinity yields fire flow of 3216 gpm at 20 psi residual pressure.

Domestic, fire, and irrigation demands were considered while sizing the water service to the Redmond Street Rentals project. The recommended water service for the development is a four-inch water line. The services to the two-story, three-unit modules should be three-inch diameter with a two-inch meter for domestic service. The carriage units should be served by a two-inch service with a two-inch meter for domestic service. It is likely that the existing duplex will be able to continue using its existing water service. The service to the existing house in the south central portion of the project will be removed and plugged at the main immediately following demolition of the house.

Domestic services will provide a dual check valve for backflow prevention, fire sprinkler system will use a double check valve for backflow prevention, and the irrigation system will provide a reduced pressure principal back flow preventer. Sizing calculations are provided in the appendix.

Wastewater Collection

The Redmond Street Rentals project will connect to an existing 8" clay sewer main in the alley between Hall Avenue and Hansen Avenue that ultimately flows west to Town of Jackson treatment facilities. In the project vicinity, this sewer is laid at a slope of 1.2% and has a pipe-full capacity of approximately 550 gallons per minute (gpm). Per the Wyoming DEQ, the maximum day wastewater generation is 150 gallons/bedroom, resulting in 5,550 gallons per day of wastewater from the entire development. Applying a peaking factor of ten yields a peak hour wastewater generation of approximately 39 gpm. The existing Town of Jackson infrastructure will have approximately 510 gpm of remaining capacity. Wastewater sizing and capacity calculations are provided in the appendix.

The sewer mains within the development will be 6-inch diameter PVC pipe laid at a minimum slope of 0.6%. All sewer services will be 4-inch diameter PVC pipe at a minimum slope of 1%, with 2% preferred. 48" diameter manholes will be used at all bends in the main and its intersection with the existing main in the alley. Cleanouts will be provided approximately five

feet from the building foundation at each installed service and after 100 feet or 135° of accumulated bends. It is likely that the existing duplex will have its sewer service disturbed during construction. A cleanout near the building and a connection to the new sewer main under the drive aisle will be installed.

Stormwater

The Town of Jackson LDRs require that the release rate of storm water from the post-development site does not exceed the pre-development runoff for the 10- through 100-year events. The rational method was used to determine the rate of runoff and the modified rational method was utilized to determine the volume of storm water required for detention. The pre-development runoff for the 10-year storm is 0.34 cfs and the pre-development runoff for the 100-year storm is 0.53 cfs.

Stormwater runoff from the drive aisle and the front yards of the units facing Redmond Street and Hall Avenue will be allowed to flow via gravity into the street and ultimately into the Town of Jackson's stormwater conveyance system. The release associated with these areas is 0.52 cfs for the 100-year event. All other stormwater will be collected in area drains and piped to a subsurface stormwater storage facility located in the central courtyard area. This storage system will consist of a 30" diameter perforated PVC pipe surrounded with 1" diameter washed rock to provide storage for the runoff generated by all storms up to the 100-year event. The design length of the pipe and drainage trench is based on an assumed percolation rate of 20 minutes per inch (a percolation test will be performed prior to final design to refine the design based on *in situ* conditions) and will allow the total volume of water required for the 100-year event to infiltrate into the ground in less than one day. An overflow pipe from the infiltration gallery to the existing storm sewer in Hall Avenue will be provided to allow conveyance of any runoff associated with an event larger than the 100-year design storm. Stormwater calculations are provided in the appendix.

Miscellaneous Utilities

There is an existing LVE vault on the alley just east of the project location. A padmount transformer can be set that will connect to this vault and provide electric service. A gas main is located in the alley and could provide gas service if desired.
All other wire utilities are accessible from existing pedestals located along the alley and near to the project location.

Redmond Hall

3/2/2016

Two Story Building with (2) 1-Bedroom Apartments and (1) 2-Bedroom Apartment
Second Story Building with 1-Bedroom Apartment
Sewer Service Fixture Count per IPC

One Bedroom Apartments

	Number	S.F.U	Total
Water Closet Tank	1	4	4
Tub	1	2	2
Lavatory Sink	1	1	1
Kitchen Sink	1	2	2
Dishwasher	Included		
Washing Machine	1		2
Total per 1-Bedroom			11

Two Bedroom Apartments

	Number	S.F.U	Total
Water Closet Tank	2	4	8
Tub	1	2	2
Shower	1	2	2
Lavatory Sink	2	1	2
Kitchen Sink	1	2	2
Dishwasher	Included		
Washing Machine	1		2
Total per 2-Bedroom			18
Total per Two Story Building			40

IPC requires min. 4" diameter sewer service to each building
Use 4" sewer service to 2 story building

Minimum slope 1% (1/8"per ft) Preferred slope 2% (1/4" per ft)

Redmond main: 6 2 story buildings total		240	sfu			
IPC requires min 5" diameter, use 6"						
West side main: duplex, 1 2 story, 5 carriage		150	sfu			
IPC requires min 4" diameter service						
Per DEQ, 150 gal/bdrm/day.	5550					
Convert to peak hour (PF=10)	231.25	gph	3.854167	gpm	x10	38.5 gpm

Water Service Fixture Count per IPC

Town Pressure = Upper 80s

One Bedroom Apartments

	Number	W.F.U	Total
Water Closet Tank	1	5	5
Tub	1	1.4	1.4
Lavatory Sink	1	0.7	0.7
Kitchen Sink	1	1.4	1.4
Dishwasher	1	1.4	1.4
Washing Machine	1	1.4	1.4
Total per 1-Bedroom			11.3

Two Bedroom Apartments

	Number	W.F.U	Total	
Water Closet Tank	2	5	10	
Tub	1	1.4	1.4	
Shower	1	1.4	1.4	
Lavatory Sink	2	0.7	1.4	
Kitchen Sink	1	1.4	1.4	
Dishwasher	1	1.4	1.4	
Washing Machine	1	1.4	1.4	
Total per 2-Bedroom			18.4	
Total per Two Story Building			41	
Total Redmond Line			205	wfu
Peak Flow (205 wfu)=			66	gpm
Irrigation System Demand			70	
Hose bib per building complex	3	6	18	
Max Peak Flow per building			154	

Fire Sprinkler System (assume fire walls between apartments)
From NFPA 13: Light Hazard Residential Occupancy Area Density Curves:

Total per Apartment	60	gpm

Water main serving 5 carriage units 2 2-story buildings	138.5	wfu
Per IPC (E103.3(3))	55	gpm
Landscape Irrigation demand	70	
Assume one fire demand	60	
Total flow in water main	185	

Water main serving 5 2-story buildings	205	wfu
Per IPC (E103.3(3))	66	gpm
Landscape Irrigation demand	70	
Assume one fire demand	60	
Total flow in water main	196	

REDMOND HALL
RUNOFF CALCULATIONS

PROJECT DATA

SITE LOCATION:	JHCHT RENTALS
STORM DRAINAGE ANALYSIS METHOD:	MODIFIED RATIONAL METHOD
ANALYSIS DATE/ANALYST:	2/18/16 DCS

SITE PARAMETERS	DESIGNATION	UNIT	QUANTITY	OTHER
Site Area	A	SQUARE FEET	56,168	
Longest Drainage Path Across Site	L	FEET	360	
Elevation Change Across Site	E	FEET	7.1	
Site Slope	S	PER CENT	1.97%	

RUNOFF COEFFICIENTS	DESIGNATION	UNIT	VALUE	OTHER
Composite Runoff Coefficient, Pre-Development, Runoff Path	C_1	DIMENSIONLESS	0.2	
Composite Runoff Coefficient, Pre-Development, Entire Site	C_2	DIMENSIONLESS	0.28	
Composite Runoff Coefficient, Post-Development, Entire Site	C_3	DIMENSIONLESS	0.61	

TIME OF CONCENTRATION (PRE-DEVELOPMENT):

$t_c = [1.8(1.1-C_1)(L)^{0.5}]/S^{0.333}$ IN MINUTES 25 MINUTES

MAXIMUM RELEASE ASSOCIATED WITH SITE

Q = CiA, WHERE:

Q = Flow rate in cfs
A = Drainage area in acres 1.289
i = Rainfall Intensity at Time of Concentration

TIME OF CONCENTRATION (POST-DEVELOPMENT):

$t_c = [1.8(1.1-C_3)(L)^{0.5}]/S^{0.333}$ IN MINUTES 13 MINUTES USE 15

10-YEAR STORM

Runoff Coef., Pre-Dev., Entire Site, C_2:	0.28
Rainfall Intensity @ Time of Concentration, i_{tc}:	0.94
Pre-Dev. Flow @ Time of Concentration, Q_{tc}:	0.34

10-YEAR VOLUME REQUIREMENT

Maximum Allowable Release (10 yr Pre-Developed) Qr = .34 cfs

Q = CiA

V = (Q-Qr)[(Dur - Tc) + ((Q-Qr)/Q)(Tc)]60

C= 0.61
A= 1.289

Tc = 15 mins 0.78655831

Duration (mins)	I (in/hr)	Q (ft^3/s)	Storage Volume (ft^3)		
5	1.8	1.42			
10	1.42	1.12			
15	1.19	0.94	341.6	0.99166667	1.19
20	1.05	0.83	403.0	0.875	1.05
25	0.94	0.74	433.8	0.78333333	0.94
30	0.83	0.65	416.5	0.69166667	0.83
35	0.75	0.59	395.2	0.625	0.75
40	0.67	0.53	340.2	0.55833333	0.67
45	0.62	0.49	306.0	0.51666667	0.62
50	0.57	0.45	251.1	0.475	0.57

100-YEAR STORM

Runoff Coef., Pre-Dev., Entire Site, C_2:	0.28
Rainfall Intensity @ Time of Concentration, i_{tc}:	1.48
Pre-Dev. Flow @ Time of Concentration, Q_{tc}:	0.53

100-YEAR VOLUME REQUIREMENT

Maximum Allowable Release (100 yr Pre-Developed) Qr = .53 cfs

Q = CiA

V = (Q-Qr)[(Dur - Tc) + ((Q-Qr)/Q)(Tc)]60

C= 0.61
A= 1.289

Tc = 15 mins 0.78655831

Duration (mins)	I (in/hr)	Q (ft^3/s)	Storage Volume (ft^3)
5	3	2.36	
10	2.33	1.83	
15	1.9	1.49	560.2
20	1.65	1.30	639.2
25	1.48	1.16	691.3
30	1.3	1.02	656.8
35	1.19	0.94	645.7
40	1.08	0.85	587.4
45	1.02	0.80	573.3
50	0.95	0.75	513.0
55	0.89	0.70	445.3
60	0.82	0.64	328.9
70	0.74	0.58	176.0
80	0.65	0.51	-72.5
90	0.61	0.48	-221.2
100	0.56	0.44	-440.2

GEOTECHNICAL INVESTIGATION

REDMOND-HALL RENTALS

JACKSON, WYOMING

PREPARED
FOR
JACKSON HOLE COMMUNITY TRUST
JACKSON, WYOMING

PREPARED
BY
NELSON ENGINEERING
JACKSON, WYOMING

DECEMBER 2015
Project No. 15-256-01

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GENERAL AND PROJECT DESCRIPTION

A geotechnical investigation was performed at Lots 3, 4 and 6 of the James G. & Julia L. Scarlett Addition in Jackson, Wyoming. The purpose of the investigation was to ascertain subsurface conditions and provide geotechnical recommendations for a proposed multi-unit rental residential development. Geotechnical recommendations contain herein are a based on a preliminary site plan prepared by Hawtin Jorgensen Architects of Jackson, Wyoming and a site survey prepared by On Sight Land Surveyors, Inc. of Jackson, Wyoming. Two types of development are proposed, five structures composed of two units with basements, sixteen detached accessory units with basement garage and upstairs living space. Driveways, parking areas, walkways, hardscape and landscaping are also proposed.

Scope of Services

The scope of services for this investigation was to provide geotechnical recommendations based on a subsurface investigation and soils laboratory testing for the proposed structures and developments. The purpose of the subsurface investigation was to determine soils and groundwater characteristics. The results of the subsurface investigation and subsequent laboratory testing were utilized in an engineering analysis for foundation and retaining wall recommendations. Slope stability analyses were not conducted, as it is our engineering judgment that the existing site topography and soil composition indicate stability with proposed finished grades. Maintaining safe slopes and excavation safety during construction is the responsibility of the contractor. Specific recommendations for drainage and surface water conveyance were not within the scope of work for this report.

The foundation analysis and resulting recommendations contained herein are based on typical loads for the types of structures envisioned in the conceptual design. In the final design phase of the project, it is critical that structural loads are properly communicated to the geotechnical engineer to verify that the imposed loading conditions on the proposed foundation configuration will not cause excessive settlement, exceed the bearing capacity of the site soils, or exceed the seismic loading capacity of the foundation elements. Lateral earth pressure recommendations contained within this report are general in nature; it is critical that final retaining wall designs are reviewed and approved by this office. For this report, it is assumed that foundation elements would not be subjected to unusual loading conditions such as eccentric loads or vibratory equipment. Unusual load conditions can induce settlement or reduce the bearing capacity of foundation elements.

SITE CONDITIONS

Description

The development will be constructed on Lots 3, 4 and 6 of the James G. & Julia L. Scarlett Addition in the Town of Jackson. Currently Lot 6 has an existing two-story duplex on the south end, Lot 4 has an existing utility shed and Lot 3 is vacant. The site is relatively flat and is bounded on the east side by Redmond Street, on the south by Hall Avenue, and by an unnamed alley on the north. Access to the property is provided by the unnamed alley to the north of the property via Redmond Street. Lot 1 of the James G. & Julia L. Scarlett Addition is situated to the interior of the development and is currently occupied by a residential

structure and utility shed. Access to Lot 1 is also provided by the unnamed alley. Surficial vegetation consists of tall grasses, mixed blue spruce, aspen, and cottonwood trees.

Geologic and Soil Mapping

The area's surface geology is mapped on the USGS "Geologic Map of the Cache Creek Quadrangle, Teton County, Wyoming," Love, J.D, and Love, C.M., 2000. Mapped deposits are described as "Qf-Alluvial Fan Deposits-Crudely stratified deposits of gravel, silt, and clay that spread outward from mouths of ravines and canyons."

The USDA-NRCS Web-based Soil Survey of Teton County has mapped the Greyback gravelly loam within the property. Greyback gravelly loam soils are characterized as located on 0 to 3 percent slopes and formed of alluvium and/or glaciofluvial deposits. The soil is described as very deep, somewhat excessively drained, and composed of gravelly loam, very gravelly sandy loam, very gravelly loamy sand.

Seismic Hazard

Jackson Hole and the project site are located within the Intermountain Seismic Belt, a zone extending from southern Utah through eastern Idaho and western Montana, and encompassing western Wyoming and the Teton Range (Smith and Arabasz, 1991). The "Map of Quaternary Faults and Folds in Wyoming" (Machette et al, 2001) shows the following active faults near the project site: the Teton Fault, Philips Canyon Faults, East Gros Ventre Faults, Cache Creek Thrust Fault, Jackson Thrust Fault, and secondary faults in the Jackson Hole Valley. In particular, the Teton Fault is thought to be capable of producing major earthquakes of a magnitude of six or greater. The portion of the Teton Fault mapped as active in the Quaternary is approximately 7.7 miles northwest of the site. Multiple minor earthquakes with epicenters near the site have occurred in recent years (USGS Earthquake Database).

SITE INVESTIGATIONS

Field Investigations

On December 7, 2015, six test pits were excavated within and near the planned development footprints and driveways. Test pit locations are shown on the Test Pit Location Drawing in the Appendix. Test pits were located approximately with a handheld Trimble GPS unit. Test pit locations and depths were selected to determine subsurface conditions within the proposed development. All test pits were backfilled with excavated material after logging was completed.

Fish Creek Excavation of Jackson, Wyoming, excavated the test pits with a John Deere 310 SJ backhoe. Andy Pruett, a Professional Geologist at Nelson Engineering, logged the test pits and directed the sampling. Soils were classified in the field and logged by the geologist. The soil classifications, moisture conditions, and presence of organic or other notable features were recorded in the field logs. Bulk samples were sealed in plastic bags and transported to our laboratory for testing and further classification. Groundwater observations were made at the time of the excavation based on field observations of soil moisture conditions. Field observations are presented on the test pit logs in the Appendix.

The stratification lines shown on the test pit logs represent the approximate boundary between soil types. Subsurface changes in soil types in both the horizontal and vertical may

be closely spaced and abrupt. Due to the nature and depositional characteristics of natural soils and fills, care should be taken in interpolating subsurface conditions beyond the location of the test pits. The soil properties inferred from the field and laboratory analyses supported by our experience formed the basis for developing our conclusions and recommendations.

Laboratory Investigations

Samples obtained during the field investigation were taken to the laboratory where they were visually classified in accordance with ASTM Test Method D-2487-93. Representative samples were selected for testing to determine the physical properties of the in-place soils and to estimate engineering properties. Engineering properties of concern at this location included bearing capacity, settlement characteristics, seismic response, drainage characteristics, and site-specific construction recommendations that are influenced by soil type and condition.

Laboratory testing was conducted to provide additional information to determine the suitability of the soils for use as foundation and subgrade materials and to verify field observations and classification estimates. The finalized laboratory observations were used to estimate soil strength and compressibility characteristics for bearing capacity determinations, and to determine general construction recommendations. Specific tests included Atterberg Limits Tests - ASTM Designation D4318, Grain Size Analysis - ASTM Designation C117 & C136, Soil Moisture Content Determinations - ASTM Designation D2226, and Soil Classification - ASTM Designation D2487.

The soil samples stored in our laboratory will be discarded after 30 days from the date this report is submitted unless we receive a specific request to retain them.

SUBSURFACE CONDITIONS

Soil Profiles

Similar soil profiles were observed in all of the test pits. Surficial soils were fine-grained, dark brown silt deposits with occasional gravel and organic material to depths of 1.0 to 3.0 feet below the ground surface. Surficial soils were moist to dry and hard with corresponding pocket penetrometer readings of greater than 4.0 tons per square foot (TSF). Depth of frost varied from 3 to 18 inches below the ground surface. Underlying deposits of alluvial gravels, cobbles and boulders were observed in all of the test pits. Deposits were coarse-grained, brown gravel with silt, cobbles and boulders up to a maximum 24-inch dimension. The coarse deposits were described as 75 to 80 percent well-graded, sub-angular to rounded clasts with 20 to 25 percent sand and silt. Alluvium was dry and dense to very dense. Excavation was described as easy digging in the first 3 to 4 feet below the ground surface, and very difficult in the alluvial deposits. Test pits were advanced to depths of 8.0 to 13.0 feet below the ground surface.

Groundwater

No groundwater was observed in any test pit during the site investigation. TP-1 and TP-3 were advanced to depths of 13 and 12 feet respectively, and groundwater monitoring wells were installed in each pit to monitor long-term groundwater levels if requested. Studies of the local hydrogeology show an inferred aquifer associated with Cache Creek located in alluvial deposits in the project area. However, the aquifer is thought to occur at depths well

below basement depth, and similar residential developments in the immediate area are known to have basements. Publically available building records indicated the two-story duplex on Lot 6 has a finished basement.

ENGINEERING ANALYSIS AND RECOMMENDATIONS

General

A multi-structure, residential development is proposed at the site. Conventional, shallow spread footings for all structures are anticipated. Driveways, parking areas, walkways and other hardscapes to access the structures are planned in the development. Items presented in this section emphasize concerns at depths at and below the anticipated bottom footing and foundation slab depths in soils influenced by foundation loading.

Seismic Design Parameters

The 2012 International Building Code (IBC) designates site class per ASCE 7 Chapter 20. Data obtained in this investigation is not sufficient to determine soil parameters as required by ASCE 7; therefore the IBC directs that seismic coefficients and design spectra shall be determined using Site Class D and Latitude of 43.476° and Longitude of -110.751°.

Conventional Spread Footings

Spread footings bearing on native soils composed of dense gravels found at depths from approximately 1.0 to 3.0 feet below existing ground surface are appropriate foundation elements. Net allowable bearing capacity of **4000 PSF** is appropriate for all footings. Where silt/sandy clay soils and fine grained sand lenses are found at bottom of footing elevation, these soils shall be removed until competent cobble and gravel alluvium is revealed. Structural fill shall be placed as necessary to achieve footing grade. Existing subgrade shall be compacted to a depth of 8 inches to 95% of maximum density per ASTM D698 (Standard Proctor) beneath all footing and fills below footings. The net allowable soil pressure includes dead load plus maximum live load. The above analysis assumes a **maximum width of 3.0 feet** for continuous footings and a **maximum dimension of 10 feet** for isolated footings. Construction of large footing sizes can lead to increased settlement as the bearing pressure bulb can extend deeper into the soil profile resulting in settlement of greater than that specified. The net allowable soil pressure includes dead load plus maximum live load. These calculations assume a **minimum footing burial depth of 42 inches** and that a **maximum total settlement of 0.5 inches** be tolerated on any one footing and the **maximum differential settlement between footings that can be tolerated is 0.25 inches**.

Bearing capacity values and settlement shall be checked for each combination of load to determine whether settlement or bearing capacity will control the response of the footing. Construction of large footing sizes can lead to increased settlement as the bearing pressure bulb can extend deeper into the soil profile resulting in settlement of greater than that specified. Foundation elements supporting large concentrated loads should be analyzed on an individual basis to determine settlement and bearing characteristics**.** Other foundation parameters are as noted below:

1. A one-third increase in allowable bearing capacity may be used for short duration loads such as wind or seismic.

2. Lateral loads may be resisted by friction between the footing base and supporting soil and lateral bearing pressure against the sides of the footings. Design parameters recommended are a **coefficient of friction of 0.45** at the footing base, **lateral passive bearing pressure of 350 psf per foot of depth.**

3. Backfill against shallow foundations and stem walls shall conform to the **FOUNDATION BACKFILL DETAIL** drawing in the Appendix. In no case shall material greater than 6 inches in diameter bear directly on or against foundation elements. Placing oversized material against rigid surfaces can damage the structure and interferes with proper compaction.

4. For stem walls and retaining walls that retain soils greater than 4 feet in height, follow the recommendations contained in the **Retaining Walls** section below.

Any soil type encountered at the bottom of footing excavations other than the ones described above should be analyzed by Nelson Engineering. Isolated boulders at footing grade should be excavated and removed unless approved by Nelson Engineering. Any excessively loose material or soft spots encountered in the footing subgrade will require over-excavation and backfilling with structural fill. All footings shall be suitably reinforced to make them as rigid as possible.

Retaining Walls

For this analysis, it is assumed that all retaining walls will be backfilled with compacted fill per the **FOUNDATION BACKFILL DETAIL** drawing in the Appendix.

For foundation or stem walls restrained from movement such that active earth pressures will not be allowed to develop, an at-rest equivalent fluid pressure of **60 PCF** is appropriate. The Mononobe-Okabe (M-O) equations are often used to estimate dynamic forces against retaining walls. The M-O analysis is theoretically derived using active earth pressure conditions. Although there is debate about the theoretical applicability of this methodology to restrained or rigid walls, the method has been used for many years for the seismic design of such walls. The performance record of underground walls during earthquakes has generally been good. Appropriate parameters for the M-O analysis are: 1) soil unit weight 130 pounds per cubic foot, 2) Internal Friction Angle= 34°. The more limiting case, at-rest or active seismic pressure, shall be utilized in the structural design of restrained or rigid retaining walls.

For foundation or stem walls with active earth pressure loading, an equivalent fluid pressure of **45 PCF** is appropriate.

Excavations for retaining walls and foundations shall conform to the applicable OSHA and Wyoming safety standards.

Interior Slabs-On-Grade

For interior slab areas, a **minimum of 1.5 feet thickness** of the surface soils shall be excavated and removed. Interior slabs shall be founded upon the following section from top to bottom: 1) a leveling course mat 4 inches in thickness composed of a ¾-inch minus free draining material (WYDOT Grade W or equivalent) compacted to a minimum of 95% of maximum density as determined by ASTM D 1557, 2) 12 inches of structural fill, and 3)

Geotex 250 geotextile or equivalent placed on the upper 8 inches of native subgrade soils compacted to a minimum of 95% density as determined by ASTM D 698. **Any excessively loose material or soft spots encountered in slab subgrade will require over-excavation and backfilling with structural fill.** Where Nelson Engineering determines subgrade is composed of dense alluvium, the structural fill and geotextile requirements may be omitted.

All fill material within 2 feet of the slabs must be compacted to a minimum 95% of the maximum density as determined by ASTM D698.

All slabs should be a **minimum of 4 inches thick**. A moisture retardant barrier can be placed beneath all floor slabs to minimize potential ground moisture effects on floor coverings and to minimize the potential for radon infiltration. Testing for the presence of radon has not been conducted at this location. If desired, placing ASTM C33 size 5 aggregate for the granular mat beneath slabs can enhance radon remediation.

Concrete slab-on-grade control joints should be saw-cut as early as possible. Nelson Engineering recommends the use of a soft cut system, which allows saw cutting as soon as the concrete can support foot traffic. Successful crack control is dependent upon proper joint spacing. Control joints should be placed in accordance with current Portland Cement Concrete Paving Association guidelines.

Sidewalks and Exterior Slabs

Sidewalks and exterior concrete slabs for foot traffic shall be placed upon the following section: 1) a leveling course mat 4 inches in thickness composed of a ¾-inch minus free draining material (WYDOT Grade W or equivalent) compacted to a minimum of 95% of maximum density as determined by ASTM D 1557, 2) 12 inches of structural fill, and 3) Geotex 215 geotextile or equivalent placed on the upper 8 inches of native subgrade soils compacted to a minimum of 95% density as determined by ASTM D 698. Any fill required to increase the elevation of slabs should meet the requirements for granular structural fill. (Refer to the section on structural fill for requirements). **Any excessively loose material or soft spots encountered in slab subgrade will require over-excavation and backfilling with structural fill.**

All fill material within 2 feet of the slabs must be compacted to a minimum 95% of the maximum density as determined by ASTM D698.

Driveway and Parking Lot Recommendations

Recommended driveway and parking lot sections are given in the table below. Where Nelson Engineering determines subgrade is composed of dense alluvium, the structural fill and geotextile requirements may be omitted. Proper drainage is essential for satisfactory road and parking area performance.

PAVEMENT SECTION COMPONENTS	Paved	Gravel Surfaced
Asphaltic Concrete	2.0 inches	
¾ inch Minus Crushed Aggregate	4.0 inches	6.0 inches
Structural Fill	12 inches	12 inches

Geotextile: Geotex™ 250ST Placed on Compacted Native Soils	
Compacted Subgrade	Surficial 8 inches of native soil compacted to 95% of max. as determined by ASTM D698.

CONSTRUCTION CONSIDERATIONS

Earthwork and Site Grading

Excavation work and heavy equipment access will be difficult when surficial soils are wet. A protracted period of wet conditions can be expected during and after seasonal snowmelt. Placement of gravel surfacing and/or free-draining native material supported by geotextiles will be required to create stable surfaces for machines and equipment to access the construction site. General recommendations for earthwork suitability, placement, and compaction procedures are provided below:

- Within the building footprints and areas to be paved, all organic material, deleterious undocumented fill, and debris should be stripped and removed. Loose and disturbed native soils should be scarified, moisture-conditioned, and compacted. Finish surfaces shall be sloped away from foundations.

- Fill materials shall not be placed, spread, or compacted while the ground is frozen or during unfavorable weather conditions. Fill materials should be at the proper moisture content prior to compaction and should contain **no frozen soil**.

- **Structural Fill** shall consist of imported or site gravels (USCS classification GW or GP) with the following characteristics: 6-inch maximum particle size with no more than 40% oversize (greater than ¾") and no more than 5% fines passing the #200 sieve.

  Structural fill shall be placed in layers of **not more than 8 inches in thickness**. Each layer of structural fill should be moisture conditioned to within 2% of optimum moisture content and compacted to a minimum density of 95% of the maximum dry density as determined by ASTM Designation D 698. The maximum density of material containing more than 30% oversize (greater than ¾" diameter) cannot be determined by use of the ASTM Designation D 698. In this case, a field maximum density may be determined by a test strip method. The material shall be compacted at or near optimum moisture content and a field density test shall be taken after each pass of the compaction equipment. This sequence shall continue until the maximum field density is achieved. This maximum field density shall be used for subsequent field compaction tests. Enough density tests should be taken to monitor proper compaction.

- Safety of construction personnel including safe trenches and excavations are the responsibility of the contractor. Excavations for retaining walls and foundations shall conform to **all** applicable OSHA and Wyoming safety standards. Excavations and utility trenches shall be laid back to safe slopes or properly shored. Excavations and shoring operations shall be conducted in accordance with the most recent versions of the OSHA Construction Standards for Excavations, Part

1926, Subpart P and Wyoming Public Works Standard Specifications. Excavations for utilities shall be shored if the proper slope cannot be maintained.

- During earthwork phases of the project, a representative of Nelson Engineering shall be present to observe exposed native soils and fill materials for suitability and consistency. A documented testing program should be conducted to determine that soil compaction is in accordance with requirements.

- Backfill placed against structures (i.e., pipes and walls) shall be properly placed in a manner that will not damage these structures. In no case shall material greater than 6 inches in diameter bear directly on or against these structures. Placing oversized material against rigid surfaces can damage the structure and interferes with proper compaction.

GENERAL COMMENTS

The structural engineer and other project designers shall review this report. When project plans and specifications are complete, a consultation with this office should be arranged to ensure compliance with this report. Additional or supplementary recommendations with regards to foundations and earthwork may be required at this time. Monitoring and testing shall be performed to verify that suitable materials are used for structural fills and backfills, and that fills are properly placed and compacted. Concrete testing and special inspection shall be performed prior to and during placement of all concrete to ensure concrete and reinforcing steel bar comply with project plans and specifications.

WARRANTY AND LIMITING CONDITIONS

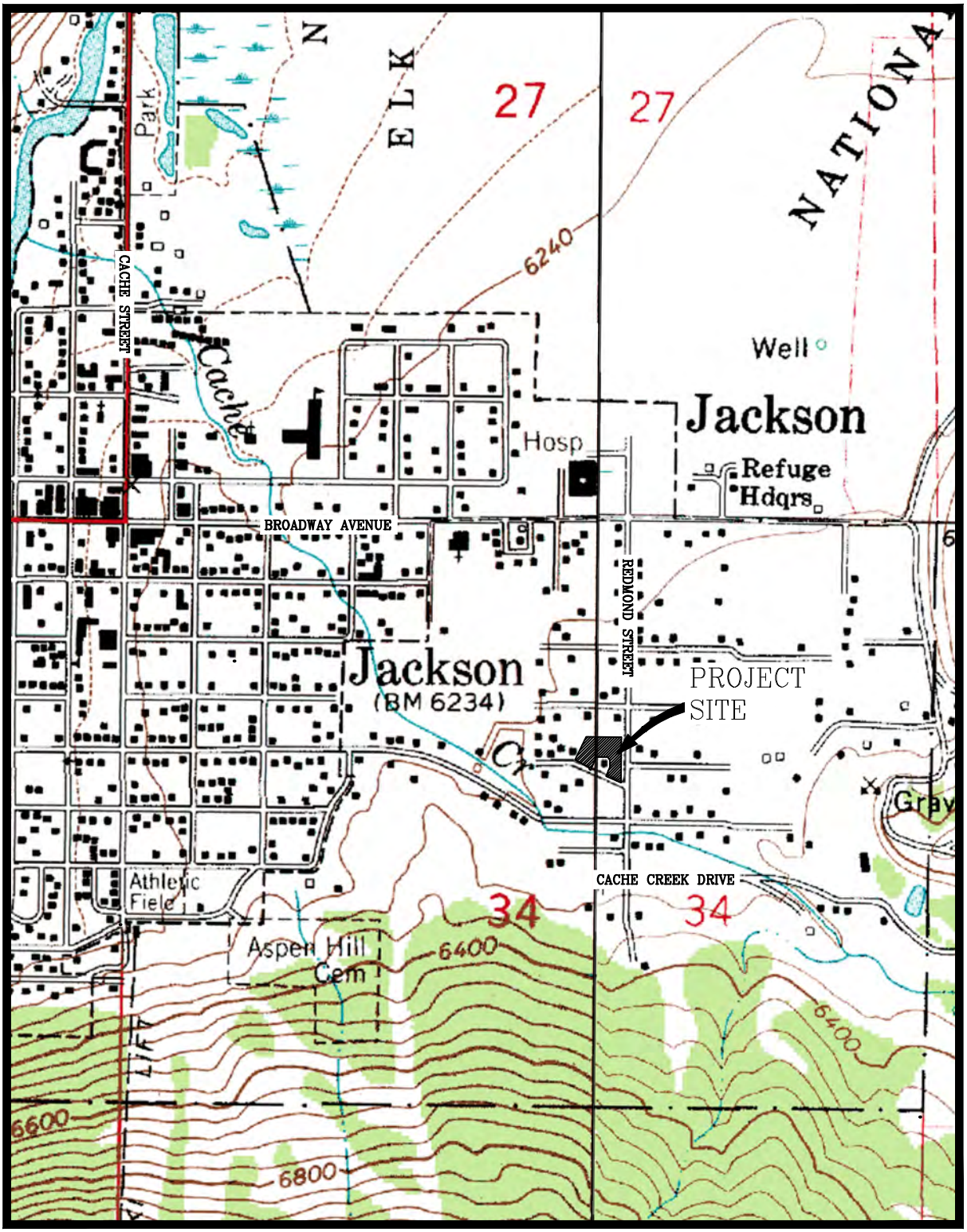
The field observations and research reported herein are considered sufficient in detail and scope to form a reasonable basis for the purposes cited above. Nelson Engineering warrants that the findings and conclusions contained herein have been promulgated in accordance with generally accepted professional engineering practice in the fields of foundation engineering, soil mechanics, and engineering geology, only for the site described in this report. No other warranties are implied or expressed.

These engineering methods have been developed to provide the client with information regarding apparent or potential engineering conditions relating to the subject property within the scope cited above and are limited to the conditions observed at the time of the site visit and research. There is a distinct possibility that conditions may exist which could not be identified within the scope of the investigation or which were not apparent during the site investigation. The report is also limited to the information available at the time it was prepared. In the event additional information is provided to Nelson Engineering following this report, it will be forwarded to the client in the form received for evaluation by the client. This report was prepared for use by the Jackson Hole Community Trust ("Client") and Hawtin Jorgensen Architects in Jackson, Wyoming ("Architect") and the conclusions and recommendations presented in this report are based on the agreed-upon scope of work outlined in the report and the contract for professional services between Client and Nelson Engineering ("Consultant"). Use or misuse of this report, or reliance upon the findings hereof by any parties other than the Client and Architect, is at their own risk.

Neither the Client, Architect, nor Consultant may make any representation of warranty to such other parties as to the accuracy or completeness of this report or the suitability of its use by such other parties for any purpose whatsoever, known or unknown, to the Client, Architect or Consultant. Neither the Jackson Hole Community Trust, Hawtin Jorgensen Architects, nor Nelson Engineering shall have any liability to, or indemnifies or holds harmless third parties for any losses incurred, by the actual or purported use or misuse of this report. No other warranties are implied or expressed.

APPENDIX

DRAWINGS



N
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VICINITY MAP

SCALE: 1"=1000'

DRAWING NO	TITLE				
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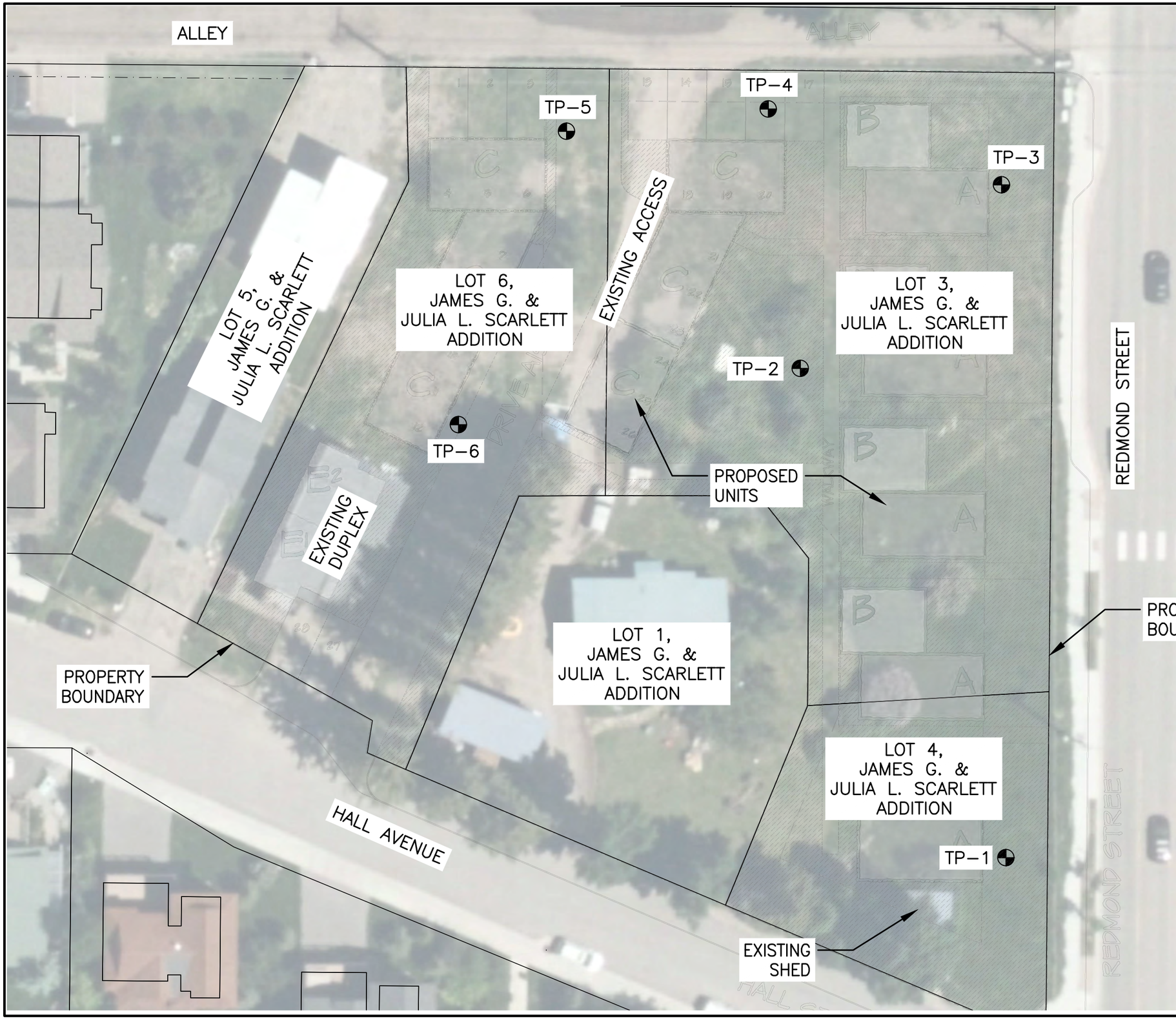
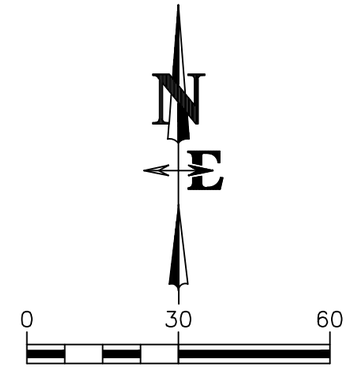
15-256-01			DRAWN	BR	
			CHECKED	PG	
			APPROVED	PG	





AERIAL PHOTOGRAPHY AND PROPERTY BOUNDARIES FROM THE TETON COUNTY GIS. TEST PITS LOCATED USING A TRIMBLE HANDLED GPS UNIT. MONITORING WELLS WERE INSTALLED IN TEST PITS 1, 3 & 6.

PRELIMINARY SITE PLAN PROVIDED BY HAWTIN JORGENSEN ARCHITECTS SHOWN AT APPROXIMATE SCALE

		REV.
DATE	12/8/2015	
SURVEYED	AP	
DRAWN	BR	
CHECKED	PG	
APPROVED	PG	

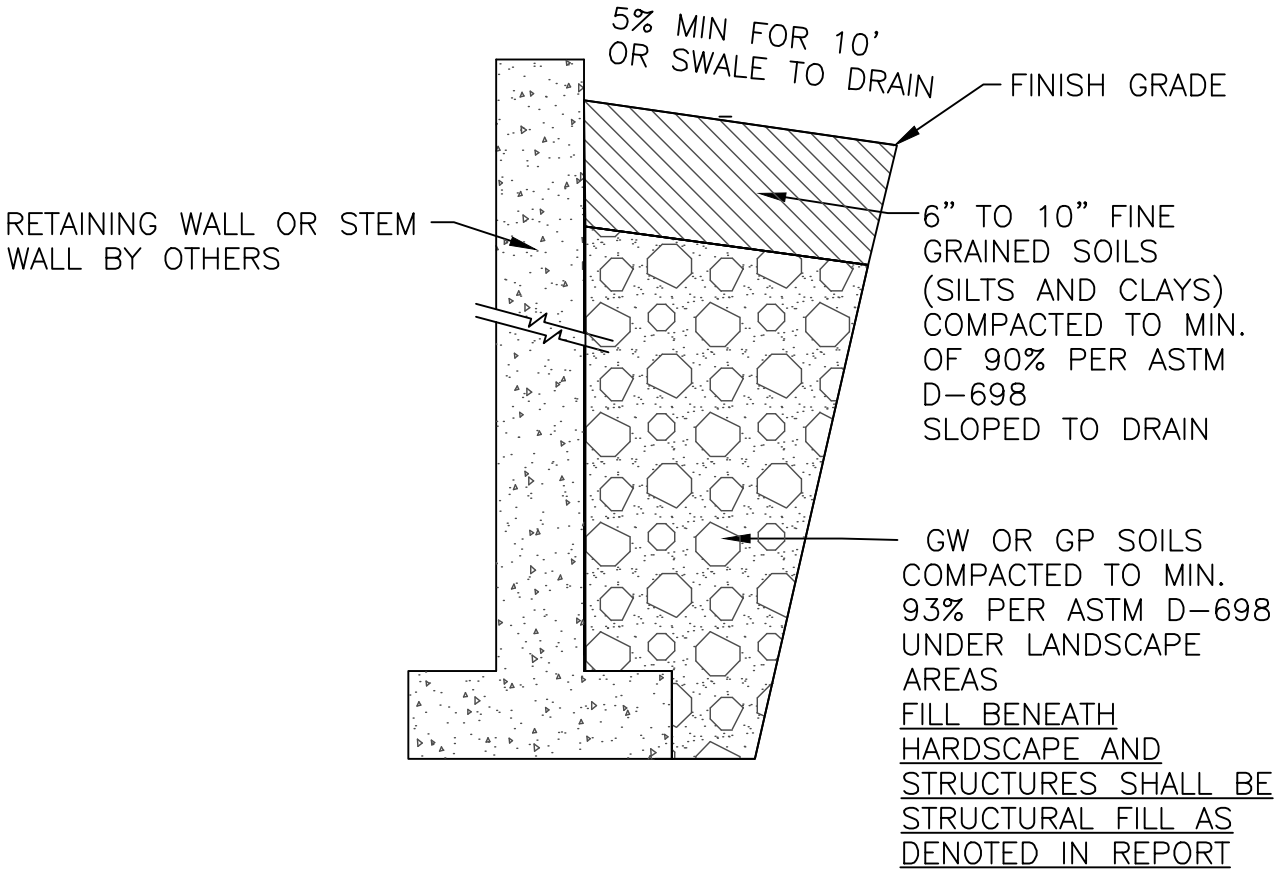
NELSON ENGINEERING
P.O. BOX 1599, JACKSON WYOMING (307) 733-2087

DRAWING TITLE
TEST PIT LOCATION MAP

JOB TITLE
REDMOND-HALL RENTALS
GEOTECHNICAL INVESTIGATION

DRAWING NO 2

JOB NO 15-256-01



FOUNDATION BACKFILL (TYPICAL)

NOT TO SCALE

S:\PROJ\208\123-01 (PAINTED BUFFALO\GEOTECH\FB\BACKFILL.DWG (BXOL_P) NOV 28 2006 07:53:41 AM PLOTTED BY: GTR

DRAWING NO 3	TITLE TETON COUNTY/JACKSON PARKS AND REC. SHOP BACKFILL TYPICAL	NELSON ENGINEERING P.O. BOX 1599, JACKSON WYOMING (307) 733-2087	DATE	10 15 15	REV.
JOB NO 15-208-02			SURVEYED		
			DRAWN	BR	
			CHECKED	PG	
			APPROVED	PG	

TEST PIT LOGS

GEOTECHNICAL GENERAL NOTES

CORRECTED SPT: Standard Penetration Test values corrected to 60% of the theoretical free-fall hammer energy and for corrected for overburden pressure per AASHTO LRFD 6th ED Article 10.4.6.2.4.

DRILLING, SAMPLING, AND SOIL PROPERTIES ABBREVIATIONS AND SYMBOLS

N: Standard Penetration Test
U_c: Unconfined compressive strength, Pounds/ft^2 (PSF)
Pp: Pocket Penetrometer values, Ton/ft^2 (TSF)
FILGC: Fragments indicate gravels and cobbles larger than split spoon diameter.
w: Water content, %
LL: Liquid limit, %
PI: Plasticity index, %
gd: In-situ dry density, lbs/ft^3 (PCF)
: Ground water level
SS: Split-Spoon Sample
ST: Shelby Tube Sampler
CS: Cylindrical Brass Lined Sample

Monitoring Well, diagonal hatching indicates screen and sand packed interval

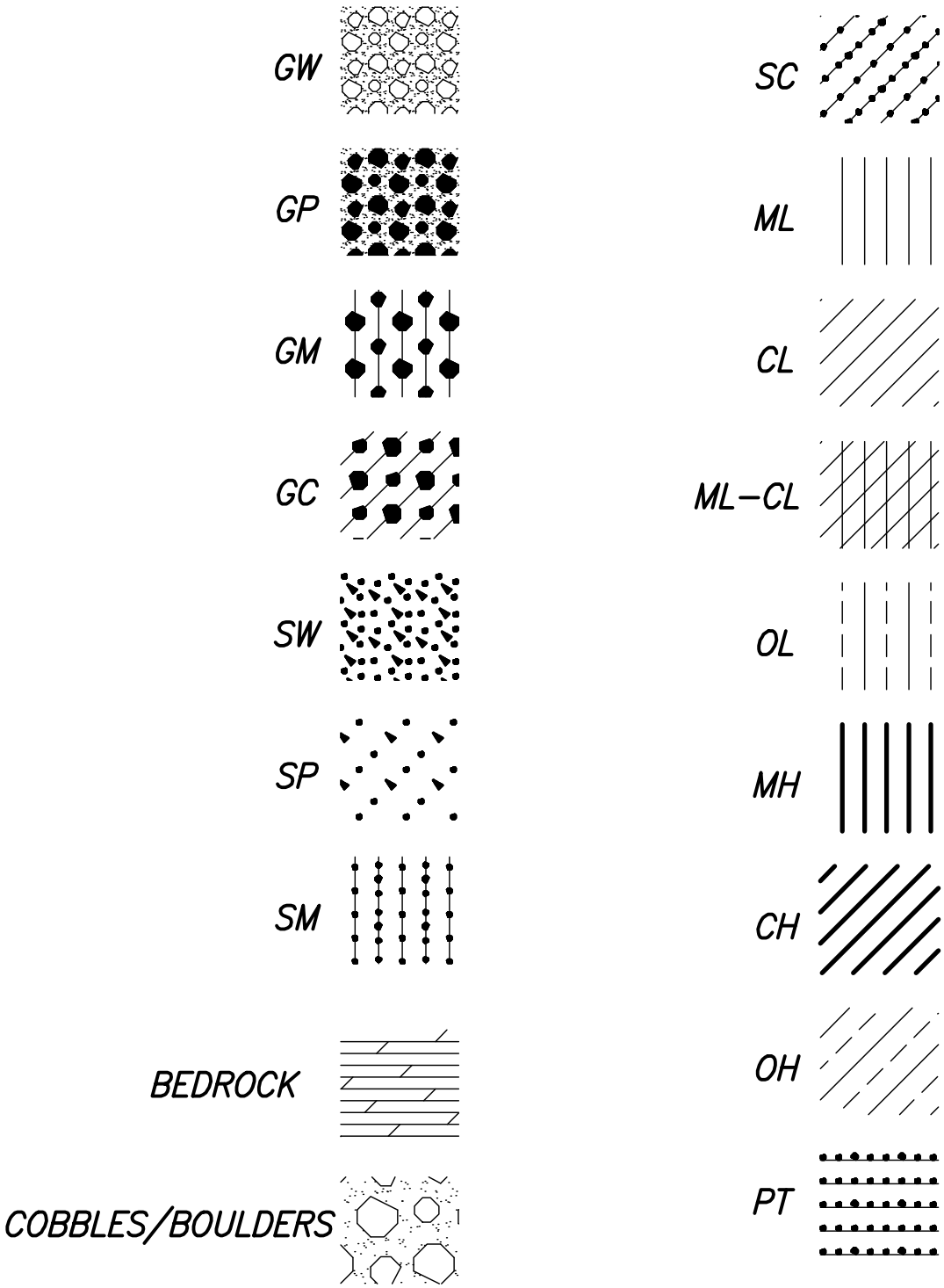
SOIL RELATIVE DENSITY AND CONSISTENCY CLASSIFICATION

Non-Cohesive Soils	Standard Penetration Resistance	Cohesive Soils	Pp-(tons/ft^2)
Very Loose	0 - 4	Very Soft	0 - 0.25
Loose	4 - 10	Soft	0.25 - 0.50
Slightly Compact	8 - 15	Firm (Medium)	0.50 - 1.00
Medium Dense	10 - 30	Stiff	1.00 - 2.00
Dense	30 - 50	Very Stiff	2.00 - 4.00
Very Dense	50+	Hard	4.00+

PARTICLE SIZE

Boulders:	12 in.+	**Coarse Sand:**	5 mm(#4)-2 mm(#10)	**Silts and Clays: <#200**
Cobbles:	12 in.-3in.	**Medium Sand:**	2 mm(#10)-0.4mm(#40)	
Gravel:	3in.-5mm(#4)	**Fine Sand:**	0.4mm(#40)-0.075mm(#200)	

SOIL GRAPHICS



NOTE: ANGLED DEMARCATIONS ON THE LOGS INDICATE APPROXIMATE OR POORLY DEFINED BOUNDARIES BETWEEN SOIL TYPES.

NELSON ENGINEERING
P.O. BOX 1599, JACKSON WYOMING (307) 733-2087

PROJECT NAME: **REDMOND–HALL RENTALS**	**TEST PIT No. 1** PAGE: **1**
DATE STARTED / FINISHED: **12/7/2015**	OPERATOR: **FISH CREEK EXCAVATION**
LOGGED BY: **PRUETT**	EXCAVATOR TYPE: **JD 310 SJ BACKHOE**
BOREHOLE LOCATION/ELEVATION: **SEE TEST PIT LOCATION MAP**	

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WELL LOG	GRAPHICS LOG	DEPTH (FT)	SAMPLES: UNDISTURBED	SAMPLES: BULK	SAMPLE ID	MATERIAL DESCRIPTION	LIQUID LIMIT	PLASTIC LIMIT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
						0'–3.0' MOIST TO DRY DK BROWN SILT TOPSOIL WITH MINOR ORGANICS					*GRASSY FIELD EAST OF EXISTING GARAGE*
		1									*1' FROST*
		2		X	*TP1–1 2'–3'*	*FROM 1.5'–3.0' DRY BROWN SILT TOPSOIL WITH MINOR ORGANICS, BLOCKY STRUCTURE, PP>4.0 TSF, HARD*					*EASY DIGGING BELOW FROST TO 3'*
		3				*3.0'–BOP DRY BROWN ALLUVIAL FAN DEPOSITS COMPOSED OF GRAVEL WITH SAND, SILT, COBBLES, AND BOULDERS UP TO 24" MAXIMUM DIMENSION, SUB–ANGULAR TO ROUND CLASTS, WELL GRADED, DENSE TO VERY DENSE, ~80% GRAVELS, COBBLES, AND BOULDERS, ~20% SAND AND SILT*					*VERY HARD DIGGING IN ALLUVIAL FAN DEPOSITS*
		4									
		5									
		6									
		7									
		8									
		9									
		10									
		11									
		12									
		13				*BOP=13.0'* *NO GROUNDWATER ENCOUNTERED* *NO CAVING*					
		14				*MW INSTALLED* *LOP=13.75' 1.5" DIAMETER PVC* *SLOTS EVERY 6" FROM 3.65'–11.65'* *STICKUP=2.1'*					
		15									

NELSON ENGINEERING
P.O. BOX 1599, JACKSON WYOMING (307) 733–2087

CLIENT: **HAWTIN JORGENSEN ARCHITECTS**
JH COMMUNITY HOUSING TRUST
JACKSON, WY

JOB NO. 15–256–01

PROJECT NAME: **REDMOND–HALL RENTALS**	**TEST PIT No. 2** PAGE: **1**
DATE STARTED / FINISHED: **12/7/2015**	OPERATOR: **FISH CREEK EXCAVATION**
LOGGED BY: **PRUETT**	EXCAVATOR TYPE: **JD 310 SJ BACKHOE**
BOREHOLE LOCATION/ELEVATION: **SEE TEST PIT LOCATION MAP**	

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WELL LOG	GRAPHICS LOG	DEPTH (FT)	SAMPLES UNDISTURBED	SAMPLES BULK	SAMPLE ID	MATERIAL DESCRIPTION	LIQUID LIMIT	PLASTIC LIMIT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
						0'–3.0' MOIST TO DRY DK BROWN SILT TOPSOIL WITH MINOR ORGANICS					*GRASSY FIELD NEAR SPARSE ASPEN GROVER*
		1									*1' FROST*
		2				*FROM 1.5'–3.0' DRY BROWN SILT TOPSOIL WITH MINOR ORGANICS, BLOCKY STRUCTURE, PP>4.0 TSF, HARD*					*EASY DIGGING BELOW FROST TO 3'*
		3				*3.0'–BOP DRY BROWN ALLUVIAL FAN DEPOSITS COMPOSED OF GRAVEL WITH SAND, SILT, COBBLES, AND BOULDERS UP TO 24" MAXIMUM DIMENSION, SUB–ANGULAR TO ROUND CLASTS, WELL GRADED, DENSE TO VERY DENSE, ~75% GRAVELS, COBBLES, AND BOULDERS, ~25% SAND AND SILT*					*VERY HARD DIGGING IN ALLUVIAL FAN DEPOSITS*
		4									
		5									
		6									
		7									
		8									
		9									
		10									
		11									
		12				*BOP=12.0'* *NO GROUNDWATER ENCOUNTERED* *NO CAVING*					
		13									
		14									
		15									

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P.O. BOX 1599, JACKSON WYOMING (307) 733–2087

CLIENT: **HAWTIN JORGENSEN ARCHITECTS**
JH COMMUNITY HOUSING TRUST
JACKSON, WY

JOB NO. 15–256–01

PROJECT NAME:	**REDMOND–HALL RENTALS**	**TEST PIT No. 3**	PAGE: **3**
DATE STARTED / FINISHED:	**12/7/2015**	OPERATOR:	**FISH CREEK EXCAVATION**
LOGGED BY:	**PRUETT**	EXCAVATOR TYPE:	**JD 310 SJ BACKHOE**
BOREHOLE LOCATION/ELEVATION:	**SEE TEST PIT LOCATION MAP**		

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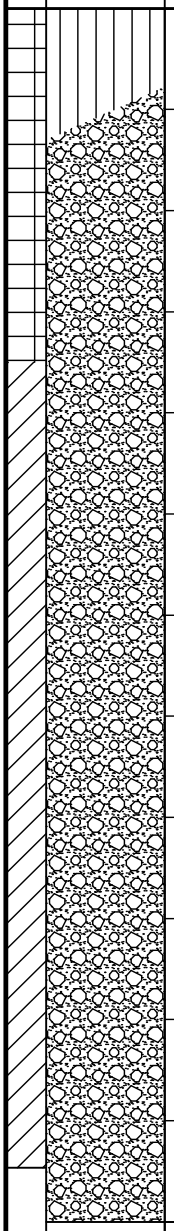

WELL LOG	GRAPHICS LOG	DEPTH (FT)	SAMPLES: UNDISTURBED	SAMPLES: BULK	SAMPLE ID	MATERIAL DESCRIPTION	LIQUID LIMIT	PLASTIC LIMIT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
						0'–1.0' MOIST TO DRY DK BROWN SILT TOPSOIL WITH GRAVELS AND MINOR ORGANICS					*GRASSY FIELD EAST ON NE CORNER OF PROPERTY*
		1				*1.0'–BOP DRY BROWN ALLUVIAL FAN DEPOSITS COMPOSED OF GRAVEL WITH SAND, SILT, COBBLES, AND BOULDERS UP TO 18" MAXIMUM DIMENSION, SUB–ANGULAR TO ROUND CLASTS, WELL GRADED, DENSE TO VERY DENSE, ~80% GRAVELS, COBBLES, AND BOULDERS, ~20% SAND AND SILT*					*3" FROST*
		2									*EASY DIGGING BELOW FROST FROM 0'–4'*
		3									
		4									
		5									*VERY HARD DIGGING IN ALLUVIAL FAN DEPOSITS FROM 4'–BOP*
		6									
		7									
		8									
		9									
		10									
		11									
		12				*BOP=12.0'* *NO GROUNDWATER ENCOUNTERED* *NO CAVING*					
		13				*MW INSTALLED* *LOP=14.0' 1.5" DIAMETER PVC* *SLOTS EVERY 6" FROM 3.5'–11.5'* *STICKUP=2.5'*					
		14									
		15									

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CLIENT: **HAWTIN JORGENSEN ARCHITECTS**
JH COMMUNITY HOUSING TRUST
JACKSON, WY

JOB NO. 15–256–01

PROJECT NAME:	REDMOND–HALL RENTALS	**TEST PIT No. 4**	PAGE: 4
DATE STARTED / FINISHED:	12/7/2015	OPERATOR:	FISH CREEK EXCAVATION
LOGGED BY:	PRUETT	EXCAVATOR TYPE:	JD 310 SJ BACKHOE
BOREHOLE LOCATION/ELEVATION:	SEE TEST PIT LOCATION MAP		

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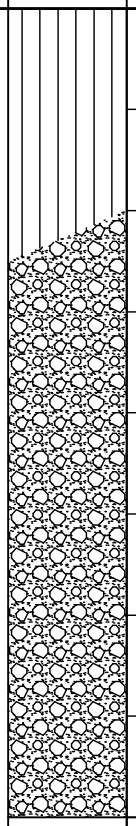

WELL LOG	GRAPHICS LOG	DEPTH (FT)	SAMPLES: UNDISTURBED	SAMPLES: BULK	SAMPLE ID	MATERIAL DESCRIPTION	LIQUID LIMIT	PLASTIC LIMIT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
						0'–2.25' MOIST TO DRY DK BROWN SILT TOPSOIL WITH MINOR ORGANICS					*GRASSY FIELD NEAR SPARSE ASPEN GROVER*
		1				*FROM 0.75'–2.25' DRY BROWN SILT TOPSOIL WITH MINOR ORGANICS, BLOCKY STRUCTURE, PP>4.0 TSF, HARD*					*6"–8" FROST EASY DIGGING BELOW FROST TO 2.25'*
		2				*2.25'–BOP DRY BROWN ALLUVIAL FAN DEPOSITS COMPOSED OF GRAVEL WITH SAND, SILT, COBBLES, AND BOULDERS UP TO 18" MAXIMUM DIMENSION, SUB–ANGULAR TO ROUND CLASTS, WELL GRADED, DENSE TO VERY DENSE, ~80% GRAVELS, COBBLES, AND BOULDERS, ~20% SAND AND SILT*					*VERY HARD DIGGING IN ALLUVIAL FAN DEPOSITS*
		3									
		4									
		5									
		6									
		7									
		8				*BOP=8.0'* *NO GROUNDWATER ENCOUNTERED* *NO CAVING*					
		9									
		10									
		11									
		12									
		13									
		14									
		15									

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JACKSON, WY

JOB NO. 15–256–01

PROJECT NAME: **REDMOND–HALL RENTALS**	**TEST PIT No. 5** PAGE: **1**
DATE STARTED / FINISHED: **12/7/2015**	OPERATOR: **FISH CREEK EXCAVATION**
LOGGED BY: **PRUETT**	EXCAVATOR TYPE: **JD 310 SJ BACKHOE**
BOREHOLE LOCATION/ELEVATION: **SEE TEST PIT LOCATION MAP**	

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WELL LOG	GRAPHICS LOG	DEPTH (FT)	SAMPLES: UNDISTURBED	SAMPLES: BULK	SAMPLE ID	MATERIAL DESCRIPTION	LIQUID LIMIT	PLASTIC LIMIT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
						0'–1.0' MOIST DK BROWN SILT TOPSOIL WITH MINOR ORGANICS					*GRASSY FIELD*
		1				*1.0'–BOP DRY BROWN ALLUVIAL FAN DEPOSITS COMPOSED OF GRAVEL WITH SAND, SILT, COBBLES, AND BOULDERS UP TO 18" MAXIMUM DIMENSION, SUB–ANGULAR TO ROUND CLASTS, WELL GRADED, DENSE TO VERY DENSE, ~75% GRAVELS, COBBLES, AND BOULDERS, ~25% SAND AND SILT*					*4" FROST*
		2									
		3									*VERY HARD DIGGING IN ALLUVIAL FAN DEPOSITS*
		4									
		5		X	*TP5–1 5'–6'*						
		6									
		7									
		8									
		9				*BOP=9.0'* *NO GROUNDWATER ENCOUNTERED* *NO CAVING*					
		10									
		11									
		12									
		13									
		14									
		15									

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JACKSON, WY

JOB NO. 15–256–01

PROJECT NAME:	**REDMOND–HALL RENTALS**	**TEST PIT No. 6**	PAGE: **6**
DATE STARTED / FINISHED:	**12/7/2015**	OPERATOR:	**FISH CREEK EXCAVATION**
LOGGED BY:	**PRUETT**	EXCAVATOR TYPE:	**JD 310 SJ BACKHOE**
BOREHOLE LOCATION/ELEVATION:	**SEE TEST PIT LOCATION MAP**		

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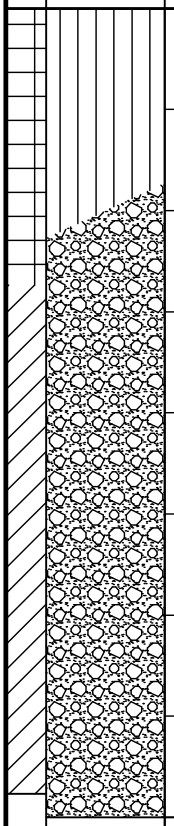

WELL LOG	GRAPHICS LOG	DEPTH (FT)	SAMPLES: UNDISTURBED	SAMPLES: BULK	SAMPLE ID	MATERIAL DESCRIPTION	LIQUID LIMIT	PLASTIC LIMIT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
						0'–2.0' MOIST TO DRY DK BROWN SILT TOPSOIL WITH MINOR ORGANICS					*GRASSY FIELD NORTH OF NEW RENTAL UNIT*
		1									*1.5' FROST*
		2				*2.0'–BOP DRY BROWN ALLUVIAL FAN DEPOSITS COMPOSED OF GRAVEL WITH SAND, SILT, COBBLES, AND BOULDERS UP TO 18" MAXIMUM DIMENSION, SUB–ANGULAR TO ROUND CLASTS, WELL GRADED, DENSE TO VERY DENSE, ~80% GRAVELS, COBBLES, AND BOULDERS, ~20% SAND AND SILT*					
		3									
		4									*VERY HARD DIGGING IN ALLUVIAL FAN DEPOSITS FROM 2'–BOP*
		5									
		6									
		7									
		8				*BOP=8.0'* *NO GROUNDWATER ENCOUNTERED* *NO CAVING*					
		9				*MW INSTALLED* *LOP=10.0' 1.5" DIAMETER PVC* *SLOTS EVERY 6" FROM 2.75'–7.75'* *STICKUP=2.25'*					
		10									
		11									
		12									
		13									
		14									
		15									

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CLIENT: **HAWTIN JORGENSEN ARCHITECTS**
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JACKSON, WY

JOB NO. 15–256–01

TRAFFIC IMPACT ANALYSIS

JACKSON HOLE COMMUNITY HOUSING TRUST
REDMOND-HALL RENTALS PROJECT
JACKSON, WY

PREPARED BY

NELSON ENGINEERING *since 1964*

Professional Engineers & Land Surveyors

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Jackson 307.733.2087 | Buffalo 307.684.7029

MARCH 2016

16-028-01

Redmond-Hall Rentals
Traffic Impact Analysis

Proposed Project

The proposed project is a joint venture between the Jackson Hole Community Housing Trust and the Town of Jackson that will construct 33 new bedrooms of affordable rental housing. The project will be located at the northwest corner of Redmond Street and Hall Avenue on 1.29 acres of land owned across 4 lots within the Scarlett Addition. One duplex and one single-family residence are currently on the properties; the duplex will remain and be part of the post-development analysis while the single-family residence will be demolished. The properties are zoned as Auto-Urban Residential (AR).

Impact Assessment Methodology

In order to perform any traffic impact assessment, the general methodology is to compare the traffic levels in an existing state with those of a projected situation. The incremental difference between the pre-development and post-development traffic levels can be considered to be the impact caused by the development. Traffic counts performed by WYDOT in the summer of 2006 were adjusted to account for increased traffic volume and used to determine a peak hour factor for conversion of field data collected in February 2016 to better assess the impact of the development during summer traffic conditions.

Standard of Measurement

The performance of an intersection is measured by its "Level of Service," or LOS.

The LOS of an intersection is determined by referring to the average total delay (sec/veh) for the intersection, as set forth in the table below:

Level-of-Service (LOS)	Average Total Delay, sec/veh
A	≤ 5
B	> 5 and ≤ 10
C	> 10 and ≤ 20
D	> 20 and ≤ 30
E	> 30 and ≤ 45
F	> 45

Existing Trip Generation

The proposed project site currently has a duplex that will remain in the post-development condition, and a single-family residence that will be demolished.

A.M. PEAK HOUR TRIP GENERATION

LAND USE	ITE LAND USE DESIGNATION CODE	GROSS SQ. FT. (1,000 SF)	UNITS	A.M. PEAK HOUR TRIP GENERATION RATE	TRIP GENERATION
SF DETACHED HOUSING	210		1	0.75	0.75
TOWNHOUSE	230		2	0.44	0.88
TOTAL					2

P.M. PEAK HOUR TRIP GENERATION

LAND USE	ITE LAND USE DESIGNATION CODE	GROSS SQ. FT. (1,000 SF)	UNITS	P.M. PEAK HOUR TRIP GENERATION RATE	TRIP GENERATION
SF DETACHED HOUSING	210		1	1.01	1.01
TOWNHOUSE	230		2	0.52	1.04
TOTAL					2

SOURCE: TRIP GENERATION RATES TAKEN FROM
INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) *TRIP GENERATION, 7TH EDITION*

Existing Intersection LOS

The location of the project gives it the potential to increase traffic levels at a number of nearby intersections. The intersections of Redmond Street with East Broadway Avenue and East Kelly Avenue are the areas of interest for this traffic study. The existing intersection Levels of Service were developed by analyzing the results of traffic counts. A.M. traffic was counted between 7:00 and 9:00 A.M., and P.M. traffic was counted for the period between 4:00 and 6:00 P.M. (See Appendix for LOS worksheets for calculations)

- **Redmond Street – Broadway Avenue**

The A.M. Peak Hour Level of Service for the Redmond Street–Broadway Avenue intersection was found to be a Level of Service A, with an average total delay of 4.48 seconds per vehicle. The A.M. Peak Hour Level of Service adjusted for summer conditions was determined to be Level of Service C, with an average total delay of 10.92 seconds per vehicle.

The P.M. Peak Hour Level of Service for the Redmond Street–Broadway Avenue intersection was found to be a Level of Service B, with an average total delay of 5.07 seconds per vehicle. The P.M. Peak Hour Level of Service adjusted for summer conditions was determined to be Level of Service C, with an average total delay of 12.98 seconds per vehicle.

- **Redmond Street – Kelly Avenue**

The A.M. Peak Hour Level of service for the Redmond Street–Kelly Avenue intersection was found to be a Level of Service A, with an average total delay of 1.36 seconds per vehicle. The A.M. Peak Hour Level of Service adjusted for summer conditions was determined to be Level of Service A, with an average total delay of 1.66 seconds per vehicle.

The P.M. Peak Hour Level of Service for the Redmond Street–Kelly Avenue intersection was found to be a Level of Service A, with an average total delay of 1.84 seconds per vehicle. The P.M. Peak Hour Level of Service adjusted for summer conditions was determined to be Level of Service A, with an average total delay of 1.88 seconds per vehicle.

Proposed Trip Generation

A.M. PEAK HOUR TRIP GENERATION

LAND USE	ITE LAND USE DESIGNATION CODE	GROSS SQ. FT. (1,000 SF)	UNITS	A.M. PEAK HOUR TRIP GENERATION RATE	TRIP GENERATION
APARTMENTS	220		33	0.55	18.15
TOWNHOUSE	230		2	0.44	0.88
TOTAL					20

P.M. PEAK HOUR TRIP GENERATION

LAND USE	ITE LAND USE DESIGNATION CODE	GROSS SQ. FT. (1,000 SF)	UNITS	P.M. PEAK HOUR TRIP GENERATION RATE	TRIP GENERATION
APARTMENTS	220		33	0.67	22.11
TOWNHOUSE	230		2	0.52	1.04
TOTAL					23

SOURCE: TRIP GENERATION RATES TAKEN FROM INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) *TRIP GENERATION, 7TH EDITION*

Proposed Intersection LOS

The proposed intersection traffic levels in this analysis were derived by creating an appropriate distribution of the trip generation associated with the proposed development to the intersection in question. Per discussion with Town of Jackson Engineering staff, the additional trip generation associated with the proposed development was assumed to be split equally between each intersection under analysis. After applying the additional trips to the intersection, the Level of Service analysis was performed for the intersection.

- **Redmond Street – Broadway Avenue**

The A.M. Peak Hour Level of Service for the Redmond Street–Broadway Avenue intersection under proposed development conditions was found to be a Level of Service A, with an average total delay of 4.74 seconds per vehicle. The post-development A.M. Peak Hour Level of Service adjusted for summer conditions was determined to be Level of Service C, with an average total delay of 11.21 seconds per vehicle.

The P.M. Peak Hour Level of Service for the Redmond Street–Broadway Avenue intersection under proposed development conditions was found to be a Level of Service B, with an average total delay of 5.03 seconds per vehicle. The post-development P.M. Peak Hour Level of Service adjusted for summer conditions was determined to be Level of Service C, with an average total delay of 13.51 seconds per vehicle.

- **Redmond Street – Kelly Avenue**

The A.M. Peak Hour Level of service for the Redmond Street–Kelly Avenue intersection under proposed development conditions was found to be a Level of Service A, with an average total delay of 1.32 seconds per vehicle. The post-development A.M. Peak Hour Level of Service adjusted for summer conditions was determined to be Level of Service A, with an average total delay of 1.66 seconds per vehicle.

The P.M. Peak Hour Level of Service for the Redmond Street–Kelly Avenue intersection under proposed development conditions was found to be a Level of Service A, with an average total delay of 1.79 seconds per vehicle. The post-development P.M. Peak Hour Level of Service adjusted for summer conditions was determined to be Level of Service A, with an average total delay of 2.23 seconds per vehicle.

The worksheets used for intersection analysis may be found in the Appendix.

The tables below summarize the traffic impact on the intersections due to the proposed development under adjusted summer conditions.

REDMOND STREET/BROADWAY AVENUE INTERSECTION TRAFFIC LEVEL IMPACTS					
		EXISTING		PROJECTED	
	LANE	AVG. TOTAL DELAY [sec]	LOS	AVG. TOTAL DELAY [sec]	LOS
AM PEAK HOUR	EB	17	C	18	C
	WB	8	B	8	B
	NB	6	B	6	B
	SB	6	B	5	A
	INTERSECTION	**10.92**	**C**	**11.21**	**C**
PM PEAK HOUR	EB	21	D	22	D
	WB	5	A	5	A
	NB	4	A	5	A
	SB	8	B	7	B
	INTERSECTION	**12.98**	**C**	**13.51**	**C**

REDMOND STREET/KELLY AVENUE INTERSECTION TRAFFIC LEVEL IMPACTS					
		EXISTING		PROJECTED	
	LANE	AVG. TOTAL DELAY [sec]	LOS	AVG. TOTAL DELAY [sec]	LOS
AM PEAK HOUR	EB	5	A	18	A
	WB	5	A	8	A
	NB	1	A	6	A
	SB	2	A	5	A
	INTERSECTION	**10.92**	**A**	**11.21**	**A**
PM PEAK HOUR	EB	4	A	5	A
	WB	4	A	4	A
	NB	1	A	1	A
	SB	2	B	2	A
	INTERSECTION	**12.98**	**A**	**13.51**	**A**

Vehicular Access to Public Right-of-Way

The proposed development will access Redmond Street from both Hall Avenue and the existing alley between Hall and Hansen Avenues. As stated above, the traffic generated by the proposed development was assumed to be split equally between northbound and southbound traffic on Redmond Street.

Alternative Modes Analysis

With provisions for ample bicycle storage and proximity to public transportation (START facilities), residents of the employee housing units can be expected to make substantial use of alternative modes. The latest edition of the AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities gives an acceptable distance for a pedestrian to walk in order to use public transit as 0.25 miles (1,280ft). The route from the development to the transit stops on Redmond Street is approximately 650 feet in length along existing Town standard (and maintained) public sidewalks. This discussion is provided to further illustrate a minimal impact on neighborhood traffic – no reduction in trip generation was assumed due to proximity to public transportation and the likelihood of residents bicycling or walking to their destinations during peak summer traffic season.

APPENDIX

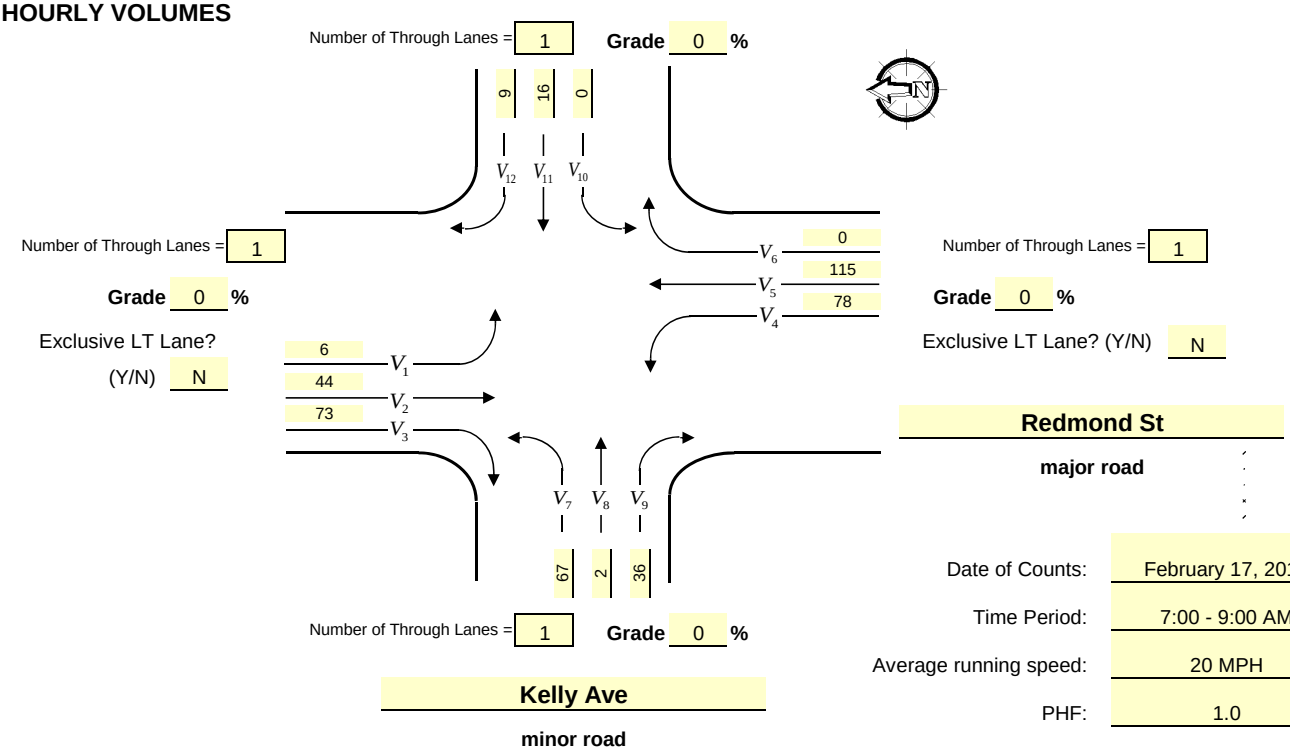
(LEVEL OF SERVICE CALCULATION WORKSHEETS)

WORKSHEET FOR ANALYSIS OF TWSC INTERSECTIONS

Location: Redmond & Kelly

Name: A Lee

HOURLY VOLUMES



Date of Counts: February 17, 2016

Time Period: 7:00 - 9:00 AM

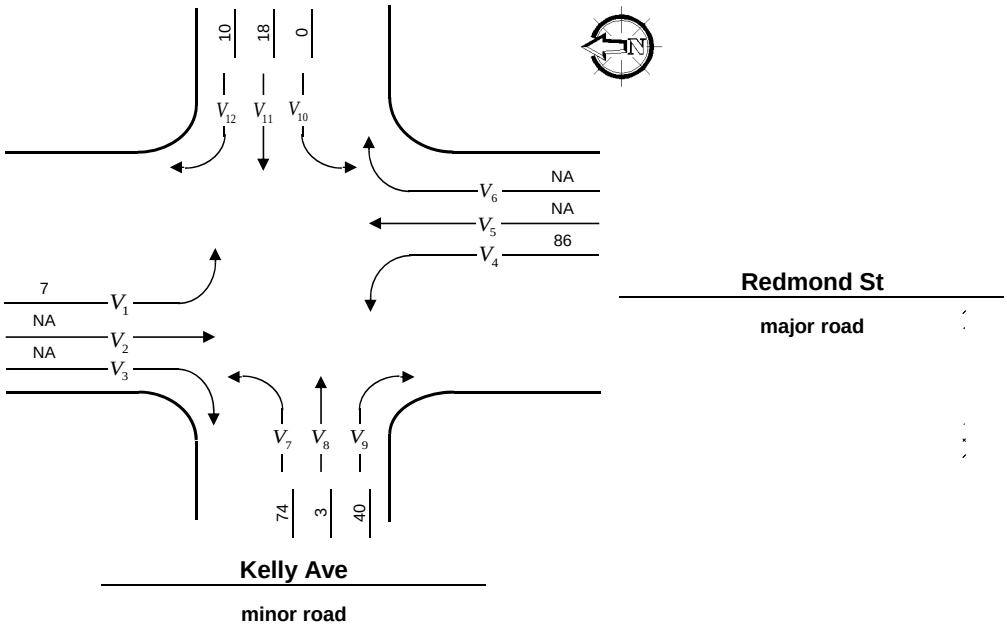
Average running speed: 20 MPH

PHF: 1.0

VOLUME ADJUSTMENTS

Movement Number	1	2	3	4	5	6	7	8	9	10	11	12	Total
Hourly Flow Rate, V (vph)	6	44	73	78	115	0	67	2	36	0	16	9	446
Adjustment Factor	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	
Volume, v (pcph) *see Table 10-1*	7	49	81	86	127	0	74	3	40	0	18	10	495

VOLUMES IN PCPH



WORKSHEET FOR ANALYSIS OF TWSC INTERSECTIONS

Location: Redmond & Kelly

Name: A Lee

STEP 1: RT from Minor Street	V_9	V_{12}
Conflicting Flows: V_c (Fig. 10-3)	$V_{c,9} = \frac{1}{2}V_3^{`1} + V_2^{`2}$ 37 + 44 = 81 vph	$V_{c,12} = \frac{1}{2}V_6^{`6} + V_5^{`7}$ 0 + 115 = 115 vph
Potential Capacity: $c_{p,i}$ (Fig. 10-4,5)	$c_{p,9}$ = 1260 pcph	$c_{p,12}$ = 1200 pcph
Movement Capacity: c_m	$c_{m,9} = c_{p,9}$ = 1260 pcph	$c_{m,12} = c_{p,12}$ = 1200 pcph
Probability of Queue-free State: $p_{0,i}$	$p_{0,9} = 1 - v_9 / c_{m,9}$ = 0.97	$p_{0,12} = 1 - v_{12} / c_{m,12}$ = 1.00

STEP 2: LT from Major Street	V_4	V_1
Conflicting Flows: V_c (Fig. 10-3)	$V_{c,4} = V_2 + V_3^{`3}$ 44 + 73 = 117 vph	$V_{c,1} = V_5 + V_6^{`8}$ 115 + 0 = 115 vph
Potential Capacity: $c_{p,i}$ (Fig. 10-4,5)	$c_{p,4}$ = 1475 pcph	$c_{p,1}$ = 1480 pcph
Movement Capacity: c_m	$c_{m,4} = c_{p,4}$ = 1475 pcph	$c_{m,1} = c_{p,1}$ = 1480 pcph
Probability of Queue-free State: $p_{0,i}$	$p_{0,4} = 1 - v_4 / c_{m,4}$ = 0.95	$p_{0,1} = 1 - v_1 / c_{m,1}$ = 1.00
Major Left Shared Lane Probability of Queue-free State: $p^*_{0,i}$	$p^*_{0,4} = 1 - \dfrac{1 - p_{0,4}}{1 - \left(\dfrac{v_5}{S_5} + \dfrac{v_6}{S_6}\right)}$ = 1.00	$p^*_{0,1} = 1 - \dfrac{1 - p_{0,1}}{1 - \left(\dfrac{v_2}{S_2} + \dfrac{v_3}{S_3}\right)}$ = 1.00

STEP 3: TH from Minor Street	V_4	V_1
Conflicting Flows: V_c (Fig. 10-3)	$V_{c,8} = \frac{1}{2}V_3^{`1} + V_2 + V_1 + V_6^{`3} + V_5 + V_4$ 37 + 44 + 6 + 0 + 115 + 78 = 280 vph	$V_{c,11} = \frac{1}{2}V_6^{`6} + V_5 + V_4 + V_3^{`5} + V_2 + V_1$ 0 + 115 + 78 + 73 + 44 + 6 = 316 vph
Potential Capacity: $c_{p,i}$ (Fig. 10-4,5)	$c_{p,8}$ = 795 pcph	$c_{p,11}$ = 765 pcph
Capacity Adjustment Factor due to Impeding Movements: f_i	$f_8 = p_{0,4} \times p_{0,1}$ = 1.00 (*Shared lane use* p^*)	$f_{11} = p_{0,4} \times p_{0,1}$ = 1.00 (*Shared lane use* p^*)
Movement Capacity: c_m	$c_{m,8} = c_{p,8} \times f_8$ = 795 pcph	$c_{m,11} = c_{p,11} \times f_8$ = 765 pcph
Probability of Queue-free State: $p_{0,i}$	$p_{0,8} = 1 - v_8 / c_{m,8}$ = 1.00	$p_{0,11} = 1 - v_{11} / c_{m,11}$ = 0.98

STEP 4: LT from Minor Street	V_4	V_1
Conflicting Flows: V_c (Fig. 10-3)	$V_{c,7} = \frac{1}{2}V_3^{`1} + V_2 + V_1 + \frac{1}{2}(V_6)^{`5}$ $+ V_5 + V_4 + \frac{1}{2}(V_{11} + V_{12}^{`4})$ 37 + 44 + 6 + 0 + 115 + 78 + 13 = 293 vph	$V_{c,10} = \frac{1}{2}V_6^{`1} + V_5 + V_4 + \frac{1}{2}(V_3)^{`10}$ $+ V_2 + V_1 + \frac{1}{2}(V_8 + V_9^{`9})$ 0 + 115 + 78 + 37 + 44 + 6 + 19 = 299 vph
Potential Capacity: $c_{p,i}$ (Fig. 10-4,5)	$c_{p,7}$ = 735 pcph	$c_{p,10}$ = 725 pcph
Major Left, Minor Through Impedance Factor: p''_i	$p''_7 = p_{0,11} \times f_{11}$ = 0.98	$p''_{10} = p_{0,8} \times f_8$ = 1.00
Major Left, Minor Through Adjusted Impedance Factor: p'_i	p'_7 = 0.98 (Fig. 10-6)	p'_{10} = 1.00 (Fig. 10-6)
Capacity Adjustment Factor due to Impeding Movements: f_i	$f_7 = p'_7 \times p_{0,12}$ = 0.99	$f_{10} = p'_{10} \times p_{0,9}$ = 0.97
Movement Capacity: c_m	$c_{m,7} = c_{p,7} \times f_7$ = 728 pcph	$c_{m,10} = c_{p,10} \times f_{10}$ = 704 pcph

WORKSHEET FOR ANALYSIS OF TWSC INTERSECTIONS

Location: Redmond & Kelly | Name: A Lee

SHARED LANE CAPACITY

$$c_{sh} = \frac{v_i + v_j}{(v_i/c_{mi}) + (v_j/c_{mj})}$$ where 2 movements share a lane

$$c_{sh} = \frac{v_i + v_j + v_k}{(v_i/c_{mi}) + (v_j/c_{mj}) + (v_k/c_{mk})}$$ where 3 movements share a lane

MINOR STREET APPROACH MOVEMENTS 7,8,9

Movement	v(pcph)	c_m(pcph)	c_{sh}(pcph)	Avg. Single Movement Delay (Fig. 10-7)	LOS	Avg. Total Delay for the Approach, D_A (Eq. 10-13)	LOS
7	74	728	853	**5.5**	**B**	**5**	**A**
8	3	795		**4.5**	**A**		
9	40	1260		**3**	**A**		

MINOR STREET APPROACH MOVEMENTS 10,11,12

Movement	v(pcph)	c_m(pcph)	c_{sh}(pcph)	Avg. Single Movement Delay (Fig. 10-7)	LOS	Avg. Total Delay for the Approach, D_A (Eq. 10-13)	LOS
10	0	704	879	**5**	**A**	**5**	**A**
11	18	765		**5**	**A**		
12	10	1200		**3**	**A**		

MAJOR STREET APPROACH MOVEMENTS 1,4

Movement	v(pcph)	c_m(pcph)	c_{sh}(pcph)	Avg. Single Movement Delay (Fig. 10-7)	LOS	Avg. Total Delay for the Approach, D_A (Eq. 10-13)	LOS
1	7	1480	1476	**2.5**	**A**	**1**	**A**
4	86	1475		**2.5**	**A**	**2**	**A**

Average total delay for the intersection (Eq. 10-14): **1.66** **Level of Service for intersection:** **A**

$$D_I = \frac{D_{A,1}v_{A,1} + D_{A,2}v_{A,2} + D_{A,3}v_{A,3} + D_{A,4}v_{A,4}}{v_1 + v_2 + v_3 + \ldots + v_{11} + v_{12}}$$

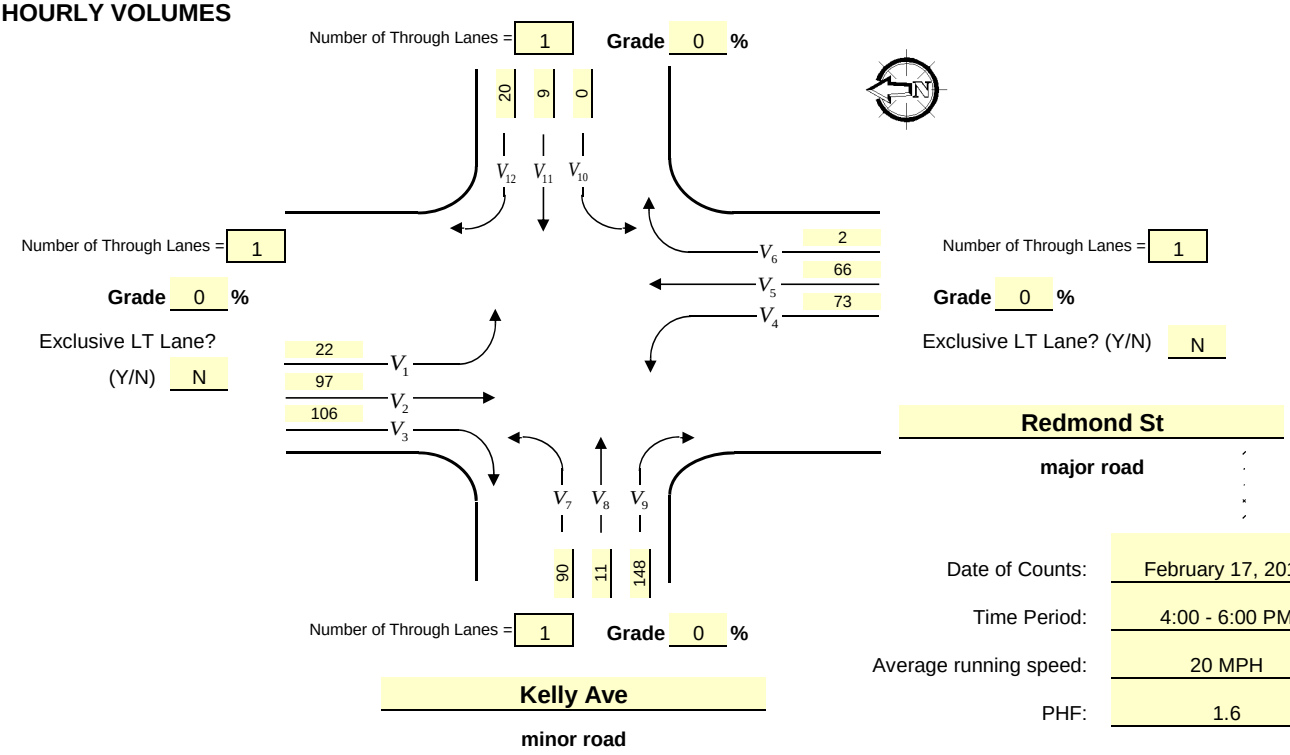
`1 Where a right-turn lane is provided on major street, and/or where V_3 is STOP-/YIELD-controlled, eliminate V_3.
`2 V_2 includes only the volume in the right hand lane.
`3 Where the right-turn is STOP- or YIELD-controlled, eliminate V_3, V_6.
`4 V_6, V_{12} should be eliminated on multilane streets.
`5 Where a right-turn lane is provided on major street, and/or where V_6 is STOP-/YIELD-controlled, and/or on multi-lane major streets, eliminate V_6.
`6 Where a right-turn lane is provided on major street, and/or where V_6 is STOP-/YIELD-controlled, eliminate V_6.
`7 V_5 includes only the volume in the righthand lane.
`8 Where the right-turn is STOP- or YIELD-controlled, eliminate V_6, V_3.
`9 V_3, V_9 should be eliminated on multilane streets.
`10 Where a right-turn lane is provided on major street, and/or where V_3 is STOP-/YIELD-controlled, and/or on multi-lane major streets, eliminate V_3.

WORKSHEET FOR ANALYSIS OF TWSC INTERSECTIONS

Location: Redmond & Kelly

Name: A Lee

HOURLY VOLUMES



Date of Counts: February 17, 2016

Time Period: 4:00 - 6:00 PM

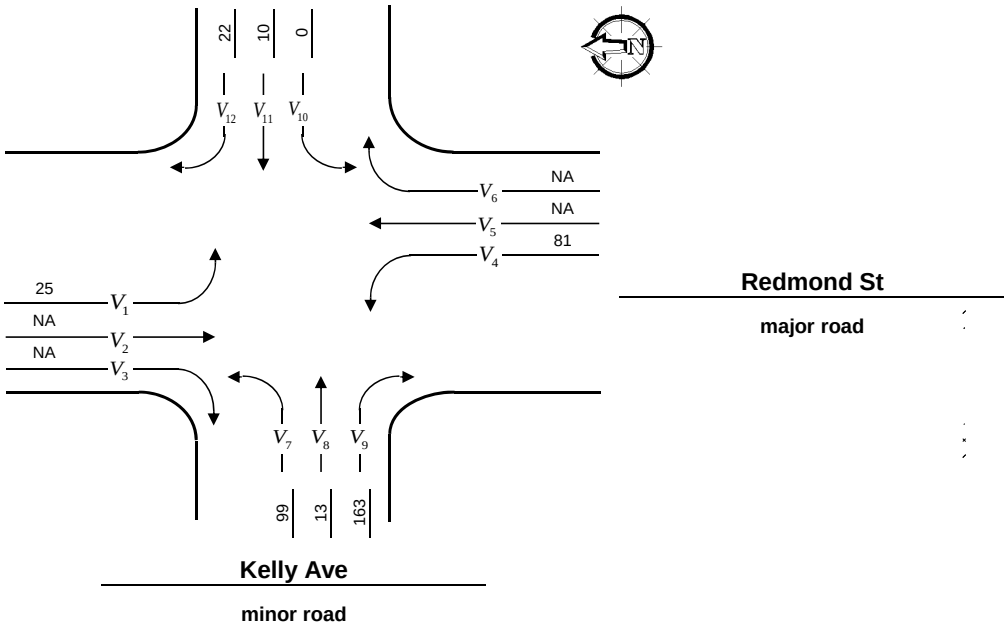
Average running speed: 20 MPH

PHF: 1.6

VOLUME ADJUSTMENTS

Movement Number	1	2	3	4	5	6	7	8	9	10	11	12	Total
Hourly Flow Rate, V (vph)	22	97	106	73	66	2	90	11	148	0	9	20	644
Adjustment Factor	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	
Volume, v (pcph) *see Table 10-1*	25	107	117	81	73	3	99	13	163	0	10	22	713

VOLUMES IN PCPH



WORKSHEET FOR ANALYSIS OF TWSC INTERSECTIONS

Location: Redmond & Kelly

Name: A Lee

STEP 1: RT from Minor Street	V_9	V_{12}
Conflicting Flows: V_c (Fig. 10-3)	$V_{c,9} = \frac{1}{2}V_3^{`1} + V_2^{`2}$ 53 + 97 = 150 vph	$V_{c,12} = \frac{1}{2}V_6^{`6} + V_5^{`7}$ 1 + 66 = 67 vph
Potential Capacity: $c_{p,i}$ (Fig. 10-4,5)	$c_{p,9}$ = 1175 pcph	$c_{p,12}$ = 1275 pcph
Movement Capacity: c_m	$c_{m,9} = c_{p,9}$ = 1175 pcph	$c_{m,12} = c_{p,12}$ = 1275 pcph
Probability of Queue-free State: $p_{0,i}$	$p_{0,9} = 1 - v_9 / c_{m,9}$ = 0.87	$p_{0,12} = 1 - v_{12} / c_{m,12}$ = 0.99

STEP 2: LT from Major Street	V_4	V_1
Conflicting Flows: V_c (Fig. 10-3)	$V_{c,4} = V_2 + V_3^{`3}$ 97 + 106 = 203 vph	$V_{c,1} = V_5 + V_6^{`8}$ 66 + 2 = 68 vph
Potential Capacity: $c_{p,i}$ (Fig. 10-4,5)	$c_{p,4}$ = 1350 pcph	$c_{p,1}$ = 1575 pcph
Movement Capacity: c_m	$c_{m,4} = c_{p,4}$ = 1350 pcph	$c_{m,1} = c_{p,1}$ = 1575 pcph
Probability of Queue-free State: $p_{0,i}$	$p_{0,4} = 1 - v_4 / c_{m,4}$ = 0.94	$p_{0,1} = 1 - v_1 / c_{m,1}$ = 0.99
Major Left Shared Lane Probability of Queue-free State: $p^*_{0,i}$	$p^*_{0,4} = 1 - \frac{1 - p_{0,4}}{1 - \left(\frac{v_5}{S_5} + \frac{v_6}{S_6}\right)}$ = 1.00	$p^*_{0,1} = 1 - \frac{1 - p_{0,1}}{1 - \left(\frac{v_2}{S_2} + \frac{v_3}{S_3}\right)}$ = 1.00

STEP 3: TH from Minor Street	V_4	V_1
Conflicting Flows: V_c (Fig. 10-3)	$V_{c,8} = \frac{1}{2}V_3^{`1} + V_2 + V_1 + V_6^{`3} + V_5 + V_4$ 53 + 97 + 22 + 2 + 66 + 73 = 313 vph	$V_{c,11} = \frac{1}{2}V_6^{`6} + V_5 + V_4 + V_3^{`5} + V_2 + V_1$ 1 + 66 + 73 + 106 + 97 + 22 = 365 vph
Potential Capacity: $c_{p,i}$ (Fig. 10-4,5)	$c_{p,8}$ = 750 pcph	$c_{p,11}$ = 725 pcph
Capacity Adjustment Factor due to Impeding Movements: f_i	$f_8 = p_{0,4} \times p_{0,1}$ = 1.00 (*Shared lane use* p^*)	$f_{11} = p_{0,4} \times p_{0,1}$ = 1.00 (*Shared lane use* p^*)
Movement Capacity: c_m	$c_{m,8} = c_{p,8} \times f_8$ = 750 pcph	$c_{m,11} = c_{p,11} \times f_8$ = 725 pcph
Probability of Queue-free State: $p_{0,i}$	$p_{0,8} = 1 - v_8 / c_{m,8}$ = 0.99	$p_{0,11} = 1 - v_{11} / c_{m,11}$ = 0.99

STEP 4: LT from Minor Street	V_4	V_1
Conflicting Flows: V_c (Fig. 10-3)	$V_{c,7} = \frac{1}{2}V_3^{`1} + V_2 + V_1 + \frac{1}{2}(V_6)^{`5}$ $+ V_5 + V_4 + \frac{1}{2}(V_{11} + V_{12}^{`4})$ 53 + 97 + 22 + 1 + 66 + 73 + 15 = 327 vph	$V_{c,10} = \frac{1}{2}V_6^{`1} + V_5 + V_4 + \frac{1}{2}(V_3)^{`10}$ $+ V_2 + V_1 + \frac{1}{2}(V_8 + V_9^{`9})$ 1 + 66 + 73 + 53 + 97 + 22 + 80 = 392 vph
Potential Capacity: $c_{p,i}$ (Fig. 10-4,5)	$c_{p,7}$ = 690 pcph	$c_{p,10}$ = 635 pcph
Major Left, Minor Through Impedance Factor: p''_i	$p''_7 = p_{0,11} \times f_{11}$ = 0.99	$p''_{10} = p_{0,8} \times f_8$ = 0.99
Major Left, Minor Through Adjusted Impedance Factor: p'_i	p'_7 = 0.99 (Fig. 10-6)	p'_{10} = 0.99 (Fig. 10-6)
Capacity Adjustment Factor due to Impeding Movements: f_i	$f_7 = p'_7 \times p_{0,12}$ = 0.99	$f_{10} = p'_{10} \times p_{0,9}$ = 0.87
Movement Capacity: c_m	$c_{m,7} = c_{p,7} \times f_7$ = 684 pcph	$c_{m,10} = c_{p,10} \times f_{10}$ = 553 pcph

WORKSHEET FOR ANALYSIS OF TWSC INTERSECTIONS

Location: Redmond & Kelly | Name: A Lee

SHARED LANE CAPACITY

$$c_{sh} = \frac{v_i + v_j}{(v_i/c_{mi}) + (v_j/c_{mj})}$$ where 2 movements share a lane

$$c_{sh} = \frac{v_i + v_j + v_k}{(v_i/c_{mi}) + (v_j/c_{mj}) + (v_k/c_{mk})}$$ where 3 movements share a lane

MINOR STREET APPROACH MOVEMENTS 7,8,9

Movement	v(pcph)	c_m(pcph)	c_{sh}(pcph)	Avg. Single Movement Delay (Fig. 10-7)	LOS	Avg. Total Delay for the Approach, D_A (Eq. 10-13)	LOS
7	99	684	915	5.5	B	4	A
8	13	750		5	A		
9	163	1175		3	A		

MINOR STREET APPROACH MOVEMENTS 10,11,12

Movement	v(pcph)	c_m(pcph)	c_{sh}(pcph)	Avg. Single Movement Delay (Fig. 10-7)	LOS	Avg. Total Delay for the Approach, D_A (Eq. 10-13)	LOS
10	0	553	1031	7	B	4	A
11	10	725		5	A		
12	22	1275		2.5	A		

MAJOR STREET APPROACH MOVEMENTS 1,4

Movement	v(pcph)	c_m(pcph)	c_{sh}(pcph)	Avg. Single Movement Delay (Fig. 10-7)	LOS	Avg. Total Delay for the Approach, D_A (Eq. 10-13)	LOS
1	25	1575	1398	2	A	1	A
4	81	1350		2.5	A	2	A

Average total delay for the intersection (Eq. 10-14): **1.88** **Level of Service for intersection:** **A**

$$D_I = \frac{D_{A,1}v_{A,1} + D_{A,2}v_{A,2} + D_{A,3}v_{A,3} + D_{A,4}v_{A,4}}{v_1 + v_2 + v_3 + \ldots + v_{11} + v_{12}}$$

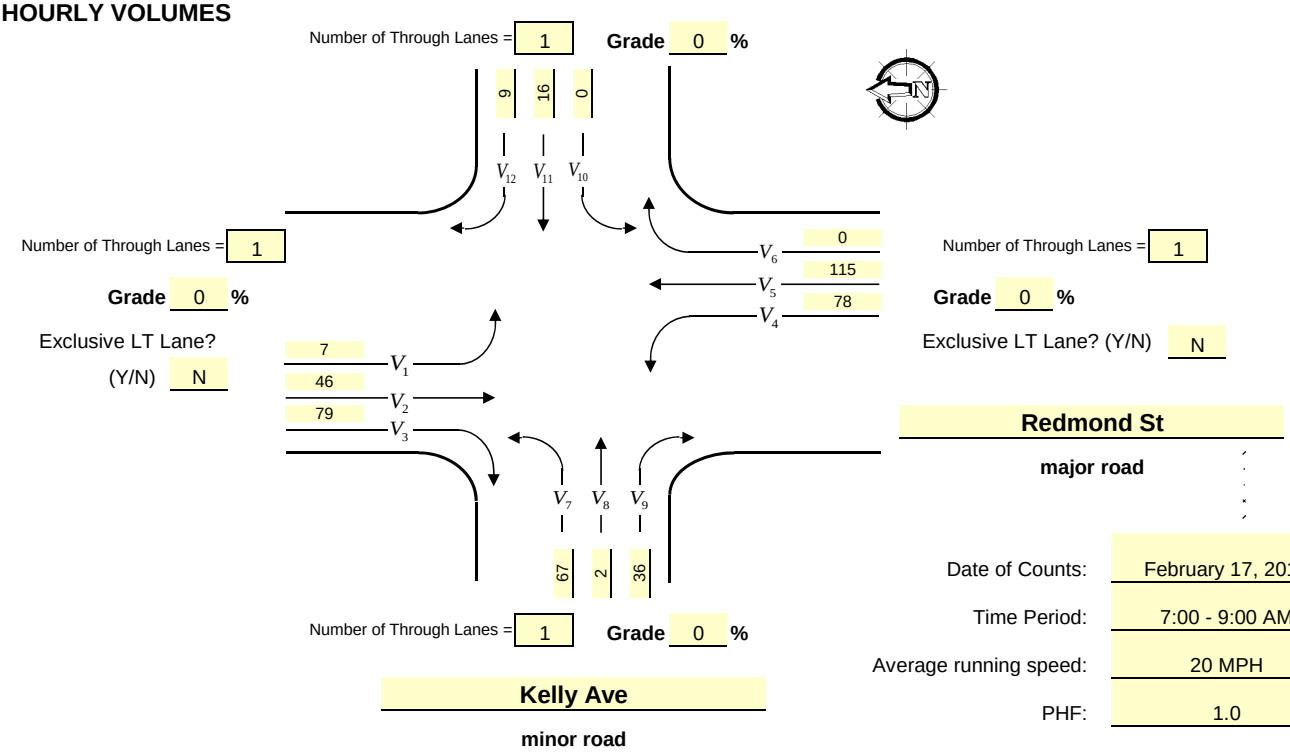
`1 Where a right-turn lane is provided on major street, and/or where V_3 is STOP-/YIELD-controlled, eliminate V_3.
`2 V_2 includes only the volume in the right hand lane.
`3 Where the right-turn is STOP- or YIELD-controlled, eliminate V_3, V_6.
`4 V_6, V_{12} should be eliminated on multilane streets.
`5 Where a right-turn lane is provided on major street, and/or where V_6 is STOP-/YIELD-controlled, and/or on multi-lane major streets, eliminate V_6.
`6 Where a right-turn lane is provided on major street, and/or where V_6 is STOP-/YIELD-controlled, eliminate V_6.
`7 V_5 includes only the volume in the righthand lane.
`8 Where the right-turn is STOP- or YIELD-controlled, eliminate V_6, V_3.
`9 V_3, V_9 should be eliminated on multilane streets.
`10 Where a right-turn lane is provided on major street, and/or where V_3 is STOP-/YIELD-controlled, and/or on multi-lane major streets, eliminate V_3.

WORKSHEET FOR ANALYSIS OF TWSC INTERSECTIONS

Location: Redmond & Kelly

Name: A Lee

HOURLY VOLUMES



Date of Counts: February 17, 2016

Time Period: 7:00 - 9:00 AM

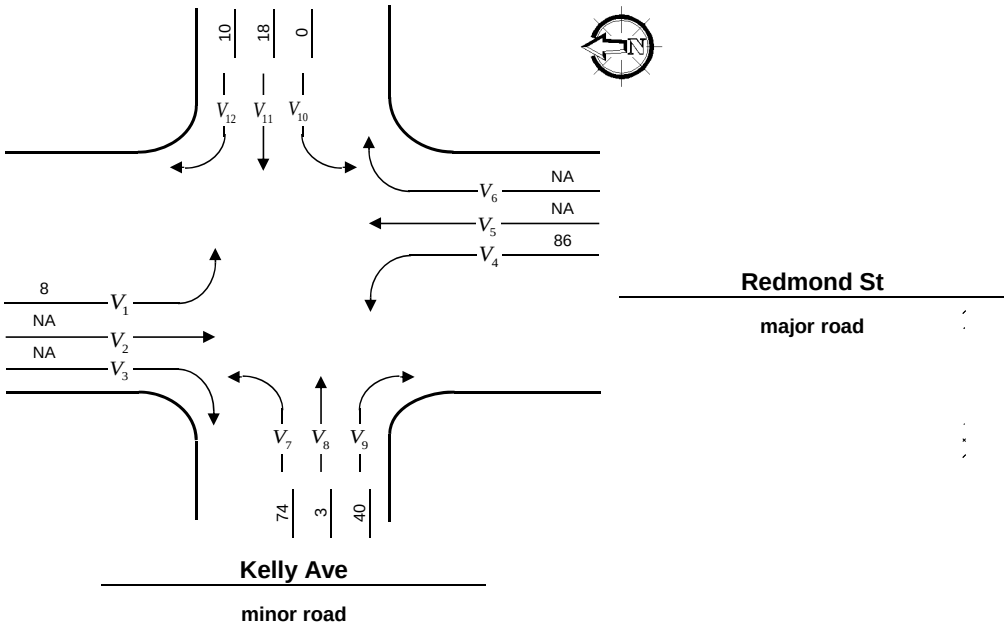
Average running speed: 20 MPH

PHF: 1.0

VOLUME ADJUSTMENTS

Movement Number	1	2	3	4	5	6	7	8	9	10	11	12	Total
Hourly Flow Rate, V (vph)	7	46	79	78	115	0	67	2	36	0	16	9	455
Adjustment Factor	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	
Volume, v (pcph) *see Table 10-1*	8	51	87	86	127	0	74	3	40	0	18	10	504

VOLUMES IN PCPH



WORKSHEET FOR ANALYSIS OF TWSC INTERSECTIONS

Location: Redmond & Kelly

Name: A Lee

STEP 1: RT from Minor Street	V_9	V_{12}
Conflicting Flows: V_c (Fig. 10-3)	$V_{c,9} = \frac{1}{2}V_3^{`1} + V_2^{`2}$ 40 + 46 = 86 vph	$V_{c,12} = \frac{1}{2}V_6^{`6} + V_5^{`7}$ 0 + 115 = 115 vph
Potential Capacity: $c_{p,i}$ (Fig. 10-4,5)	$c_{p,9}$ = 1255 pcph	$c_{p,12}$ = 1200 pcph
Movement Capacity: c_m	$c_{m,9} = c_{p,9}$ = 1255 pcph	$c_{m,12} = c_{p,12}$ = 1200 pcph
Probability of Queue-free State: $p_{0,i}$	$p_{0,9} = 1 - v_9 / c_{m,9}$ = 0.97	$p_{0,12} = 1 - v_{12} / c_{m,12}$ = 1.00
STEP 2: LT from Major Street	V_4	V_1
Conflicting Flows: V_c (Fig. 10-3)	$V_{c,4} = V_2 + V_3^{`3}$ 46 + 79 = 125 vph	$V_{c,1} = V_5 + V_6^{`8}$ 115 + 0 = 115 vph
Potential Capacity: $c_{p,i}$ (Fig. 10-4,5)	$c_{p,4}$ = 1470 pcph	$c_{p,1}$ = 1480 pcph
Movement Capacity: c_m	$c_{m,4} = c_{p,4}$ = 1470 pcph	$c_{m,1} = c_{p,1}$ = 1480 pcph
Probability of Queue-free State: $p_{0,i}$	$p_{0,4} = 1 - v_4 / c_{m,4}$ = 0.95	$p_{0,1} = 1 - v_1 / c_{m,1}$ = 1.00
Major Left Shared Lane Probability of Queue-free State: $p^*_{0,i}$	$p^*_{0,4} = 1 - \frac{1 - p_{0,4}}{1 - \left(\frac{v_5}{S_5} + \frac{v_6}{S_6}\right)}$ = 1.00	$p^*_{0,1} = 1 - \frac{1 - p_{0,1}}{1 - \left(\frac{v_2}{S_2} + \frac{v_3}{S_3}\right)}$ = 1.00
STEP 3: TH from Minor Street	V_4	V_1
Conflicting Flows: V_c (Fig. 10-3)	$V_{c,8} = \frac{1}{2}V_3^{`1} + V_2 + V_1 + V_6^{`3} + V_5 + V_4$ 40 + 46 + 7 + 0 + 115 + 78 = 286 vph	$V_{c,11} = \frac{1}{2}V_6^{`6} + V_5 + V_4 + V_3^{`5} + V_2 + V_1$ 0 + 115 + 78 + 79 + 46 + 7 = 325 vph
Potential Capacity: $c_{p,i}$ (Fig. 10-4,5)	$c_{p,8}$ = 790 pcph	$c_{p,11}$ = 755 pcph
Capacity Adjustment Factor due to Impeding Movements: f_i	$f_8 = p_{0,4} \times p_{0,1}$ = 1.00 (*Shared lane use* p^*)	$f_{11} = p_{0,4} \times p_{0,1}$ = 1.00 (*Shared lane use* p^*)
Movement Capacity: c_m	$c_{m,8} = c_{p,8} \times f_8$ = 790 pcph	$c_{m,11} = c_{p,11} \times f_8$ = 755 pcph
Probability of Queue-free State: $p_{0,i}$	$p_{0,8} = 1 - v_8 / c_{m,8}$ = 1.00	$p_{0,11} = 1 - v_{11} / c_{m,11}$ = 0.98
STEP 4: LT from Minor Street	V_4	V_1
Conflicting Flows: V_c (Fig. 10-3)	$V_{c,7} = \frac{1}{2}V_3^{`1} + V_2 + V_1 + \frac{1}{2}(V_6)^{`5}$ $+ V_5 + V_4 + \frac{1}{2}(V_{11} + V_{12}^{`4})$ 40 + 46 + 7 + 0 + 115 + 78 + 13 = 299 vph	$V_{c,10} = \frac{1}{2}V_6^{`1} + V_5 + V_4 + \frac{1}{2}(V_3)^{`10}$ $+ V_2 + V_1 + \frac{1}{2}(V_8 + V_9^{`9})$ 0 + 115 + 78 + 40 + 46 + 7 + 19 = 305 vph
Potential Capacity: $c_{p,i}$ (Fig. 10-4,5)	$c_{p,7}$ = 730 pcph	$c_{p,10}$ = 720 pcph
Major Left, Minor Through Impedance Factor: p''_i	$p''_7 = p_{0,11} \times f_{11}$ = 0.98	$p''_{10} = p_{0,8} \times f_8$ = 1.00
Major Left, Minor Through Adjusted Impedance Factor: p'_i	p'_7 = 0.98 (Fig. 10-6)	p'_{10} = 1.00 (Fig. 10-6)
Capacity Adjustment Factor due to Impeding Movements: f_i	$f_7 = p'_7 \times p_{0,12}$ = 0.99	$f_{10} = p'_{10} \times p_{0,9}$ = 0.97
Movement Capacity: c_m	$c_{m,7} = c_{p,7} \times f_7$ = 723 pcph	$c_{m,10} = c_{p,10} \times f_{10}$ = 699 pcph

WORKSHEET FOR ANALYSIS OF TWSC INTERSECTIONS

Location: Redmond & Kelly | Name: A Lee

SHARED LANE CAPACITY

$$c_{sh} = \frac{v_i + v_j}{(v_i/c_{mi}) + (v_j/c_{mj})}$$ where 2 movements share a lane

$$c_{sh} = \frac{v_i + v_j + v_k}{(v_i/c_{mi}) + (v_j/c_{mj}) + (v_k/c_{mk})}$$ where 3 movements share a lane

MINOR STREET APPROACH MOVEMENTS 7,8,9

Movement	v(pcph)	c_m(pcph)	c_{sh}(pcph)	Avg. Single Movement Delay (Fig. 10-7)	LOS	Avg. Total Delay for the Approach, D_A (Eq. 10-13)	LOS
7	74	723	848	**5.5**	**B**	**5**	**A**
8	3	790		**4.75**	**A**		
9	40	1255		**3**	**A**		

MINOR STREET APPROACH MOVEMENTS 10,11,12

Movement	v(pcph)	c_m(pcph)	c_{sh}(pcph)	Avg. Single Movement Delay (Fig. 10-7)	LOS	Avg. Total Delay for the Approach, D_A (Eq. 10-13)	LOS
10	0	699	871	**5**	**A**	**5**	**A**
11	18	755		**5**	**A**		
12	10	1200		**3**	**A**		

MAJOR STREET APPROACH MOVEMENTS 1,4

Movement	v(pcph)	c_m(pcph)	c_{sh}(pcph)	Avg. Single Movement Delay (Fig. 10-7)	LOS	Avg. Total Delay for the Approach, D_A (Eq. 10-13)	LOS
1	8	1480	1471	**2.5**	**A**	**1**	**A**
4	86	1470		**2.5**	**A**	**2**	**A**

Average total delay for the intersection (Eq. 10-14): **1.63** **Level of Service for intersection:** **A**

$$D_I = \frac{D_{A,1}v_{A,1} + D_{A,2}v_{A,2} + D_{A,3}v_{A,3} + D_{A,4}v_{A,4}}{v_1 + v_2 + v_3 + \ldots + v_{11} + v_{12}}$$

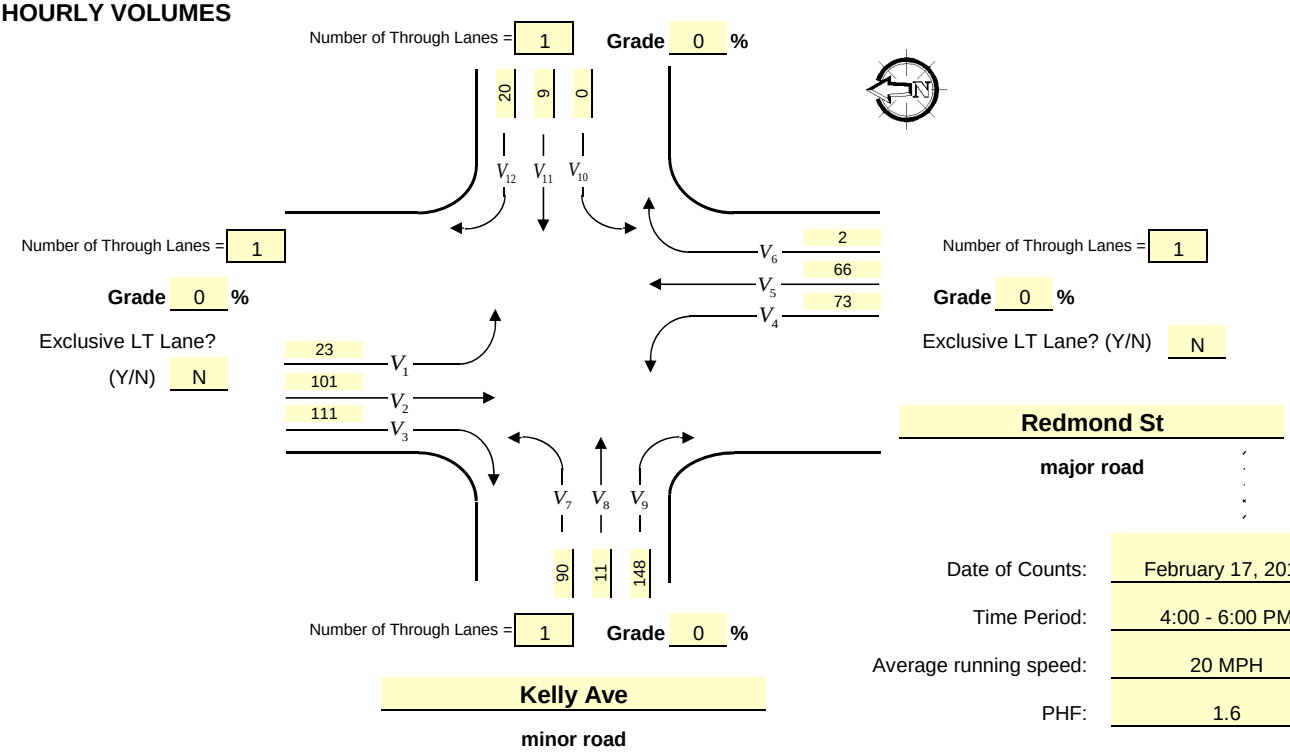
`1 Where a right-turn lane is provided on major street, and/or where V_3 is STOP-/YIELD-controlled, eliminate V_3.
`2 V_2 includes only the volume in the right hand lane.
`3 Where the right-turn is STOP- or YIELD-controlled, eliminate V_3, V_6.
`4 V_6, V_{12} should be eliminated on multilane streets.
`5 Where a right-turn lane is provided on major street, and/or where V_6 is STOP-/YIELD-controlled, and/or on multi-lane major streets, eliminate V_6.
`6 Where a right-turn lane is provided on major street, and/or where V_6 is STOP-/YIELD-controlled, eliminate V_6.
`7 V_5 includes only the volume in the righthand lane.
`8 Where the right-turn is STOP- or YIELD-controlled, eliminate V_6, V_3.
`9 V_3, V_9 should be eliminated on multilane streets.
`10 Where a right-turn lane is provided on major street, and/or where V_3 is STOP-/YIELD-controlled, and/or on multi-lane major streets, eliminate V_3.

WORKSHEET FOR ANALYSIS OF TWSC INTERSECTIONS

Location: Redmond & Kelly

Name: A Lee

HOURLY VOLUMES



Date of Counts: February 17, 2016

Time Period: 4:00 - 6:00 PM

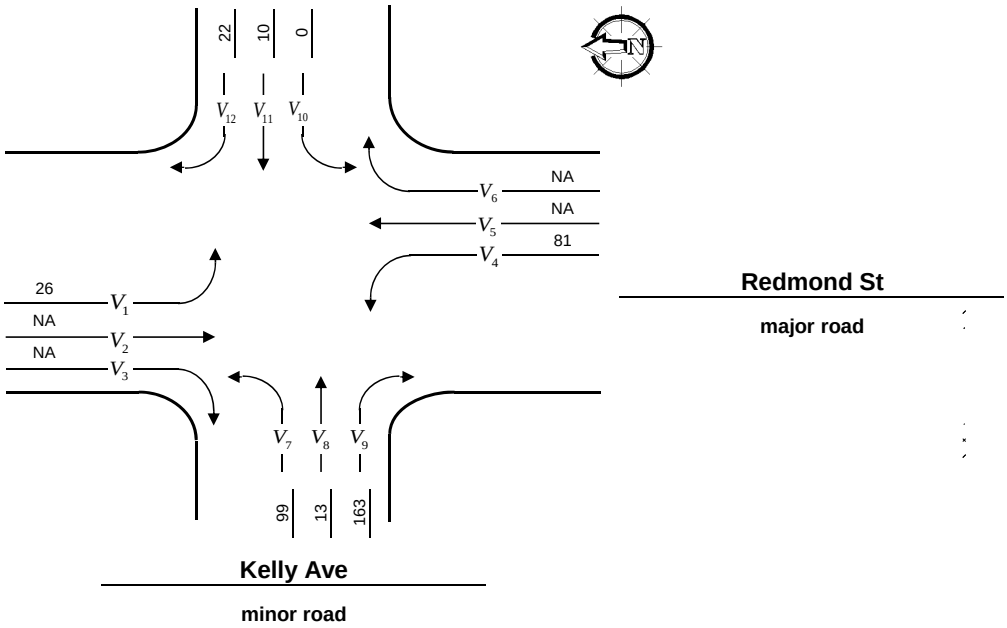
Average running speed: 20 MPH

PHF: 1.6

VOLUME ADJUSTMENTS

Movement Number	1	2	3	4	5	6	7	8	9	10	11	12	Total
Hourly Flow Rate, V (vph)	23	101	111	73	66	2	90	11	148	0	9	20	654
Adjustment Factor	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	
Volume, v (pcph) *see Table 10-1*	26	112	123	81	73	3	99	13	163	0	10	22	725

VOLUMES IN PCPH



WORKSHEET FOR ANALYSIS OF TWSC INTERSECTIONS

Location: Redmond & Kelly

Name: A Lee

STEP 1: RT from Minor Street	V_9	V_{12}
Conflicting Flows: V_c (Fig. 10-3)	$V_{c,9} = \frac{1}{2}V_3^{`1} + V_2^{`2}$ 56 + 101 = 157 vph	$V_{c,12} = \frac{1}{2}V_6^{`6} + V_5^{`7}$ 1 + 66 = 67 vph
Potential Capacity: $c_{p,i}$ (Fig. 10-4,5)	$c_{p,9}$ = 1170 pcph	$c_{p,12}$ = 1275 pcph
Movement Capacity: c_m	$c_{m,9} = c_{p,9}$ = 1170 pcph	$c_{m,12} = c_{p,12}$ = 1275 pcph
Probability of Queue-free State: $p_{0,i}$	$p_{0,9} = 1 - v_9 / c_{m,9}$ = 0.87	$p_{0,12} = 1 - v_{12} / c_{m,12}$ = 0.99

STEP 2: LT from Major Street	V_4	V_1
Conflicting Flows: V_c (Fig. 10-3)	$V_{c,4} = V_2 + V_3^{`3}$ 101 + 111 = 212 vph	$V_{c,1} = V_5 + V_6^{`8}$ 66 + 2 = 68 vph
Potential Capacity: $c_{p,i}$ (Fig. 10-4,5)	$c_{p,4}$ = 1340 pcph	$c_{p,1}$ = 1575 pcph
Movement Capacity: c_m	$c_{m,4} = c_{p,4}$ = 1340 pcph	$c_{m,1} = c_{p,1}$ = 1575 pcph
Probability of Queue-free State: $p_{0,i}$	$p_{0,4} = 1 - v_4 / c_{m,4}$ = 0.94	$p_{0,1} = 1 - v_1 / c_{m,1}$ = 0.99
Major Left Shared Lane Probability of Queue-free State: $p^*_{0,i}$	$p^*_{0,4} = 1 - \dfrac{1 - p_{0,4}}{1 - \left(\dfrac{v_5}{S_5} + \dfrac{v_6}{S_6}\right)}$ = 1.00	$p^*_{0,1} = 1 - \dfrac{1 - p_{0,1}}{1 - \left(\dfrac{v_2}{S_2} + \dfrac{v_3}{S_3}\right)}$ = 1.00

STEP 3: TH from Minor Street	V_4	V_1
Conflicting Flows: V_c (Fig. 10-3)	$V_{c,8} = \frac{1}{2}V_3^{`1} + V_2 + V_1 + V_6^{`3} + V_5 + V_4$ 56 + 101 + 23 + 2 + 66 + 73 = 321 vph	$V_{c,11} = \frac{1}{2}V_6^{`6} + V_5 + V_4 + V_3^{`5} + V_2 + V_1$ 1 + 66 + 73 + 111 + 101 + 23 = 375 vph
Potential Capacity: $c_{p,i}$ (Fig. 10-4,5)	$c_{p,8}$ = 740 pcph	$c_{p,11}$ = 715 pcph
Capacity Adjustment Factor due to Impeding Movements: f_i	$f_8 = p_{0,4} \times p_{0,1}$ = 1.00 (*Shared lane use* p^*)	$f_{11} = p_{0,4} \times p_{0,1}$ = 1.00 (*Shared lane use* p^*)
Movement Capacity: c_m	$c_{m,8} = c_{p,8} \times f_8$ = 740 pcph	$c_{m,11} = c_{p,11} \times f_8$ = 715 pcph
Probability of Queue-free State: $p_{0,i}$	$p_{0,8} = 1 - v_8 / c_{m,8}$ = 0.99	$p_{0,11} = 1 - v_{11} / c_{m,11}$ = 0.99

STEP 4: LT from Minor Street	V_4	V_1
Conflicting Flows: V_c (Fig. 10-3)	$V_{c,7} = \frac{1}{2}V_3^{`1} + V_2 + V_1 + \frac{1}{2}(V_6)^{`5}$ $+ V_5 + V_4 + \frac{1}{2}(V_{11} + V_{12}^{`4})$ 56 + 101 + 23 + 1 + 66 + 73 + 15 = 335 vph	$V_{c,10} = \frac{1}{2}V_6^{`1} + V_5 + V_4 + \frac{1}{2}(V_3)^{`10}$ $+ V_2 + V_1 + \frac{1}{2}(V_8 + V_9^{`9})$ 1 + 66 + 73 + 56 + 101 + 23 + 80 = 400 vph
Potential Capacity: $c_{p,i}$ (Fig. 10-4,5)	$c_{p,7}$ = 680 pcph	$c_{p,10}$ = 625 pcph
Major Left, Minor Through Impedance Factor: p''_i	$p''_7 = p_{0,11} \times f_{11}$ = 0.99	$p''_{10} = p_{0,8} \times f_8$ = 0.99
Major Left, Minor Through Adjusted Impedance Factor: p'_i	p'_7 = 0.99 (Fig. 10-6)	p'_{10} = 0.99 (Fig. 10-6)
Capacity Adjustment Factor due to Impeding Movements: f_i	$f_7 = p'_7 \times p_{0,12}$ = 0.99	$f_{10} = p'_{10} \times p_{0,9}$ = 0.87
Movement Capacity: c_m	$c_{m,7} = c_{p,7} \times f_7$ = 674 pcph	$c_{m,10} = c_{p,10} \times f_{10}$ = 544 pcph

WORKSHEET FOR ANALYSIS OF TWSC INTERSECTIONS

Location: Redmond & Kelly | Name: A Lee

SHARED LANE CAPACITY

$$c_{sh} = \frac{v_i + v_j}{(v_i/c_{mi}) + (v_j/c_{mj})}$$ where 2 movements share a lane

$$c_{sh} = \frac{v_i + v_j + v_k}{(v_i/c_{mi}) + (v_j/c_{mj}) + (v_k/c_{mk})}$$ where 3 movements share a lane

MINOR STREET APPROACH MOVEMENTS 7,8,9

Movement	v(pcph)	c_m(pcph)	c_{sh}(pcph)	Avg. Single Movement Delay (Fig. 10-7)	LOS	Avg. Total Delay for the Approach, D_A (Eq. 10-13)	LOS
7	99	674	906	6	B	5	A
8	13	740		5	A		
9	163	1170		3	A		

MINOR STREET APPROACH MOVEMENTS 10,11,12

Movement	v(pcph)	c_m(pcph)	c_{sh}(pcph)	Avg. Single Movement Delay (Fig. 10-7)	LOS	Avg. Total Delay for the Approach, D_A (Eq. 10-13)	LOS
10	0	544	1025	7	B	4	A
11	10	715		5	A		
12	22	1275		2.5	A		

MAJOR STREET APPROACH MOVEMENTS 1,4

Movement	v(pcph)	c_m(pcph)	c_{sh}(pcph)	Avg. Single Movement Delay (Fig. 10-7)	LOS	Avg. Total Delay for the Approach, D_A (Eq. 10-13)	LOS
1	26	1575	1391	2	A	1	A
4	81	1340		2.5	A	2	A

Average total delay for the intersection (Eq. 10-14): **2.23** **Level of Service for intersection:** **A**

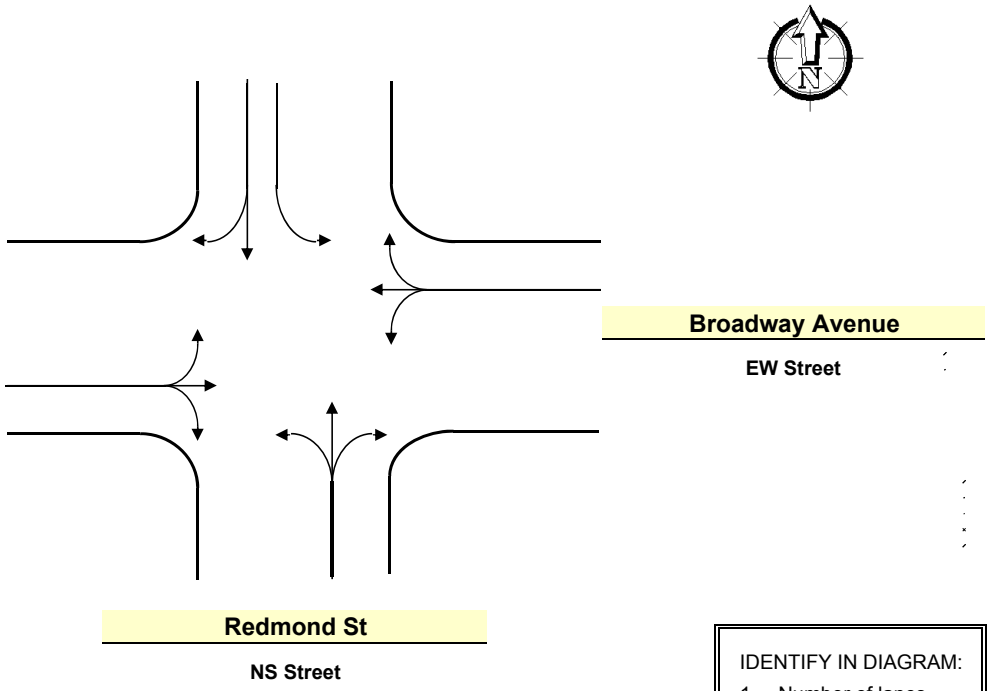
$$D_I = \frac{D_{A,1}v_{A,1} + D_{A,2}v_{A,2} + D_{A,3}v_{A,3} + D_{A,4}v_{A,4}}{v_1 + v_2 + v_3 + \ldots + v_{11} + v_{12}}$$

`1 Where a right-turn lane is provided on major street, and/or where V_3 is STOP-/YIELD-controlled, eliminate V_3.
`2 V_2 includes only the volume in the right hand lane.
`3 Where the right-turn is STOP- or YIELD-controlled, eliminate V_3, V_6.
`4 V_6, V_{12} should be eliminated on multilane streets.
`5 Where a right-turn lane is provided on major street, and/or where V_6 is STOP-/YIELD-controlled, and/or on multi-lane major streets, eliminate V_6.
`6 Where a right-turn lane is provided on major street, and/or where V_6 is STOP-/YIELD-controlled, eliminate V_6.
`7 V_5 includes only the volume in the righthand lane.
`8 Where the right-turn is STOP- or YIELD-controlled, eliminate V_6, V_3.
`9 V_3, V_9 should be eliminated on multilane streets.
`10 Where a right-turn lane is provided on major street, and/or where V_3 is STOP-/YIELD-controlled, and/or on multi-lane major streets, eliminate V_3.

AWSC WORKSHEET - INPUT

Location:	Redmond St & Broadway Ave	Date:	2/17/2016
Analyst:	A Lee	Time Period Analyzed:	7:00 - 9:00 AM
Project No.:	16-028-01	City/State:	Jackson, WY

GEOMETRICS



IDENTIFY IN DIAGRAM:
1 Number of lanes
2 Movement by lane
3 North Arrow

TRAFFIC VOLUMES

Approach	LT	TH	RT	Total	PHF
EB	**63**	**178**	**121**	**362**	**1.6**
WB	**17**	**231**	**9**	**257**	**1.6**
NB	**229**	**10**	**12**	**251**	**1.6**
SB	**4**	**10**	**31**	**45**	**1.6**

AWSC WORKSHEET - VOLUME SUMMARY

Location: Redmond St & Broadway Ave Date: 42417

Analyst: A Lee Time Period Analyzed: 7:00 - 9:00 AM

Project No.: 16-028-01 City/State: Jackson, WY

Step	Calculation	EB	WB	NB	SB
(1)	LT Volume	**63**	**17**	**229**	**4**
(2)	TH Volume	**178**	**231**	**10**	**10**
(3)	RT Volume	**121**	**9**	**12**	**31**
(4)	Peak Hour Factor	**1.6**	**1.6**	**1.6**	**1.6**
(5)	LT Flow Rate, (1)/(4)	**40**	**11**	**145**	**3**
(6)	TH Flow Rate, (2)/(4)	**113**	**147**	**7**	**7**
(7)	RT Flow Rate, (3)/(4)	**77**	**6**	**8**	**20**
(8)	Approach Flow Rate, (5) + (6) + (7)	**230**	**164**	**160**	**30**
(9)	Proportion LT, (5)/(8)	**0.17**	**0.07**	**0.91**	**0.10**
(10)	Proportion RT, (7)/(8)	**0.33**	**0.04**	**0.05**	**0.67**
(11)	Opposing Approach (Direction)	**WB**	**EB**	**SB**	**NB**
(12)	Conflicting Approaches (Directions)	**NB,SB**	**NB,SB**	**EB,WB**	**EB,WB**
(13)	Subject Approach Flow Rate	**362**	**257**	**251**	**45**
(14)	Opposing Approach Flow Rate	**257**	**362**	**45**	**251**
(15)	Conflicting Approaches Flow Rate	**296**	**296**	**619**	**619**
(16)	Total Intersection Flow Rate, (13) + (14) + (15)	**915**	**915**	**915**	**915**
(17)	Proportion, Subject Approach Flow Rate, (13)/(16)	**0.40**	**0.28**	**0.27**	**0.05**
(18)	Proportion, Opposing Approach Flow Rate, (14)/(16)	**0.28**	**0.40**	**0.05**	**0.27**
(19)	Proportion, Conflicting Approaches Flow Rate, (15/16)	**0.32**	**0.32**	**0.68**	**0.68**
(20)	LT, Opposing Approach	**17**	**63**	**4**	**229**
(21)	RT, Opposing Approaches	**9**	**121**	**31**	**12**
(22)	LT, Conflicting Approaches	**233**	**233**	**80**	**80**
(23)	RT, Conflicting Approaches	**43**	**43**	**130**	**130**
(24)	Proportion LT, Opposing Approach, (20)/(14)	**0.07**	**0.17**	**0.09**	**0.91**
(25)	Proportion RT, Opposing Approach, (21)/(14)	**0.04**	**0.33**	**0.69**	**0.05**
(26)	Proportion LT, Conflicting Approaches, (22)/(15)	**0.79**	**0.79**	**0.13**	**0.13**
(27)	Proportion RT, Conflicting Approaches, (23)/(15)	**0.15**	**0.15**	**0.21**	**0.21**

AWSC WORKSHEET - CAPACITY ANALYSIS

Location: Redmond St & Broadway Ave Date: 42417

Analyst: A Lee Time Period Analyzed: 7:00 - 9:00 AM

Project No.: 16-028-01 City/State: Jackson, WY

Step		EB	WB	NB	SB
(1)	Proportion, Subject Approach Flow Rate	**0.40**	**0.28**	**0.27**	**0.05**
(2)	Proportion, Opposing Approach Flow Rate	**0.28**	**0.40**	**0.05**	**0.27**
(3)	Lanes on Subject Approach	**1**	**1**	**1**	**1**
(4)	Lanes on Opposing Approach	**1**	**1**	**1**	**1**
(5)	+ 1000 X (1)	**400**	**280**	**270**	**50**
(6)	+ 700 X (2)	**196**	**280**	**35**	**189**
(7)	+ 200 X (3)	**200**	**200**	**200**	**200**
(8)	- 100 X (4)	**-100**	**-100**	**-100**	**-100**
(9)	(5) + (6) + (7) + (8)	**696**	**660**	**405**	**339**
(10)	Proportion LT, Opposing Approach	**0.07**	**0.17**	**0.09**	**0.91**
(11)	Proportion RT, Opposing Approach	**0.04**	**0.33**	**0.69**	**0.05**
(12)	Proportion LT, Conflicting Approaches	**0.79**	**0.79**	**0.13**	**0.13**
(13)	Proportion RT, Conflicting Approaches	**0.15**	**0.15**	**0.21**	**0.21**
(14)	- 300 X (10)	**-21**	**-51**	**-27**	**-273**
(15)	+ 300 X (11)	**8**	**66**	**138**	**10**
(16)	- 300 X (12)	**-237**	**-237**	**-39**	**-39**
(17)	+ 300 X (13)	**45**	**45**	**63**	**63**
(18)	(14) + (15) + (16) + (17)	**-205**	**-177**	**135**	**-239**
(19)	Approach Capacity, (9) + (18)	**491**	**483**	**540**	**100**

AWSC WORKSHEET - LEVEL-OF-SERVICE (LOS) ANALYSIS

Location: Redmond St & Broadway Ave

Date: 42417

Analyst: A Lee

Time Period Analyzed: 7:00 - 9:00 AM

Project No.: 16-028-01

City/State: Jackson, WY

Step		EB	WB	NB	SB
(1)	Approach Flow Rate	**362**	**257**	**251**	**45**
(2)	Approach Capacity	**491**	**483**	**540**	**100**
(3)	Volume/Capacity Ratio, (1)/(2)	**0.74**	**0.53**	**0.46**	**0.45**
(4)	Average Total Delay = exp[3.8 X (3)]	**17**	**8**	**6**	**6**
(5)	Level-of-Service	**C**	**B**	**B**	**B**

$$Intersection\ Total\ Delay = \frac{\sum (Vehicle\ Total\ Delay \times Volume)}{\sum Volume} = \frac{\mathbf{9986}}{\mathbf{915}} \approx \mathbf{10.92}$$

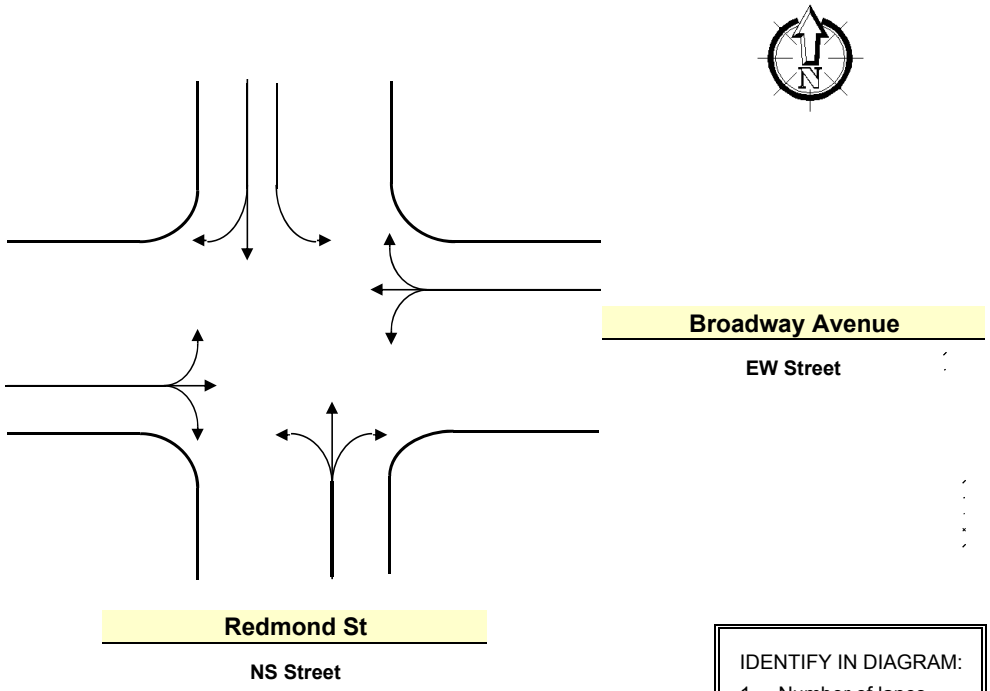
$$Level-of-Service\ (Intersection) = \mathbf{C}$$

Level-of-Service (LOS)	Average Total Delay, sec/veh
A	≤ 5
B	> 5 and ≤ 10
C	> 10 and ≤ 20
D	> 20 and ≤ 30
E	> 30 and ≤ 45
F	> 45

AWSC WORKSHEET - INPUT

Location:	Redmond St & Broadway Ave	Date:	2/17/2016
Analyst:	A Lee	Time Period Analyzed:	4:00-6:00 PM
Project No.:	16-028-01	City/State:	Jackson, WY

GEOMETRICS



IDENTIFY IN DIAGRAM:
1 Number of lanes
2 Movement by lane
3 North Arrow

TRAFFIC VOLUMES

Approach	LT	TH	RT	Total	PHF
EB	**34**	**239**	**218**	**491**	**1.7**
WB	**20**	**217**	**0**	**237**	**1.7**
NB	**168**	**5**	**18**	**191**	**1.7**
SB	**5**	**15**	**47**	**67**	**1.7**

AWSC WORKSHEET - VOLUME SUMMARY

Location: Redmond St & Broadway Ave Date: 42417

Analyst: A Lee Time Period Analyzed: 4:00-6:00 PM

Project No.: 16-028-01 City/State: Jackson, WY

Step	Calculation	EB	WB	NB	SB
(1)	LT Volume	**34**	**20**	**168**	**5**
(2)	TH Volume	**239**	**217**	**5**	**15**
(3)	RT Volume	**218**	**0**	**18**	**47**
(4)	Peak Hour Factor	**1.7**	**1.7**	**1.7**	**1.7**
(5)	LT Flow Rate, (1)/(4)	**21**	**13**	**102**	**4**
(6)	TH Flow Rate, (2)/(4)	**144**	**131**	**4**	**10**
(7)	RT Flow Rate, (3)/(4)	**132**	**0**	**11**	**29**
(8)	Approach Flow Rate, (5) + (6) + (7)	**297**	**144**	**117**	**43**
(9)	Proportion LT, (5)/(8)	**0.07**	**0.09**	**0.87**	**0.09**
(10)	Proportion RT, (7)/(8)	**0.44**	**0.00**	**0.09**	**0.67**
(11)	Opposing Approach (Direction)	**WB**	**EB**	**SB**	**NB**
(12)	Conflicting Approaches (Directions)	**NB,SB**	**NB,SB**	**EB,WB**	**EB,WB**
(13)	Subject Approach Flow Rate	**491**	**237**	**191**	**67**
(14)	Opposing Approach Flow Rate	**237**	**491**	**67**	**191**
(15)	Conflicting Approaches Flow Rate	**258**	**258**	**728**	**728**
(16)	Total Intersection Flow Rate, (13) + (14) + (15)	**986**	**986**	**986**	**986**
(17)	Proportion, Subject Approach Flow Rate, (13)/(16)	**0.50**	**0.24**	**0.19**	**0.07**
(18)	Proportion, Opposing Approach Flow Rate, (14)/(16)	**0.24**	**0.50**	**0.07**	**0.19**
(19)	Proportion, Conflicting Approaches Flow Rate, (15/16)	**0.26**	**0.26**	**0.74**	**0.74**
(20)	LT, Opposing Approach	**20**	**34**	**5**	**168**
(21)	RT, Opposing Approaches	**0**	**218**	**47**	**18**
(22)	LT, Conflicting Approaches	**173**	**173**	**54**	**54**
(23)	RT, Conflicting Approaches	**65**	**65**	**218**	**218**
(24)	Proportion LT, Opposing Approach, (20)/(14)	**0.08**	**0.07**	**0.07**	**0.88**
(25)	Proportion RT, Opposing Approach, (21)/(14)	**0.00**	**0.44**	**0.70**	**0.09**
(26)	Proportion LT, Conflicting Approaches, (22)/(15)	**0.67**	**0.67**	**0.07**	**0.07**
(27)	Proportion RT, Conflicting Approaches, (23)/(15)	**0.25**	**0.25**	**0.30**	**0.30**

AWSC WORKSHEET - CAPACITY ANALYSIS

Location: Redmond St & Broadway Ave
Date: 42417
Analyst: A Lee
Time Period Analyzed: 4:00-6:00 PM
Project No.: 16-028-01
City/State: Jackson, WY

Step		EB	WB	NB	SB
(1)	Proportion, Subject Approach Flow Rate	**0.50**	**0.24**	**0.19**	**0.07**
(2)	Proportion, Opposing Approach Flow Rate	**0.24**	**0.50**	**0.07**	**0.19**
(3)	Lanes on Subject Approach	**1**	**1**	**1**	**1**
(4)	Lanes on Opposing Approach	**1**	**1**	**1**	**1**
(5)	+ 1000 X (1)	**500**	**240**	**190**	**70**
(6)	+ 700 X (2)	**168**	**350**	**49**	**133**
(7)	+ 200 X (3)	**200**	**200**	**200**	**200**
(8)	- 100 X (4)	**-100**	**-100**	**-100**	**-100**
(9)	(5) + (6) + (7) + (8)	**768**	**690**	**339**	**303**
(10)	Proportion LT, Opposing Approach	**0.08**	**0.07**	**0.07**	**0.88**
(11)	Proportion RT, Opposing Approach	**0.00**	**0.44**	**0.70**	**0.09**
(12)	Proportion LT, Conflicting Approaches	**0.67**	**0.67**	**0.07**	**0.07**
(13)	Proportion RT, Conflicting Approaches	**0.25**	**0.25**	**0.30**	**0.30**
(14)	- 300 X (10)	**-24**	**-21**	**-21**	**-264**
(15)	+ 300 X (11)	**0**	**88**	**140**	**18**
(16)	- 300 X (12)	**-201**	**-201**	**-21**	**-21**
(17)	+ 300 X (13)	**75**	**75**	**90**	**90**
(18)	(14) + (15) + (16) + (17)	**-150**	**-59**	**188**	**-177**
(19)	Approach Capacity, (9) + (18)	**618**	**631**	**527**	**126**

AWSC WORKSHEET - LEVEL-OF-SERVICE (LOS) ANALYSIS

Location: Redmond St & Broadway Ave

Date: 42417

Analyst: A Lee

Time Period Analyzed: 4:00-6:00 PM

Project No.: 16-028-01

City/State: Jackson, WY

Step		EB	WB	NB	SB
(1)	Approach Flow Rate	**491**	**237**	**191**	**67**
(2)	Approach Capacity	**618**	**631**	**527**	**126**
(3)	Volume/Capacity Ratio, (1)/(2)	**0.79**	**0.38**	**0.36**	**0.53**
(4)	Average Total Delay = exp[3.8 X (3)]	**21**	**5**	**4**	**8**
(5)	Level-of-Service	**D**	**A**	**A**	**B**

$$Intersection\ Total\ Delay = \frac{\sum (Vehicle\ Total\ Delay \times Volume)}{\sum Volume} = \frac{\mathbf{12796}}{\mathbf{986}} \approx \mathbf{12.98}$$

$$Level-of-Service\ (Intersection) = \mathbf{C}$$

Level-of-Service (LOS)	Average Total Delay, sec/veh
A	≤ 5
B	> 5 and ≤ 10
C	> 10 and ≤ 20
D	> 20 and ≤ 30
E	> 30 and ≤ 45
F	> 45

AWSC WORKSHEET - INPUT

Location: Redmond St & Broadway Ave (PROJECTED)

Date: 2/17/2016

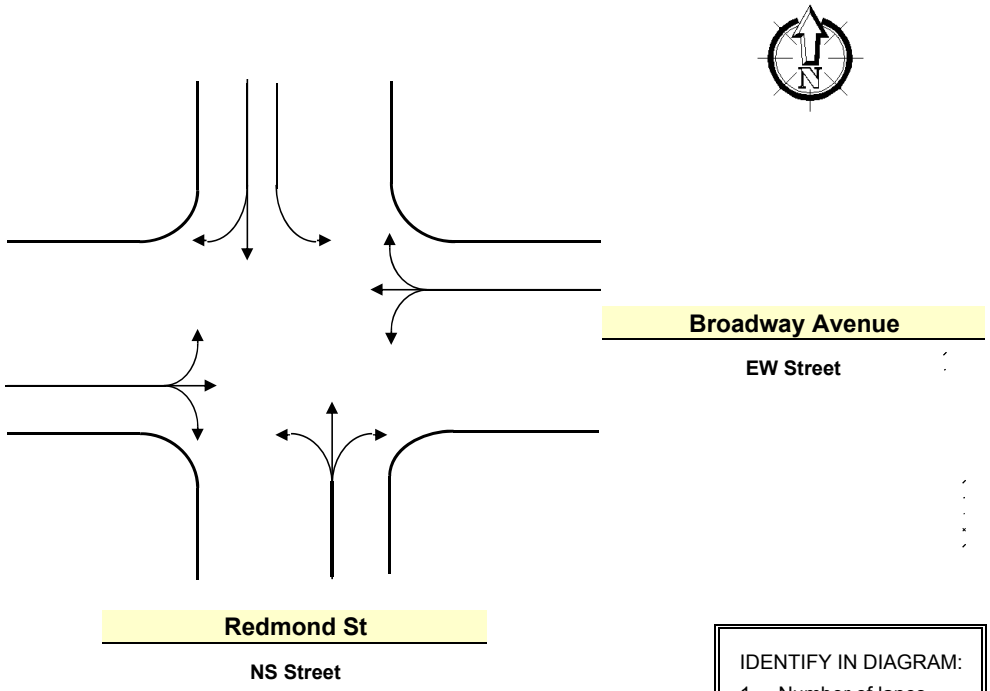
Analyst: A Lee

Time Period Analyzed: 7:00 - 9:00 AM

Project No.: 16-028-01

City/State: Jackson, WY

GEOMETRICS



IDENTIFY IN DIAGRAM:
1 Number of lanes
2 Movement by lane
3 North Arrow

TRAFFIC VOLUMES

Approach	LT	TH	RT	Total	PHF
EB	**63**	**178**	**121**	**362**	**1.6**
WB	**17**	**231**	**9**	**257**	**1.6**
NB	**236**	**11**	**13**	**260**	**1.6**
SB	**4**	**10**	**31**	**45**	**1.6**

AWSC WORKSHEET - VOLUME SUMMARY

Location: Redmond St & Broadway Ave (PROJECTED) Date: 42417

Analyst: A Lee Time Period Analyzed: 7:00 - 9:00 AM

Project No.: 16-028-01 City/State: Jackson, WY

Step	Calculation	EB	WB	NB	SB
(1)	LT Volume	**63**	**17**	**236**	**4**
(2)	TH Volume	**178**	**231**	**11**	**10**
(3)	RT Volume	**121**	**9**	**13**	**31**
(4)	Peak Hour Factor	**1.6**	**1.6**	**1.6**	**1.6**
(5)	LT Flow Rate, (1)/(4)	**40**	**11**	**150**	**3**
(6)	TH Flow Rate, (2)/(4)	**113**	**147**	**7**	**7**
(7)	RT Flow Rate, (3)/(4)	**77**	**6**	**9**	**20**
(8)	Approach Flow Rate, (5) + (6) + (7)	**230**	**164**	**166**	**30**
(9)	Proportion LT, (5)/(8)	**0.17**	**0.07**	**0.90**	**0.10**
(10)	Proportion RT, (7)/(8)	**0.33**	**0.04**	**0.05**	**0.67**
(11)	Opposing Approach (Direction)	**WB**	**EB**	**SB**	**NB**
(12)	Conflicting Approaches (Directions)	**NB,SB**	**NB,SB**	**EB,WB**	**EB,WB**
(13)	Subject Approach Flow Rate	**362**	**257**	**260**	**45**
(14)	Opposing Approach Flow Rate	**257**	**362**	**45**	**260**
(15)	Conflicting Approaches Flow Rate	**305**	**305**	**619**	**619**
(16)	Total Intersection Flow Rate, (13) + (14) + (15)	**924**	**924**	**924**	**924**
(17)	Proportion, Subject Approach Flow Rate, (13)/(16)	**0.39**	**0.28**	**0.28**	**0.05**
(18)	Proportion, Opposing Approach Flow Rate, (14)/(16)	**0.28**	**0.39**	**0.05**	**0.28**
(19)	Proportion, Conflicting Approaches Flow Rate, (15/16)	**0.33**	**0.33**	**0.67**	**0.67**
(20)	LT, Opposing Approach	**17**	**63**	**4**	**236**
(21)	RT, Opposing Approaches	**9**	**121**	**31**	**13**
(22)	LT, Conflicting Approaches	**240**	**240**	**80**	**80**
(23)	RT, Conflicting Approaches	**44**	**44**	**130**	**130**
(24)	Proportion LT, Opposing Approach, (20)/(14)	**0.07**	**0.17**	**0.09**	**0.91**
(25)	Proportion RT, Opposing Approach, (21)/(14)	**0.04**	**0.33**	**0.69**	**0.05**
(26)	Proportion LT, Conflicting Approaches, (22)/(15)	**0.79**	**0.79**	**0.13**	**0.13**
(27)	Proportion RT, Conflicting Approaches, (23)/(15)	**0.14**	**0.14**	**0.21**	**0.21**

AWSC WORKSHEET - CAPACITY ANALYSIS

Location: Redmond St & Broadway Ave (PROJECTED)
Date: 42417
Analyst: A Lee
Time Period Analyzed: 7:00 - 9:00 AM
Project No.: 16-028-01
City/State: Jackson, WY

Step		EB	WB	NB	SB
(1)	Proportion, Subject Approach Flow Rate	**0.39**	**0.28**	**0.28**	**0.05**
(2)	Proportion, Opposing Approach Flow Rate	**0.28**	**0.39**	**0.05**	**0.28**
(3)	Lanes on Subject Approach	**1**	**1**	**1**	**1**
(4)	Lanes on Opposing Approach	**1**	**1**	**1**	**1**
(5)	+ 1000 X (1)	**390**	**280**	**280**	**50**
(6)	+ 700 X (2)	**196**	**273**	**35**	**196**
(7)	+ 200 X (3)	**200**	**200**	**200**	**200**
(8)	- 100 X (4)	**-100**	**-100**	**-100**	**-100**
(9)	(5) + (6) + (7) + (8)	**686**	**653**	**415**	**346**
(10)	Proportion LT, Opposing Approach	**0.07**	**0.17**	**0.09**	**0.91**
(11)	Proportion RT, Opposing Approach	**0.04**	**0.33**	**0.69**	**0.05**
(12)	Proportion LT, Conflicting Approaches	**0.79**	**0.79**	**0.13**	**0.13**
(13)	Proportion RT, Conflicting Approaches	**0.14**	**0.14**	**0.21**	**0.21**
(14)	- 300 X (10)	**-21**	**-51**	**-27**	**-273**
(15)	+ 300 X (11)	**8**	**66**	**138**	**10**
(16)	- 300 X (12)	**-237**	**-237**	**-39**	**-39**
(17)	+ 300 X (13)	**42**	**42**	**63**	**63**
(18)	(14) + (15) + (16) + (17)	**-208**	**-180**	**135**	**-239**
(19)	Approach Capacity, (9) + (18)	**478**	**473**	**550**	**107**

AWSC WORKSHEET - LEVEL-OF-SERVICE (LOS) ANALYSIS

Location: Redmond St & Broadway Ave (PROJECTED) Date: 42417

Analyst: A Lee Time Period Analyzed: 7:00 - 9:00 AM

Project No.: 16-028-01 City/State: Jackson, WY

Step		EB	WB	NB	SB
(1)	Approach Flow Rate	**362**	**257**	**260**	**45**
(2)	Approach Capacity	**478**	**473**	**550**	**107**
(3)	Volume/Capacity Ratio, (1)/(2)	**0.76**	**0.54**	**0.47**	**0.42**
(4)	Average Total Delay = exp[3.8 X (3)]	**18**	**8**	**6**	**5**
(5)	Level-of-Service	**C**	**B**	**B**	**A**

$$Intersection\ Total\ Delay = \frac{\sum (Vehicle\ Total\ Delay \times Volume)}{\sum Volume} = \frac{\mathbf{10357}}{\mathbf{924}} \approx \mathbf{11.21}$$

$$Level-of-Service\ (Intersection) = \mathbf{C}$$

Level-of-Service (LOS)	Average Total Delay, sec/veh
A	≤ 5
B	> 5 and ≤ 10
C	> 10 and ≤ 20
D	> 20 and ≤ 30
E	> 30 and ≤ 45
F	> 45

AWSC WORKSHEET - INPUT

Location: Redmond St & Broadway Ave (PROJECTED)

Date: 2/17/2016

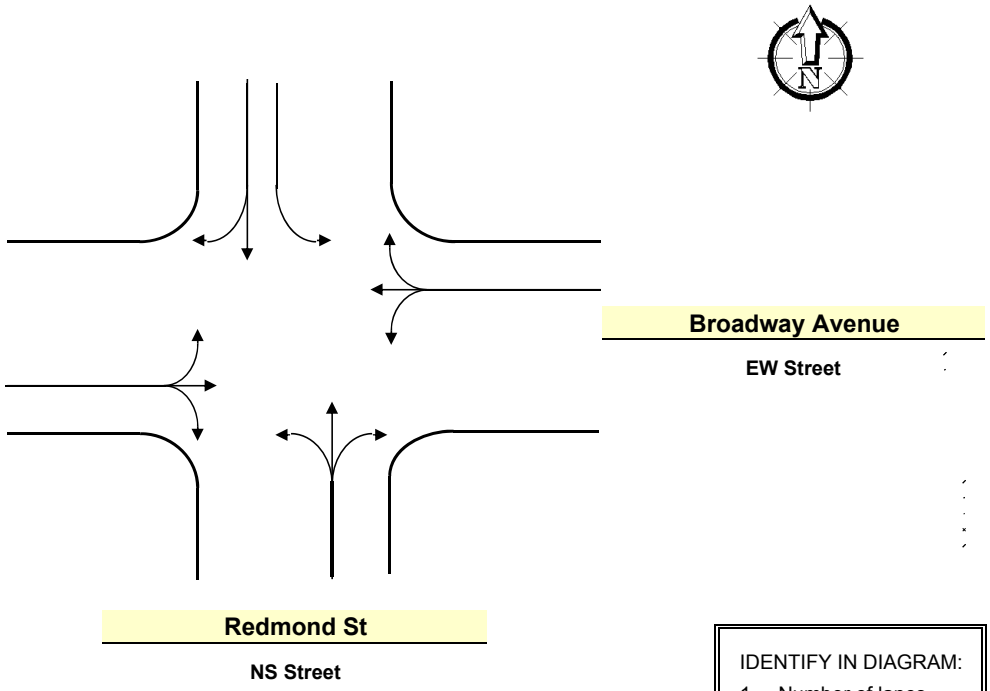
Analyst: A Lee

Time Period Analyzed: 4:00-6:00 PM

Project No.: 16-028-01

City/State: Jackson, WY

GEOMETRICS



IDENTIFY IN DIAGRAM:
1 Number of lanes
2 Movement by lane
3 North Arrow

TRAFFIC VOLUMES

Approach	LT	TH	RT	Total	PHF
EB	**34**	**239**	**218**	**491**	**1.7**
WB	**20**	**217**	**0**	**237**	**1.7**
NB	**176**	**6**	**20**	**202**	**1.7**
SB	**5**	**15**	**47**	**67**	**1.7**

AWSC WORKSHEET - VOLUME SUMMARY

Location: Redmond St & Broadway Ave (PROJECTED) Date: 42417

Analyst: A Lee Time Period Analyzed: 4:00-6:00 PM

Project No.: 16-028-01 City/State: Jackson, WY

Step	Calculation	EB	WB	NB	SB
(1)	LT Volume	**34**	**20**	**176**	**5**
(2)	TH Volume	**239**	**217**	**6**	**15**
(3)	RT Volume	**218**	**0**	**20**	**47**
(4)	Peak Hour Factor	**1.7**	**1.7**	**1.7**	**1.7**
(5)	LT Flow Rate, (1)/(4)	**21**	**13**	**107**	**4**
(6)	TH Flow Rate, (2)/(4)	**144**	**131**	**4**	**10**
(7)	RT Flow Rate, (3)/(4)	**132**	**0**	**13**	**29**
(8)	Approach Flow Rate, (5) + (6) + (7)	**297**	**144**	**124**	**43**
(9)	Proportion LT, (5)/(8)	**0.07**	**0.09**	**0.86**	**0.09**
(10)	Proportion RT, (7)/(8)	**0.44**	**0.00**	**0.10**	**0.67**
(11)	Opposing Approach (Direction)	**WB**	**EB**	**SB**	**NB**
(12)	Conflicting Approaches (Directions)	**NB,SB**	**NB,SB**	**EB,WB**	**EB,WB**
(13)	Subject Approach Flow Rate	**491**	**237**	**202**	**67**
(14)	Opposing Approach Flow Rate	**237**	**491**	**67**	**202**
(15)	Conflicting Approaches Flow Rate	**269**	**269**	**728**	**728**
(16)	Total Intersection Flow Rate, (13) + (14) + (15)	**997**	**997**	**997**	**997**
(17)	Proportion, Subject Approach Flow Rate, (13)/(16)	**0.49**	**0.24**	**0.20**	**0.07**
(18)	Proportion, Opposing Approach Flow Rate, (14)/(16)	**0.24**	**0.49**	**0.07**	**0.20**
(19)	Proportion, Conflicting Approaches Flow Rate, (15/16)	**0.27**	**0.27**	**0.73**	**0.73**
(20)	LT, Opposing Approach	**20**	**34**	**5**	**176**
(21)	RT, Opposing Approaches	**0**	**218**	**47**	**20**
(22)	LT, Conflicting Approaches	**181**	**181**	**54**	**54**
(23)	RT, Conflicting Approaches	**67**	**67**	**218**	**218**
(24)	Proportion LT, Opposing Approach, (20)/(14)	**0.08**	**0.07**	**0.07**	**0.87**
(25)	Proportion RT, Opposing Approach, (21)/(14)	**0.00**	**0.44**	**0.70**	**0.10**
(26)	Proportion LT, Conflicting Approaches, (22)/(15)	**0.67**	**0.67**	**0.07**	**0.07**
(27)	Proportion RT, Conflicting Approaches, (23)/(15)	**0.25**	**0.25**	**0.30**	**0.30**

AWSC WORKSHEET - CAPACITY ANALYSIS

Location: Redmond St & Broadway Ave (PROJECTED)
Date: 42417
Analyst: A Lee
Time Period Analyzed: 4:00-6:00 PM
Project No.: 16-028-01
City/State: Jackson, WY

Step		EB	WB	NB	SB
(1)	Proportion, Subject Approach Flow Rate	**0.49**	**0.24**	**0.20**	**0.07**
(2)	Proportion, Opposing Approach Flow Rate	**0.24**	**0.49**	**0.07**	**0.20**
(3)	Lanes on Subject Approach	**1**	**1**	**1**	**1**
(4)	Lanes on Opposing Approach	**1**	**1**	**1**	**1**
(5)	+ 1000 X (1)	**490**	**240**	**200**	**70**
(6)	+ 700 X (2)	**168**	**343**	**49**	**140**
(7)	+ 200 X (3)	**200**	**200**	**200**	**200**
(8)	- 100 X (4)	**-100**	**-100**	**-100**	**-100**
(9)	(5) + (6) + (7) + (8)	**758**	**683**	**349**	**310**
(10)	Proportion LT, Opposing Approach	**0.08**	**0.07**	**0.07**	**0.87**
(11)	Proportion RT, Opposing Approach	**0.00**	**0.44**	**0.70**	**0.10**
(12)	Proportion LT, Conflicting Approaches	**0.67**	**0.67**	**0.07**	**0.07**
(13)	Proportion RT, Conflicting Approaches	**0.25**	**0.25**	**0.30**	**0.30**
(14)	- 300 X (10)	**-24**	**-21**	**-21**	**-261**
(15)	+ 300 X (11)	**0**	**88**	**140**	**20**
(16)	- 300 X (12)	**-201**	**-201**	**-21**	**-21**
(17)	+ 300 X (13)	**75**	**75**	**90**	**90**
(18)	(14) + (15) + (16) + (17)	**-150**	**-59**	**188**	**-172**
(19)	Approach Capacity, (9) + (18)	**608**	**624**	**537**	**138**

AWSC WORKSHEET - LEVEL-OF-SERVICE (LOS) ANALYSIS

Location: Redmond St & Broadway Ave (PROJECTED) Date: 42417

Analyst: A Lee Time Period Analyzed: 4:00-6:00 PM

Project No.: 16-028-01 City/State: Jackson, WY

Step		EB	WB	NB	SB
(1)	Approach Flow Rate	**491**	**237**	**202**	**67**
(2)	Approach Capacity	**608**	**624**	**537**	**138**
(3)	Volume/Capacity Ratio, (1)/(2)	**0.81**	**0.38**	**0.38**	**0.49**
(4)	Average Total Delay = exp[3.8 X (3)]	**22**	**5**	**5**	**7**
(5)	Level-of-Service	**D**	**A**	**A**	**B**

$$Intersection\ Total\ Delay = \frac{\sum (Vehicle\ Total\ Delay \times Volume)}{\sum Volume} = \frac{\mathbf{13466}}{\mathbf{997}} \approx \mathbf{13.51}$$

$$Level-of-Service\ (Intersection) = \mathbf{C}$$

Level-of-Service (LOS)	Average Total Delay, sec/veh
A	≤ 5
B	> 5 and ≤ 10
C	> 10 and ≤ 20
D	> 20 and ≤ 30
E	> 30 and ≤ 45
F	> 45

RH Neighborhood Meeting Survey Results - 2/25/2016

Neighborhood Meeting attendance: 60 -70 people.

Like	Dislike	Questions/Suggestions
From Comment Cards and Online Survey		
The open space and acknowledgement of the neighborhood. Also love a good carport.	Still would love more density.	How can we educate out community to understand that we need more projects like this and flexible LDRs to get there?
Modern lines/lots of open space.	Lots of insulation below decks and over other units. Quiet garage door openers below single units.	Hurry -- we need this!
The large number of units fit on the site.	More units over the parking spaces 2-11. pay for spaces off site.	More units over parking spots 2-11 with the knowledge that they will not be parked. Call them bike only units or something. Make it a requirement to qualify that they cannot hold title to a vehicle OR they must have identified secured space off site for a minimum of 5 yrs or something.
The 1 and 2 bedroom options.	Try and keep as many trees and mountain views as possible for neighbors.	
I appreciate the effort to develop additional housing for Jackson. I also like the inclusion of a sidewalk on the E. Hall street front.	For those of us that live at the 525 E Hall housing units alley access and parking is a big concern. After discussing this with several reps of the project I understand there will be strict rules about unit parking. However, I'm still concerned about enforcement and guest parking. Is it realistic to say that residents can never have a guest because there is nowhere to park? Are residents going to abide? If/when it becomes an issue for those of us who need alley access who do we direct our concerns to?	I would suggest fewer units and more parking.
Modern design, open space.		I feel that the 1 bdrm rents are not "affordable". $1,000 to $1,300 per month is pretty much market rates at this time. I was expected below market rates to be a truly "affordable" option.
Open space, height of buildings.	Less repetition.	Will the alley get paved? Will dogs be allowed?
Open space.	Repetition/ability for change or density? Should be more density?	Alley: pulling our or backing out? The gravel will be destroyed, will this be paved?
Clever us of space.	Odd parking configuration but little choice.	
Not much.	More open space, less density, units.	Why should town/taxpayers pay for worker housing what is the responsibility of business owners.
Basements are key.	The roof lines from Redmond look like track homes -- greater architectural variation would break the visual impact and blend more with the neighborhood.	Snow storage is a big deal. Don't under park it! Every couple has 2 cars. If you don't you're the exception.

Like	Dislike	Questions/Suggestions
Comments made throughout multiple discussions		
	Hall has too many people. Should have more Parking, he was required to provide 2 per unit. Does not support subsidized housing.	Not sure he was notified, he should be receiving notices.
Drive connection to Hall.	Concern with parking at 1 per bedroom, should be 2 per unit based on his experience. Very concerned with overflow parking on east side of Redmond. Does not like the density (he is also zoned AR). Property Taxes should be paid.	Would want to see central collection of garage:
Appreciated the efforts of affordable housing: Drive connection to Hall.	Parking as noted above on his comments above.	
Very supportive: likes the rentals.		Would like to be involved with financing: Regardless of involvement with work, may be interested in help with fundraising.
Drive connection to Hall.	Attached buildings.	Buildings should fit with neighborhood.
Green space.	Density.	Are pets allowed?
Building Shapes, two to one story.	Not sufficient parking.	
One parking space per bedroom.	Too many people.	
Pedestrian Circulation.		
Private space per unit.		
Rentals and related management.		
Rentals & 1-bedroom units.	Parking shortage.	Pave the alley?
Drive Aisle.	Rental rates, especially on One-Bedroom.	
Off-street parking.	Taking existing trees out.	
Green Space.	Blocking existing views of Grand Teton.	
Density on Figure Ground Diagram.		
Storage.		
Design features, scale, 3D bird's eye views.		LSR requirement?
Open space.	Attached buildings "feels like a wall".	
	Concern about shared walls and adjacencies to bedrooms.	
	Comment about why there is no sketch plan approval process.	Paul A. assured him that we had less than ten primary units as defined by the definition of accessory units less than 800 sqft.
Drive Aisle, no curb cuts.	Concerned about growth and density.	Are pets allowed? (concerned)
Excited for rental proposals with storage & washer / dryers.	Existing trees being cut down.	

VICINITY MAP

PROJECT SITE

VIEW LOOKING NORTHWEST

PREFERRED SET

SHEET INDEX

COVER SHEET
- A0.1 COVER SHEET

SITE PLANS
- A0.2 SITE PLAN
- A0.3 PERSPECTIVE
- A0.4 SITE SECTION
- A0.5 SITE DIAGRAMS

FLOOR PLANS
- A1.1 REDMOND UNIT 1ST FLOOR/BASEMENT
- A1.2 REDMOND-2ND FLOOR/ROOF
- A1.3 HALL UNIT E -1ST FLOOR/BASEMENT
- A1.4 HALL UNIT E -2ND FLOOR/ROOF PLAN
- A1.5 HALL UNIT F -1ST FLOOR/BASEMENT
- A1.6 HALL UNIT F -2ND FLOOR/ROOF PLAN
- A1.7 GARAGE UNIT FLOOR PLANS

ELEVATIONS
- A2.1 ELEVATIONS
- A2.2 ELEVATIONS

CIVIL DRAWINGS
- C1.0 EXISTING SITE PLAN
- C2.0 PROPOSED SITE DEVELOPMENT
- C2.1 SITE GRADING PLAN - SOUTH
- C2.2 SITE GRADING PLAN - NORTH
- C3.0 SITE UTILITY PLAN

LANDSCAPE DRAWINGS
- L1.0 PLANTING PLAN
- L2.0 PUBLIC SPACE PLAN
- L3.0 PLANT PHOTOS

PROJECT TEAM:

Client:
Jackson Hole Community Housing Trust
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www.housingtrustjh.org

Architects:
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www.hawtinjorgensen.com

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Landscape Architect:
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Hawtin Jorgensen ARCHITECTS
Drawn By: #CAD Technician Full Name
Checked By: +CONTACT GIVEN NAME +CONTACT FAMILY NAME

REDMOND STREET RENTALS

335 REDMOND STREET
JACKSON, WYOMING

JACKSON HOLE COMMUNITY HOUSING TRUST
PO BOX 4498

Sheet Title: COVER SHEET

Development Plan: 03/25/2016
Permit Set:
Bid Set:
Revisions:

NOT FOR CONSTRUCTION

Date: 3/25/16

Drawing Number: A0.1

Scale Accurate on 24 x 36 Sheets

PREFERRED SET

HAWTIN JORGENSEN ARCHITECTS

SITE TABULATION
03/25/16

PROJECT: Redmond Rentals
Jackson Hole Community Housing Trust & The Town of Jackson
335 Redmond Street
Lots 1,3, 4, and 6, James G and Julia L. Scarlett Addition
Jackson, Wyoming
AR-PUD

EXISTING SITE

Existing Site (Gross Site Area)		56,170 sq. ft.		1.29 acres	56,170 sq. ft.
Sidewalk Easement		779			779
Base Site Area		55,391			55,391
Req'd. Landscape Area (LSR)		0.45			24,926 sq. ft.
Max. Lot Coverage		0.3			16,617 sq. ft.
Allowable Floor Area (FAR)		0.40 (+25% for dedicated afffordable housing)			27,695 sq. ft.
Proposed Landscaped Area (LSR)				0.38	21,300 +/- sq. ft.
Landscaped Area deficit				0.135	3625.84
Landscape Area Enlargement options					
1	Drive Aisle Reduction				1,783
2	Exterior Decks				1,305
3	Uncovered Parking Spaces				1,281
	Total				4,369
Proposed Lot Coverage					
Main building footprint	(7)	1,590	11,132		
Garage units	(6)	650	3,900		
Existing H unit	(1)	1,250	1,250		
Total				0.29	16,282 sq. ft.
Proposed Floor Area (FAR)					
Unit A	(6)	1,161	6,965		
Unit B	(5)	723	3,617		
Unit C	(7)	717	5,021		
Unit D	(6)	596	2,981		
Unit E	(1)	723	723		
Unit F	(1)	1,061	1,061		
Unit G	(1)	962	962		
Existing Unit H	(1)	1,250	1,250		
Total				0.41	22,580 sq. ft.
Proposed Parking				(1 per bedroom + 2 extra)	39.0 spaces

SITE PLAN -PREFERRED

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www.hawtinjorgensen.com
Hawtin Jorgensen ARCHITECTS

Drawn By: #CAD Technician Full Name
Checked By: +CONTACT GIVEN NAME +CONTACT FAMILY NAME

REDMOND STREET RENTALS

335 REDMOND STREET
JACKSON, WYOMING

JACKSON HOLE COMMUNITY HOUSING TRUST
PO BOX 4498

Sheet Title: SITE PLAN

Development Plan: 03/25/2016
Permit Set:
Bid Set:
Revisions:

NOT FOR CONSTRUCTION

Date: 3/25/16
Drawing Number: A0.2

Scale Accurate on 24 x 36 Sheets

PREFERRED SET

REDMOND VIEW

COURTYARD VIEW

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REDMOND STREET RENTALS

335 REDMOND STREET
JACKSON, WYOMING

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Sheet Title:
PERSPECTIVE

Development Plan: 03/25/2016
Permit Set:
Bid Set:
Revisions:

NOT FOR CONSTRUCTION

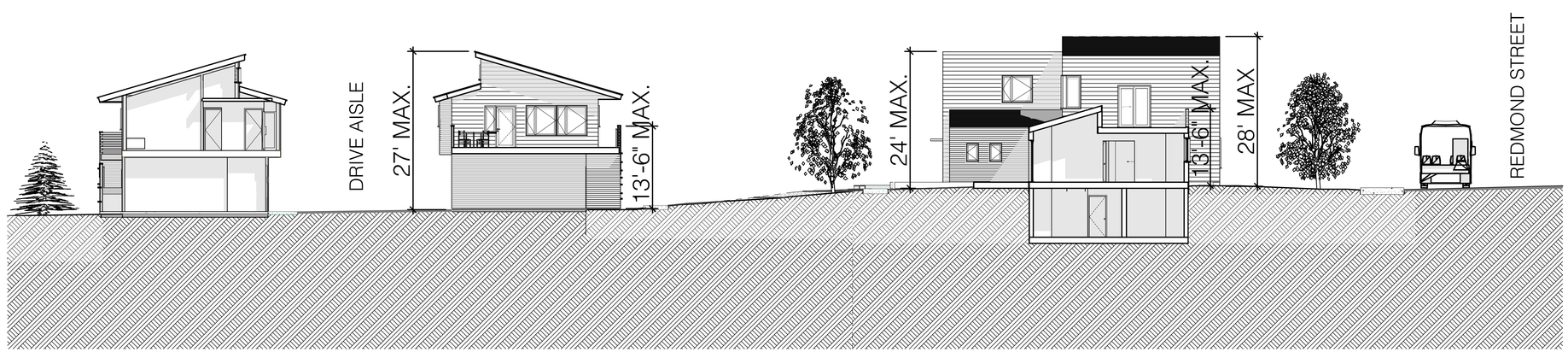
Date: 3/25/16

Drawing Number:
A0.3

Scale Accurate on 24 x 36 Sheets

PREFERRED SET

VIEW LOOKING NORTHEAST



SITE SECTION

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REDMOND STREET RENTALS

335 REDMOND STREET
JACKSON, WYOMING

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Sheet Title:
SITE SECTION

Development Plan: 03/25/2016
Permit Set:
Bid Set:
Revisions:

NOT FOR CONSTRUCTION

Date: 3/25/16
Drawing Number:
A0.4

Scale Accurate on 24 x 36 Sheets

EXISTING PUDs PROJECT SITE

PROPOSED

PLANNED UNIT DEVELOPMENT

1.29 ACRES OF SITE AREA (56,198 sq.ft.)

7.5 TYPICAL AR LOTS (EQUAL TO)

28 UNITS
7 TWO-BEDROOM
2 EXISTING TWO-BEDROOM
19 ONE-BEDROOM/STUDIO

37 BEDROOMS

39 PARKING SPACES

80% OF ALLOWABLE FLOOR AREA
22,580 sq.ft. PROPOSED FLOOR AREA
28,084 sq.ft. ALLOWABLE FLOOR AREA

UNDERLYING ZONING COMPARISON

AUTO RESIDENTIAL ZONE (AR)

PER AR LOT:

1 AR LOT EQUIVALENT

3.7 UNITS PER LOT

4.9 BEDROOMS PER LOT

5.2 PARKING SPACES PER LOT

TYPICAL AR LOT:

1 AR LOT

3 UNITS PER LOT

6+/- BEDROOMS PER LOT

5.5 PARKING SPACES PER LOT

DENSITY ANALYSIS - PREFERRED

PUD COMPARISON

FIGURE/GROUND DIAGRAM

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REDMOND STREET RENTALS

335 REDMOND STREET
JACKSON, WYOMING

JACKSON HOLE COMMUNITY HOUSING TRUST
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Sheet Title: SITE DIAGRAMS

Development Plan: 03/25/2016
Permit Set:
Bid Set:
Revisions:

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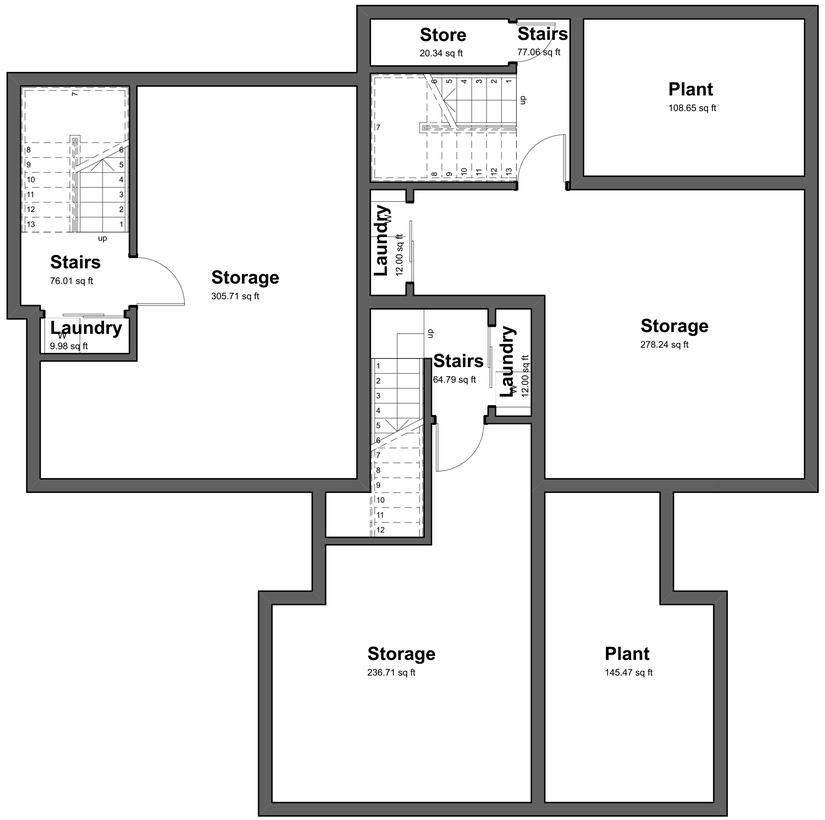
Date: 3/25/16

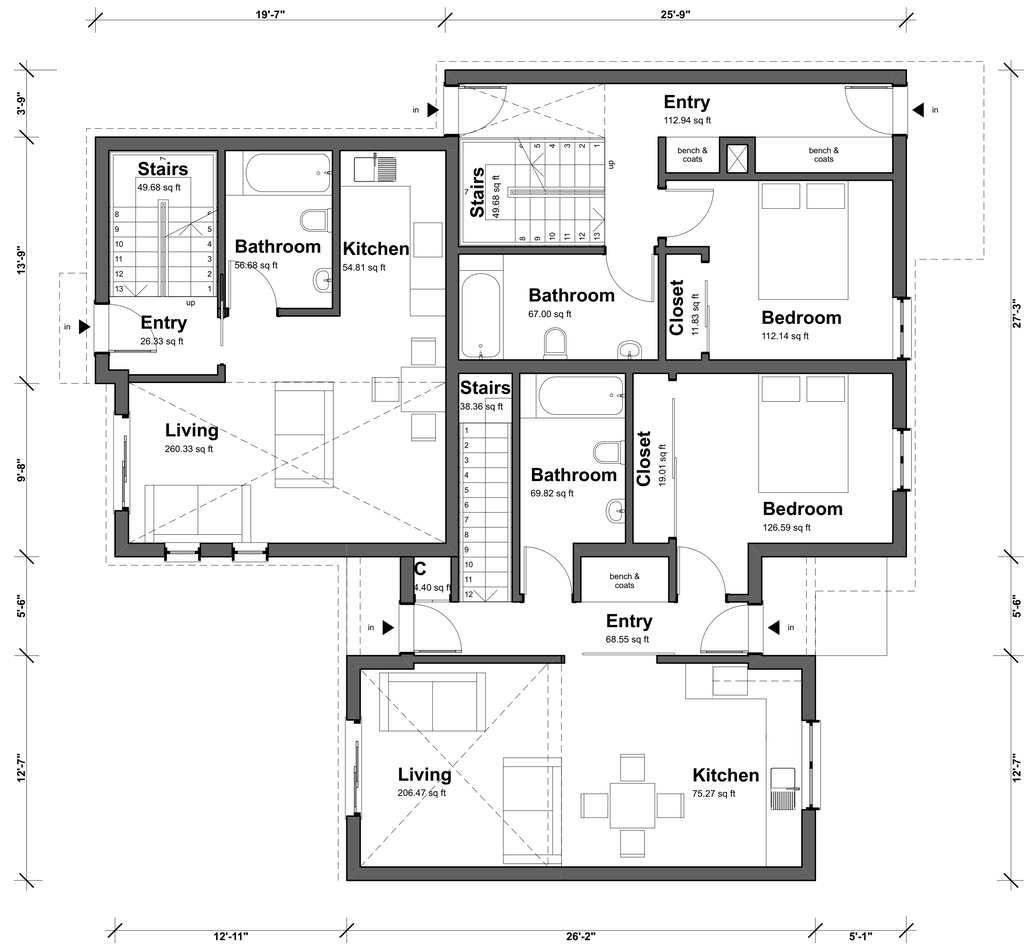
Drawing Number: A0.5

Scale Accurate on 24 x 36 Sheets

PREFERRED SET



BASEMENT FLOOR PLAN
SCALE: 1/4" = 1'-0"



MAIN FLOOR PLAN
SCALE: 1/4" = 1'-0"

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REDMOND STREET RENTALS

335 REDMOND STREET
JACKSON, WYOMING

JACKSON HOLE COMMUNITY HOUSING TRUST
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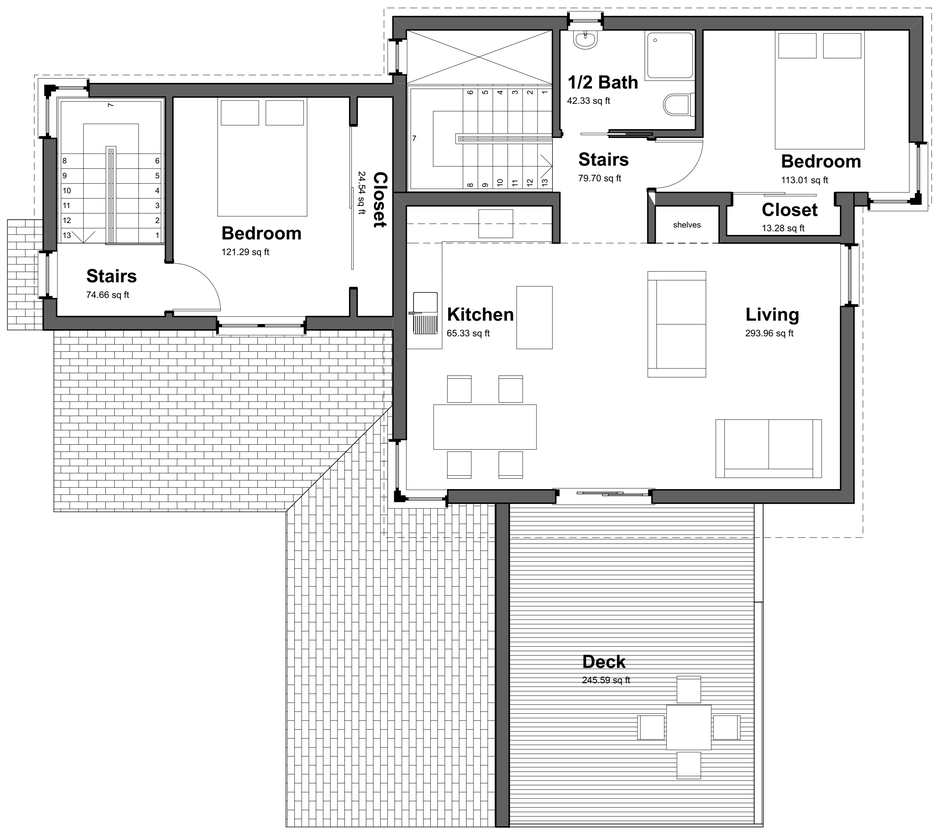
Sheet title: REDMOND UNIT -1ST FLOOR/ BASEMENT

Development Plan: 03/25/2016
Permit Set:
Bid Set:
Revisions:

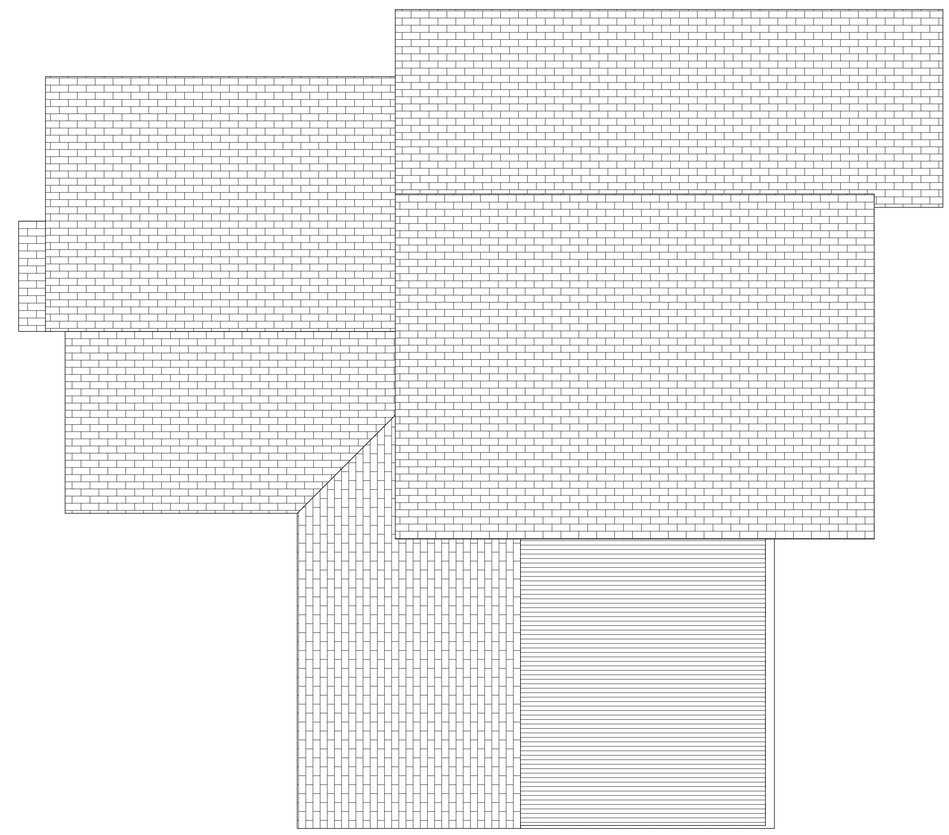
NOT FOR CONSTRUCTION

Date: 3/25/16
Drawing Number: A1.1

Scale Accurate on 24 x 36 Sheets



SECOND FLOOR PLAN
SCALE: 1/4" = 1'-0"



ROOF PLAN
SCALE: 1/4" = 1'-0"

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REDMOND STREET RENTALS

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JACKSON, WYOMING

JACKSON HOLE COMMUNITY HOUSING TRUST
PO BOX 4498

Sheet Name: REDMOND UNIT - 2ND FLOOR/ROOF PLAN

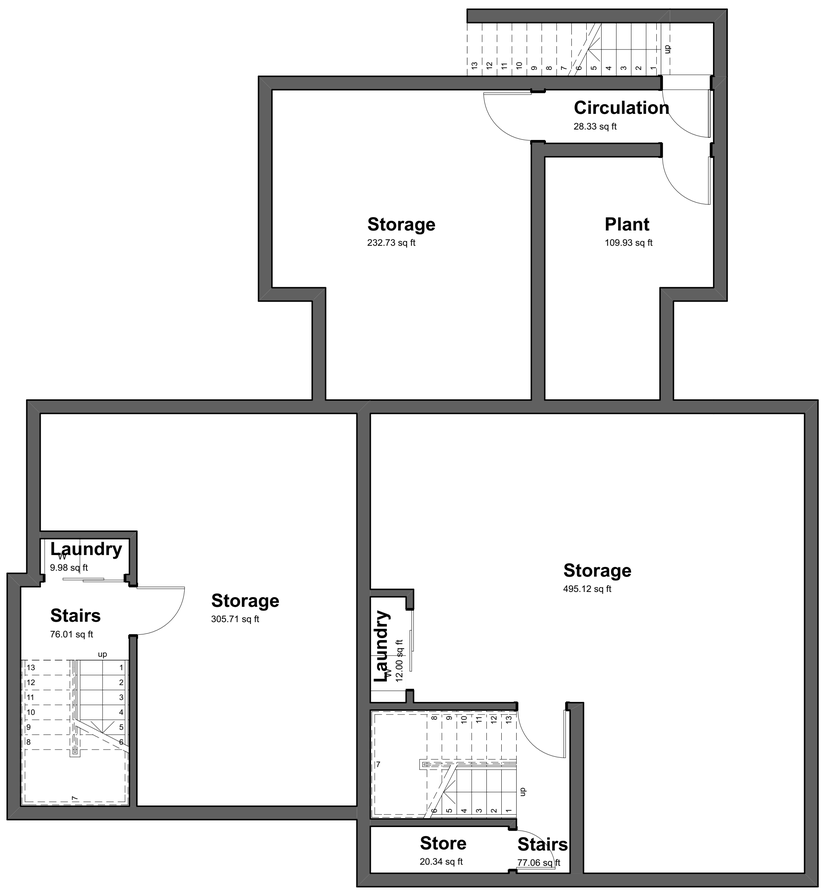
Development Plan: 03/25/2016
Permit Set:
Bid Set:
Revisions:

NOT FOR CONSTRUCTION

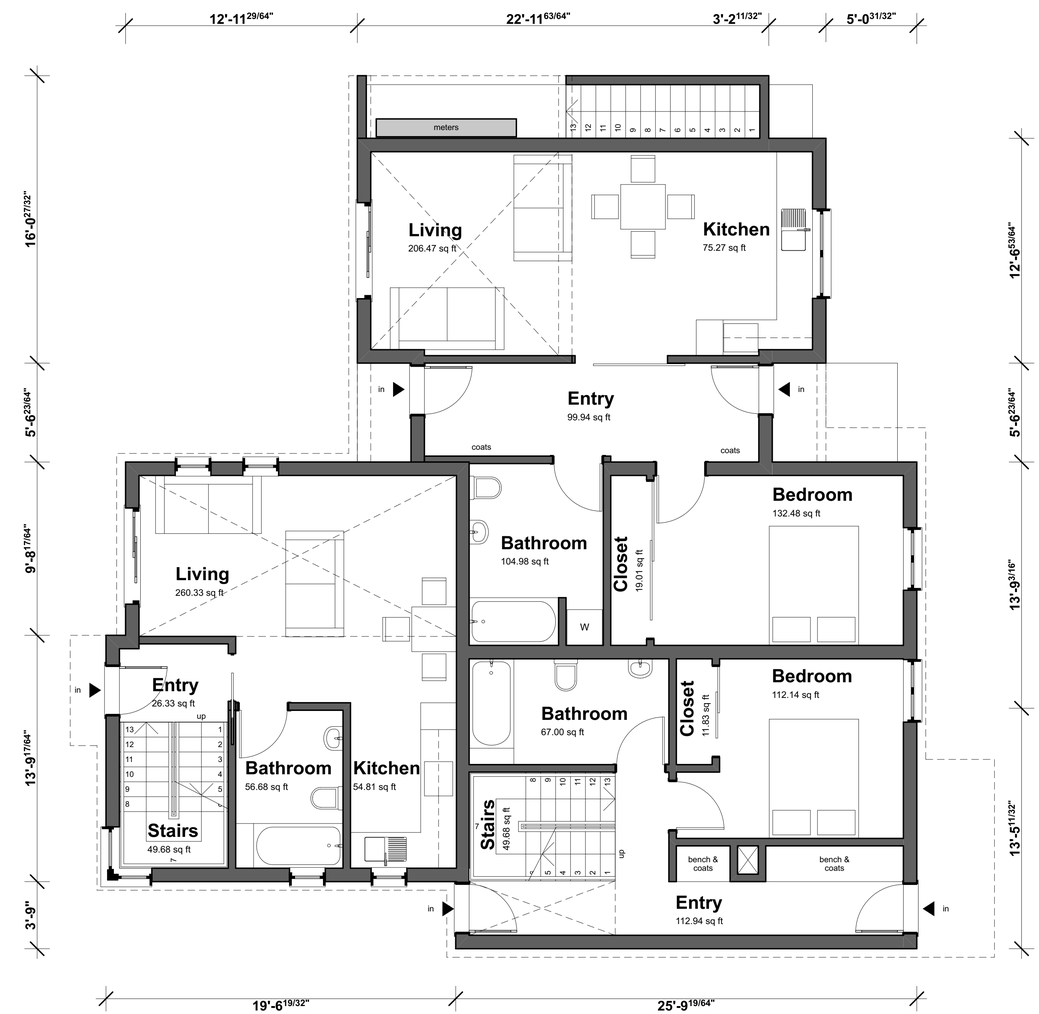
Date: 3/25/16

Drawing Number: A1.2

Scale Accurate on 24 x 36 Sheets



BASEMENT FLOOR PLAN
SCALE: 1/4" = 1'-0"



MAIN FLOOR PLAN
SCALE: 1/4" = 1'-0"

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REDMOND STREET RENTALS

335 REDMOND STREET
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Sheet Title:
HALL UNIT E - 1ST FLOOR/BASEMENT

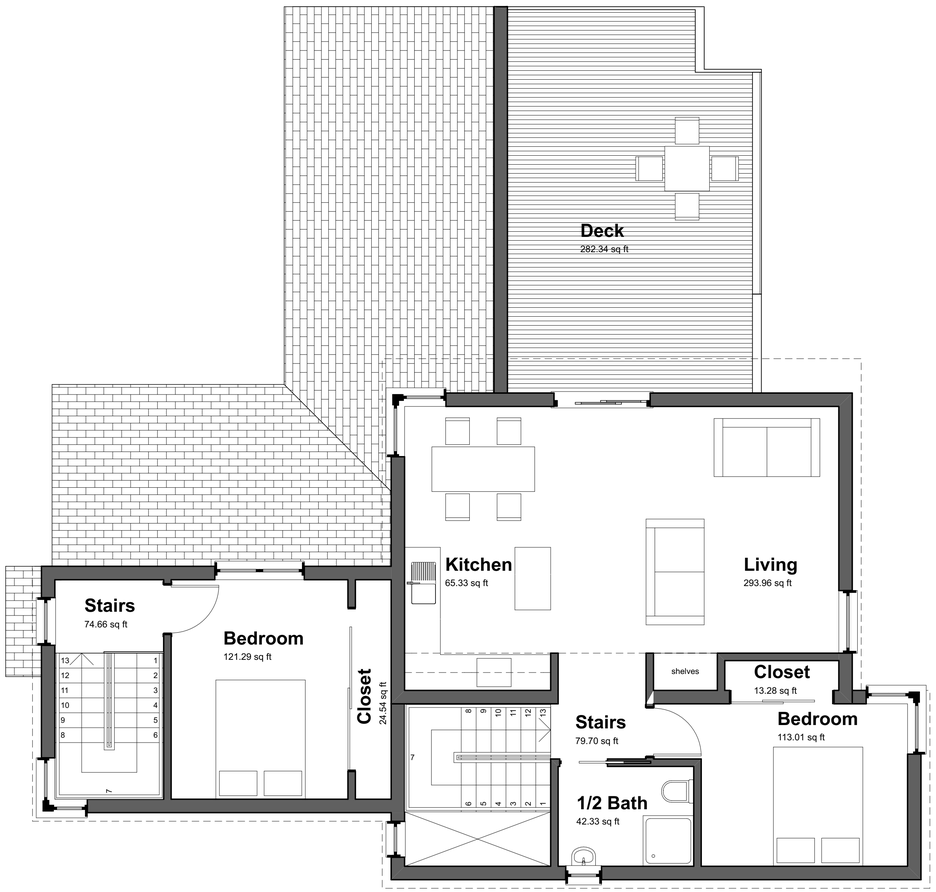
Development Plan: 03/25/2016
Permit Set:
Bid Set:
Revisions:

NOT FOR CONSTRUCTION

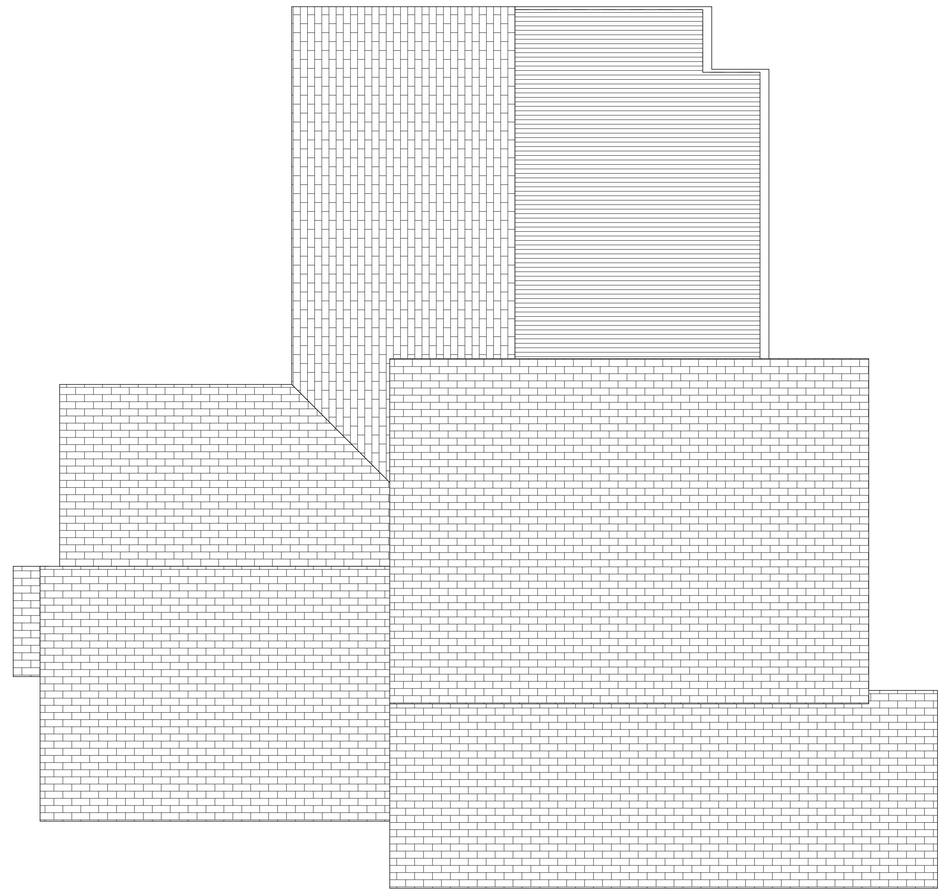
Date: 3/25/16
Drawing Number:
A1.3

Scale Accurate on 24 x 36 Sheets

PREFERRED SET



SECOND FLOOR PLAN
SCALE: 1/4" = 1'-0"



ROOF PLAN
SCALE: 1/4" = 1'-0"

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REDMOND STREET RENTALS

335 REDMOND STREET
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PO BOX 4498

Sheet Name: HALL UNIT E - 2ND FLOOR/ROOF PLAN

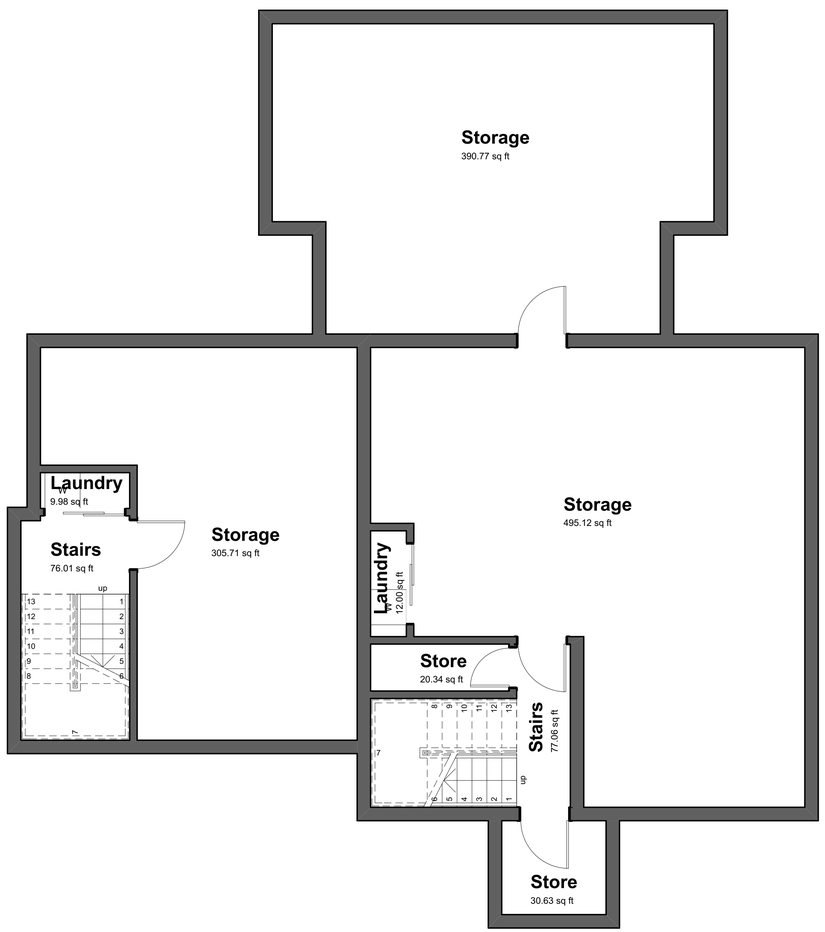
Development Plan:	03/25/2016
Permit Set:	
Bid Set:	
Revisions:	

NOT FOR CONSTRUCTION

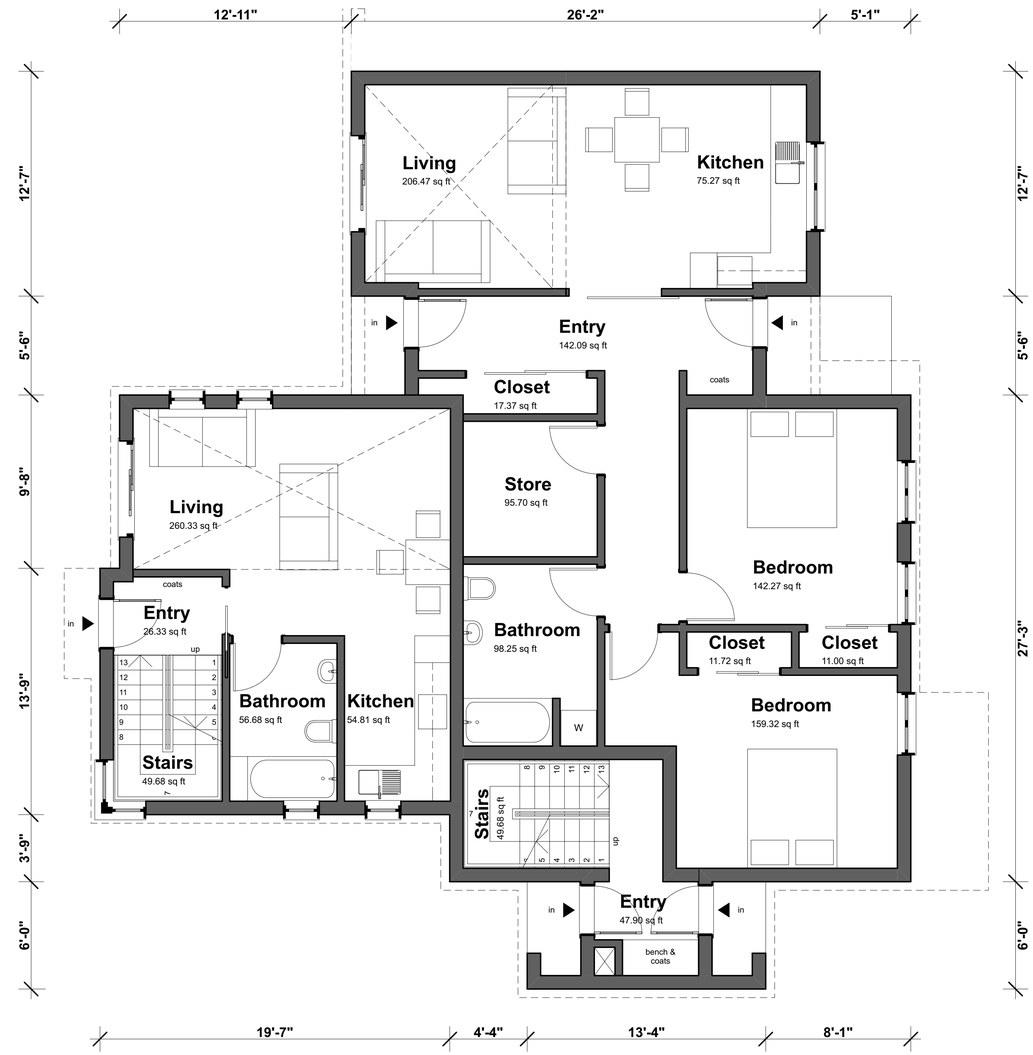
Date: **3/25/16**

Drawing Number:
A1.4

Scale Accurate on 24 x 36 Sheets



BASEMENT FLOOR PLAN
SCALE: 1/4" = 1'-0"



MAIN FLOOR PLAN
SCALE: 1/4" = 1'-0"

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REDMOND STREET RENTALS

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Sheet Title:
HALL UNIT F - 1ST FLOOR/BASEMENT

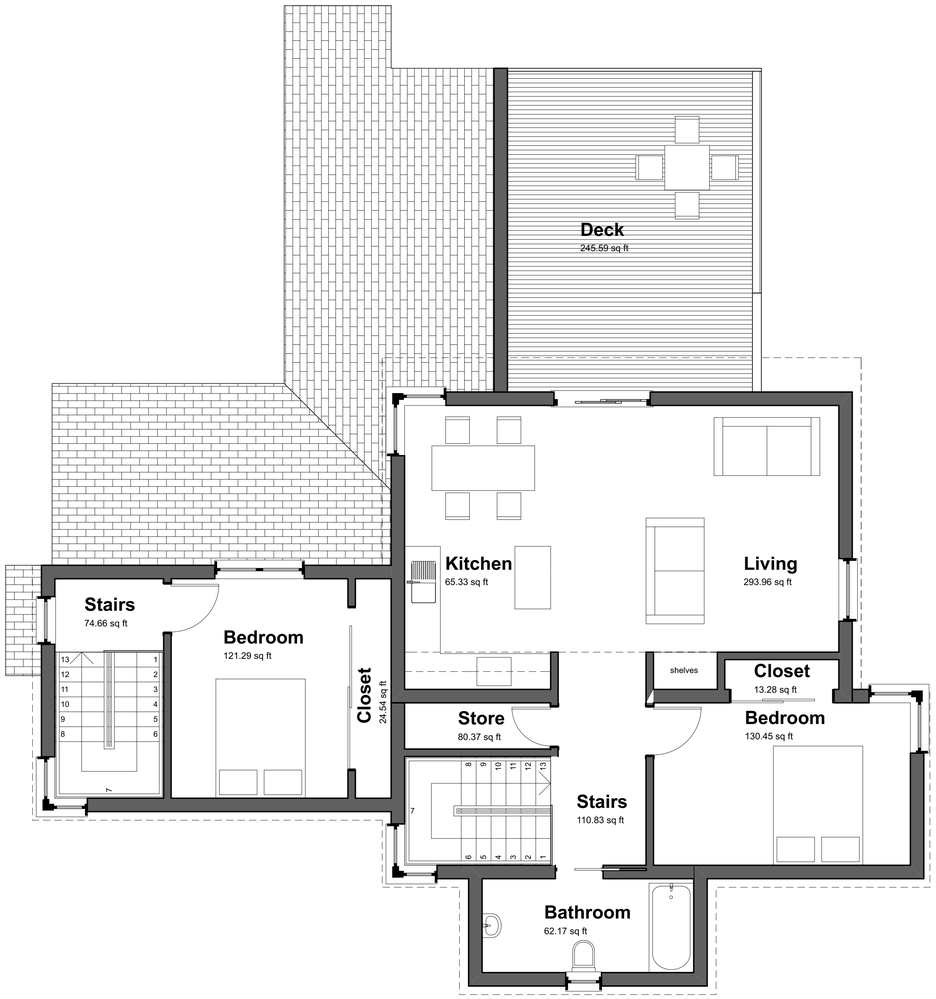
Development Plan: 03/25/2016
Permit Set:
Bid Set:
Revisions:

NOT FOR CONSTRUCTION

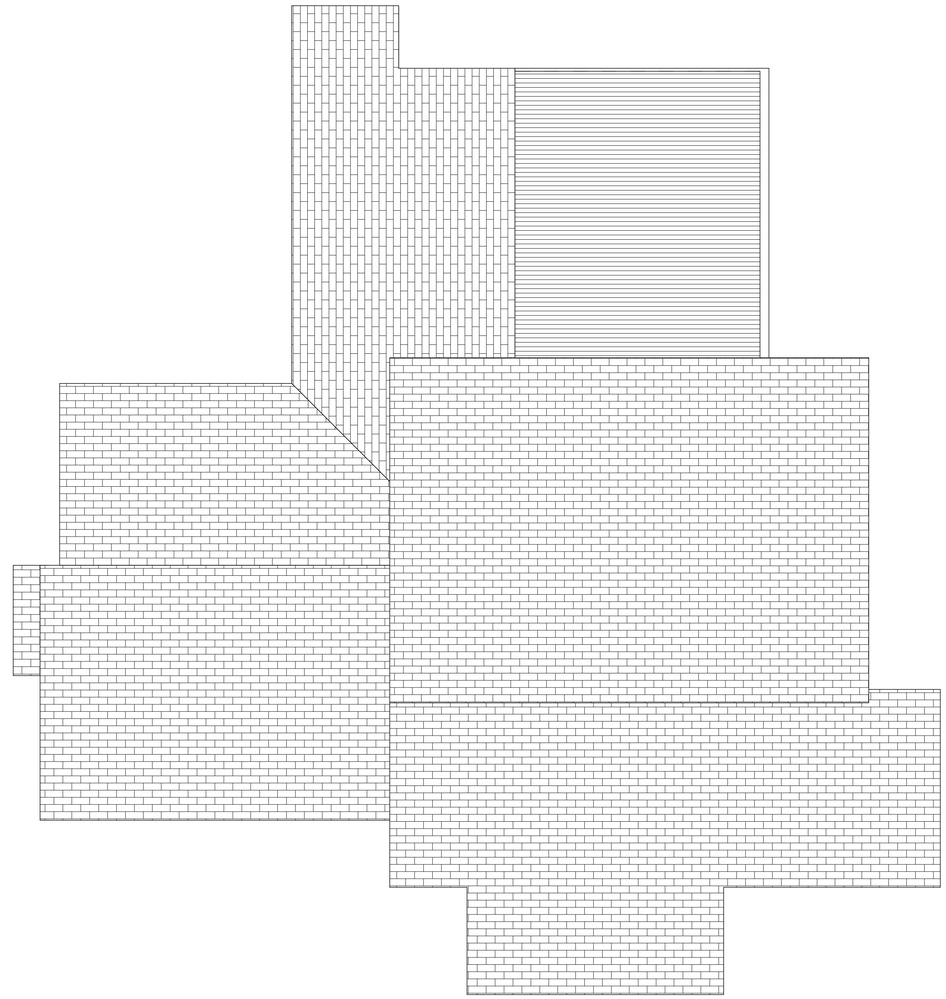
Date: 3/25/16

Drawing Number:
A1.5

Scale Accurate on 24 x 36 Sheets



SECOND FLOOR PLAN
SCALE: 1/4" = 1'-0"



ROOF PLAN
SCALE: 1/4" = 1'-0"

2 BED HALL

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REDMOND STREET RENTALS

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Sheet Name: HALL UNIT F - 2ND FLOOR/ ROOF PLAN

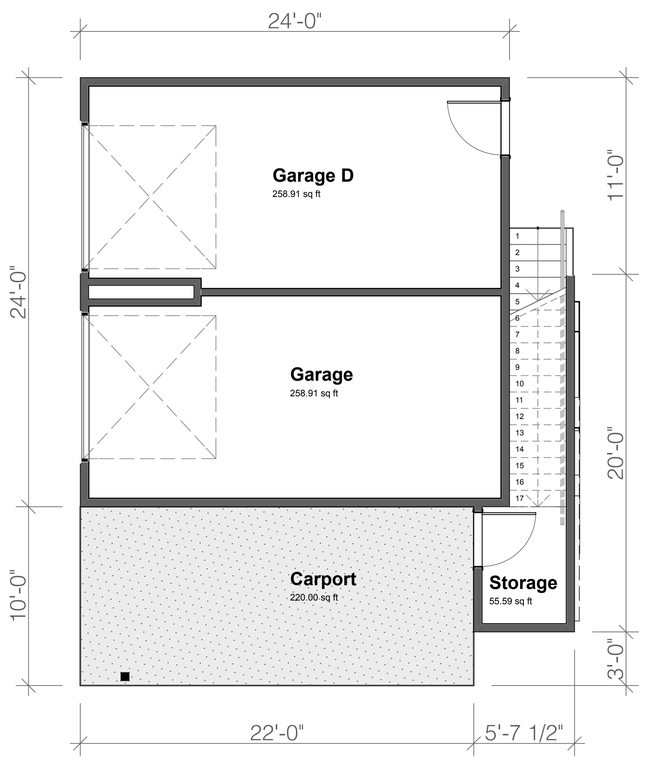
Development Plan: 03/25/2016
Permit Set:
Bid Set:
Revisions:

NOT FOR CONSTRUCTION

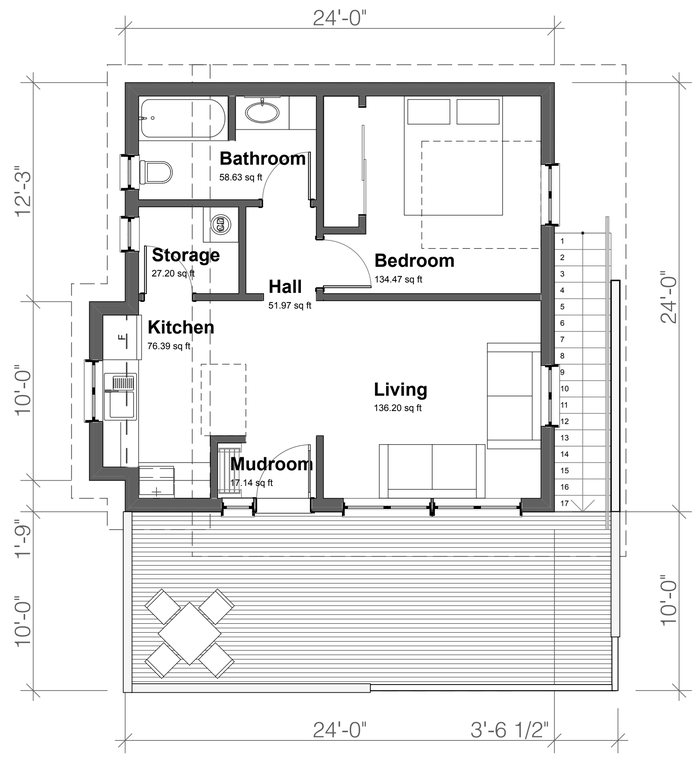
Date: 3/25/16
Drawing Number: A1.6

Scale Accurate on 24 x 36 Sheets

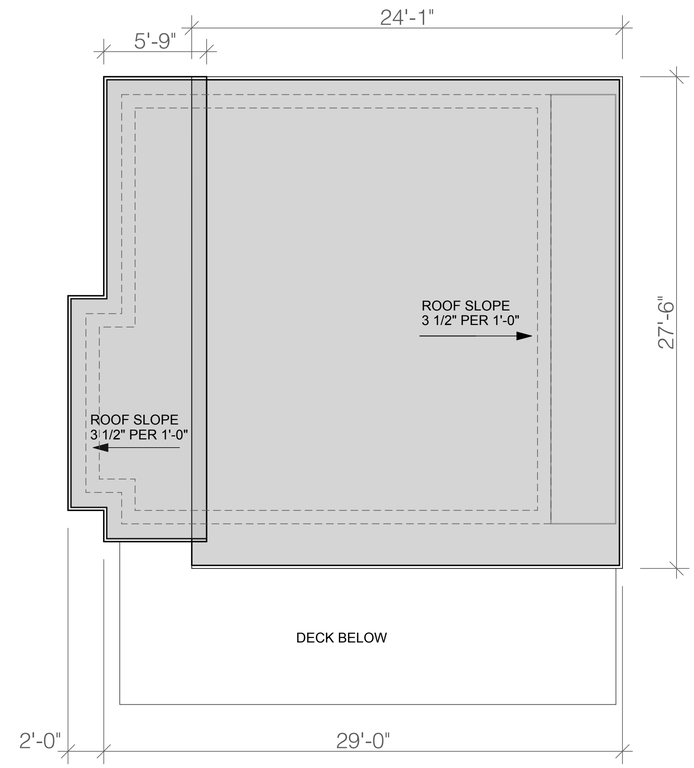
PREFERRED SET



1 MAIN FLOOR PLAN
SCALE: 1/4" = 1'-0"



2 SECOND FLOOR PLAN
SCALE: 1/4" = 1'-0"



3 ROOF PLAN
SCALE: 1/4" = 1'-0"

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REDMOND STREET RENTALS

335 REDMOND STREET
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Sheet Title:
GARAGE UNIT FLOOR PLANS

Development Plan: 03/25/2016
Permit Set:
Bid Set:
Revisions:

NOT FOR CONSTRUCTION

Date: 3/25/16
Drawing Number:
A1.7

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REDMOND ELEVATION

BACK ELEVATION

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REDMOND STREET RENTALS

335 REDMOND STREET
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PO BOX 4498

Sheet Title:
ELEVATIONS

Development Plan: 03/25/2016
Permit Set:
Bid Set:
Revisions:

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Date: 3/25/16

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A2.1

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DRIVE AISLE ELEVATION

HALL ELEVATION

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REDMOND STREET RENTALS

335 REDMOND STREET
JACKSON, WYOMING

JACKSON HOLE COMMUNITY HOUSING TRUST
PO BOX 4498

Sheet Title:
ELEVATIONS

Development Plan: 03/25/2016
Permit Set:
Bid Set:
Revisions:

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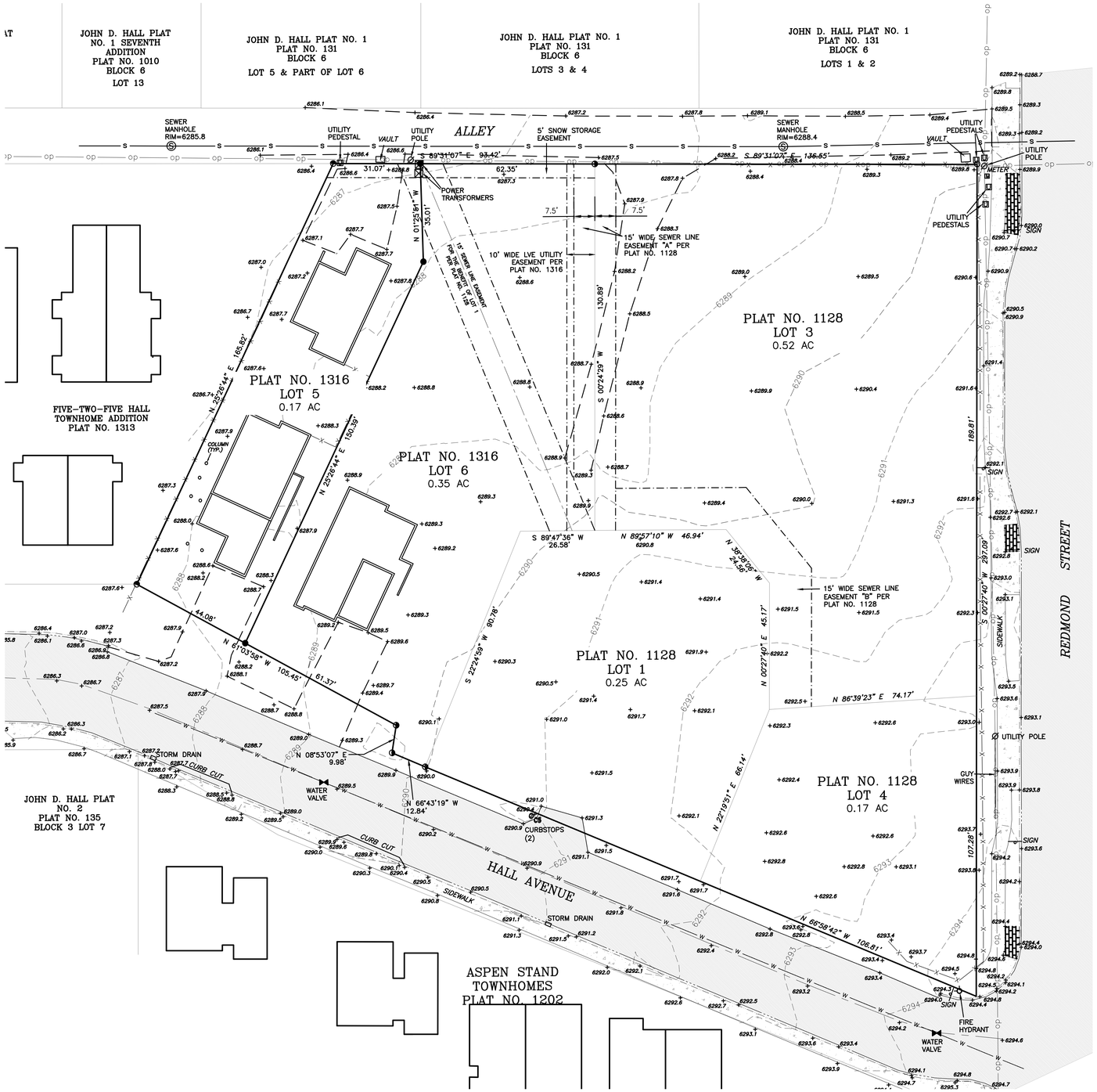
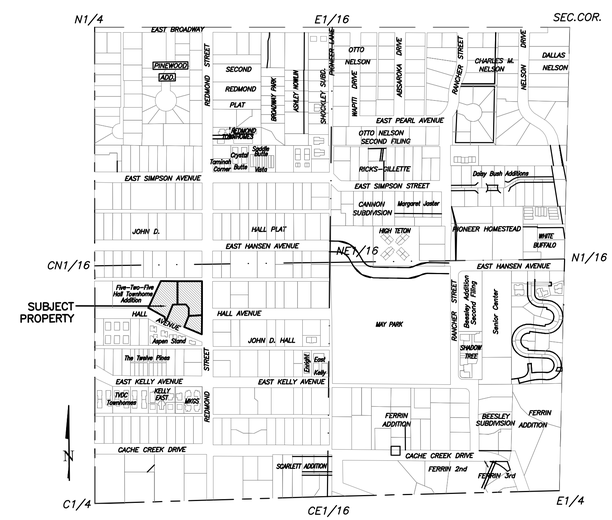
Date: 3/25/16

Drawing Number:
A2.2

Scale Accurate on 24 x 36 Sheets





VICINITY MAP
NE1/4 SECTION 34
T41N, R116W, 6TH P.M.
TOWN OF JACKSON
TETON COUNTY, WYOMING

LEGEND

- INDICATES A 5/8 INCH DIAMETER STEEL REBAR WITH AN ALUMINUM CAP FOUND THIS SURVEY
- INDICATES A 5/8 INCH DIAMETER STEEL REBAR FOUND THIS SURVEY
- INDICATES A 5/8 INCH DIAMETER STEEL REBAR WITH AN ALUMINUM CAP INSCRIBED "PLS 2727" FOUND THIS SURVEY
- INDICATES A 5/8 INCH DIAMETER STEEL REBAR WITH AN ALUMINUM CAP INSCRIBED "PLS 6447" FOUND THIS SURVEY
- SUBJECT LOT LINE
- ADJACENT LOT LINE
- EASEMENT
- CENTERLINE OF EASEMENT
- CENTERLINE OF STREET
- EDGE OF PAVEMENT
- EDGE OF GRAVEL
- EDGE OF CONCRETE SIDEWALK
- TOP BACK OF CURB
- FLOW LINE OF CURB
- FENCELINE – POST AND RAIL
- OVERHEAD LINE
- SEWERLINE
- WATERLINE
- FOUNDATION – RECENT CONSTRUCTION
- BRICK PAVERS
- TYPICAL SPOT ELEVATION

0 20 40

PROFESSIONAL ENGINEER (CIVIL) DANIEL C. SMITH 11808 WYOMING 9-25-16

JACKSON HOLE COMMUNITY HOUSING TRUST

LOTS 3 & 4
JAMES G. AND JULIA L. SCARLETT ADDITION
PLAT NO. 1128
AND
LOTS 5 & 6
JAMES G. AND JULIA A. SCARLETT ADDITION
SECOND FILING
PLAT NO. 1316
TOWN OF JACKSON
TETON COUNTY, WYOMIN

NELSON ENGINEERING
P.O. BOX 1599, JACKSON WYOMING (307) 733-2087

REV.	DATE	
	3/25/16	SURVEYED OSLS
		ENGINEERED DS
		DRAWN SK
		CHECKED RN
		APPROVED

DRAWING TITLE: EXISTING SITE PLAN

JOB TITLE: JH COMMUNITY HOUSING TRUST
TOWN OF JACKSON
REDMOND HALL RENTALS

DRAWING NO: C1.0

JOB NO: 16-028-01

S:\Proj\2016\028-01 (JHCT Redmond Hall Street Rentals)\Drawings\Existing.dwg (Existing) - Mar 25 2016 07:25:21 am PLOTTED BY: smith DWG FORMAT: 19.1

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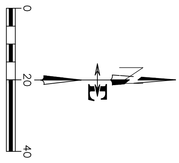

DRAWING NO	JOB TITLE	DRAWING TITLE				
C2.0	JH COMMUNITY HOUSING TRUST	PROPOSED SITE DEVELOPMENT – PREFERRED	NELSON ENGINEERING	DATE	3/26/16	REV.
JOB NO	TOWN OF JACKSON		P.O. BOX 1599, JACKSON WYOMING (307) 733-2087	SURVEYED	OSLS	
16-028-01	REDMOND HALL RENTALS			ENGINEERED	DS	
				DRAWN	SK	
				CHECKED	RN	
				APPROVED		

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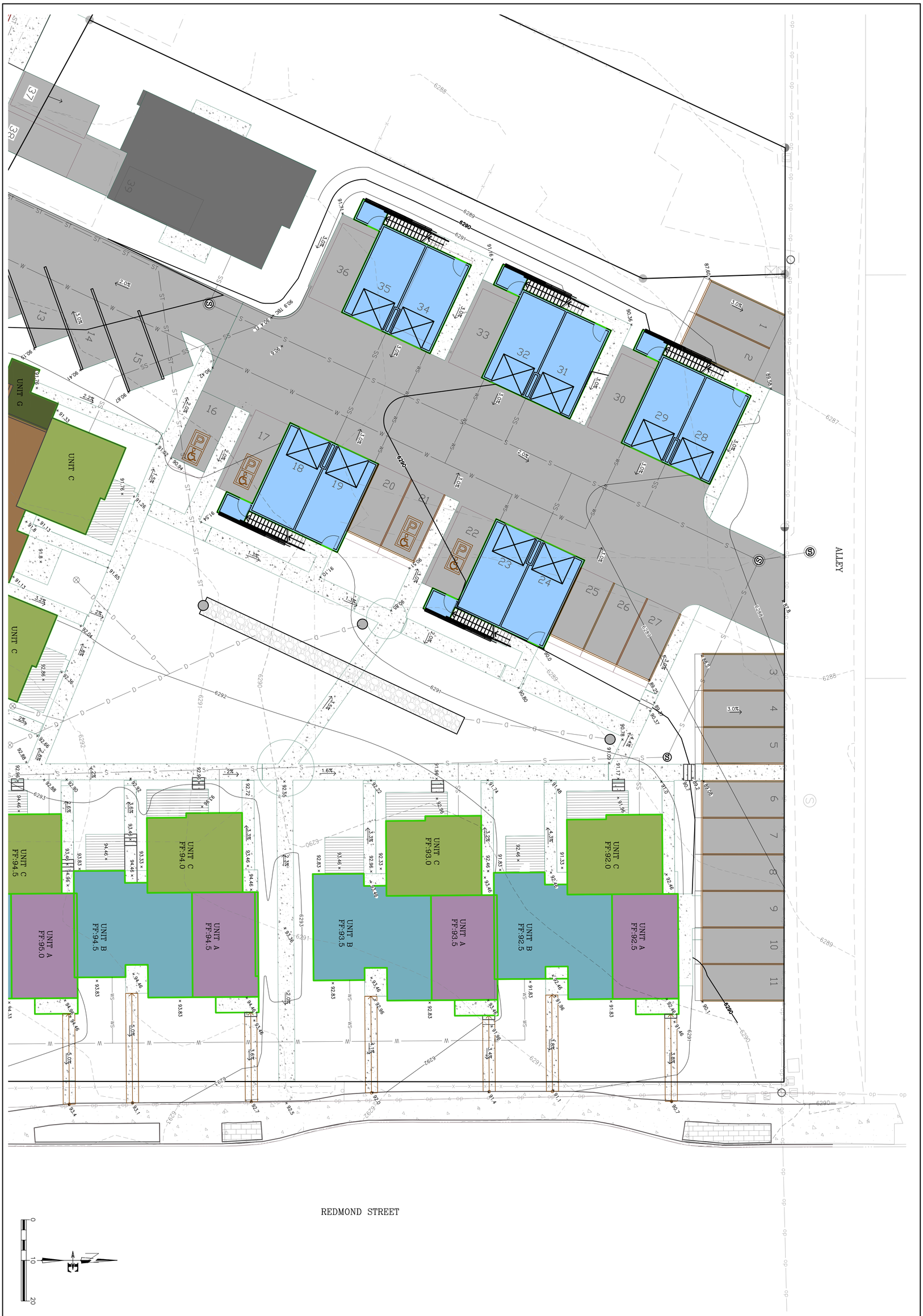
DRAWING NO	JOB TITLE	DRAWING TITLE			
C2.1	JH COMMUNITY HOUSING TRUST	SITE GRADING PLAN (SOUTH) – SUFFICIENT	NELSON ENGINEERING	DATE	3/26/16
JOB NO	TOWN OF JACKSON		P.O. BOX 1599, JACKSON WYOMING (307) 733-2087	SURVEYED	OSLS
16-028-01	REDMOND HALL RENTALS			ENGINEERED	DS
				DRAWN	SK
				CHECKED	RN
				APPROVED	

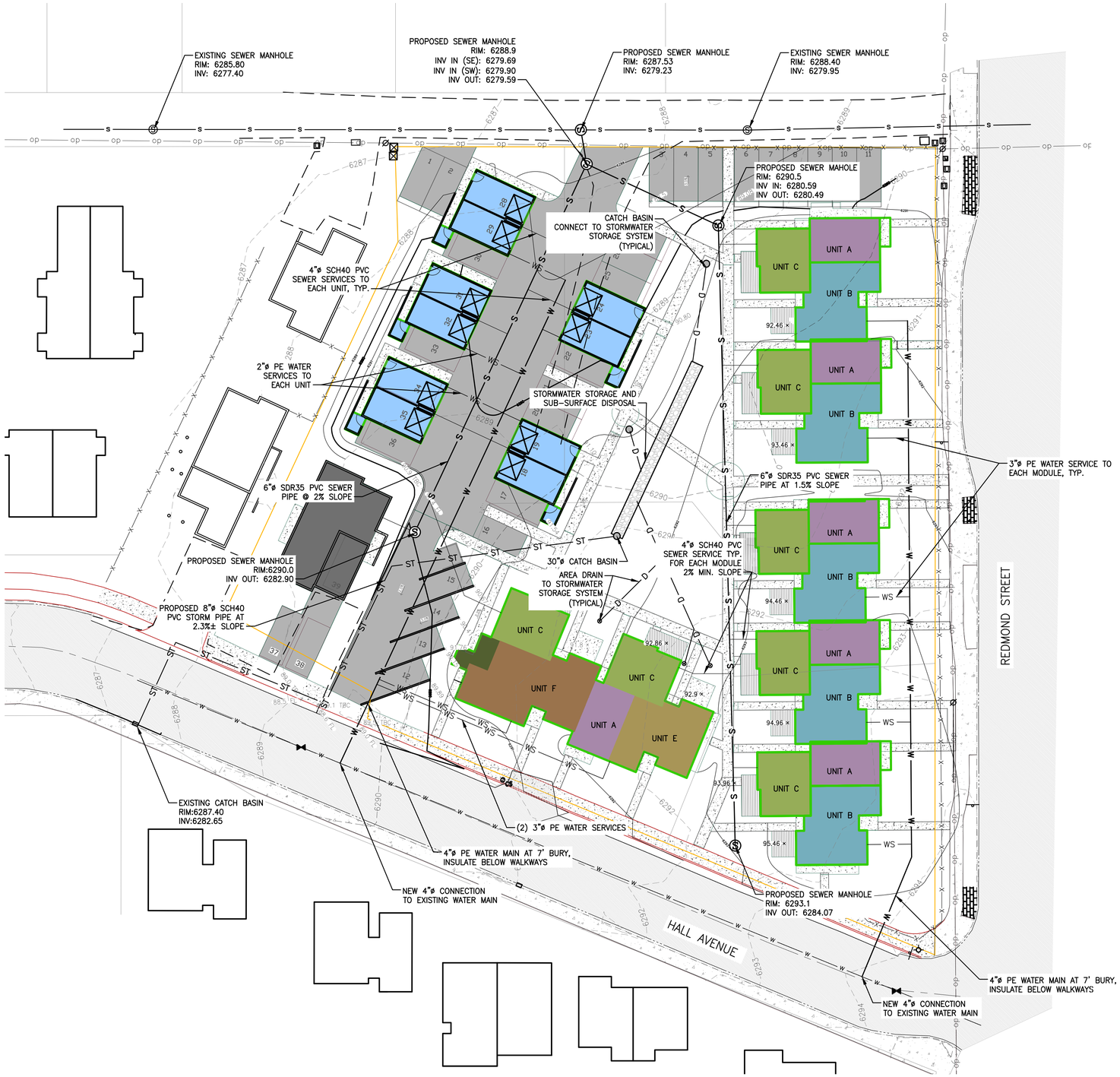
REV.

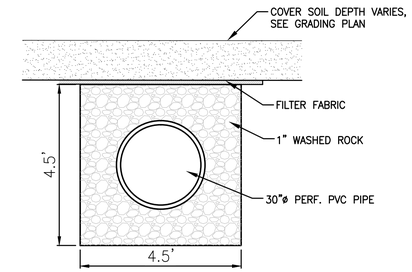
S:\Proj2016\028-01 (JHCT Redmond-Hall Street Rentals)\Drawings\JHCHT Rentals Design.dwg (NORTH HALF PREFERRED GRADING PLAN) - Mar 25 2016 03:32:49 pm PLOTTED BY: smith DWG FORMAT: 191



DRAWING NO	JOB TITLE	DRAWING TITLE			
C2.2	JH COMMUNITY HOUSING TRUST TOWN OF JACKSON REDMOND HALL RENTALS	SITE GRADING PLAN (NORTH) – PREFERRED	NELSON ENGINEERING P.O. BOX 1599, JACKSON WYOMING (307) 733-2087	DATE	3/26/16
JOB NO				SURVEYED	OSLS
16-028-01				ENGINEERED	DS
				DRAWN	SK
				CHECKED	RN
				APPROVED	

REV.





STORMWATER STORAGE

SCALE: N.T.S.

PROPOSED LEGEND

- W — = WATER LINE
- S — = SEWER LINE
- ST — ST — = STORM SEWER LINE
- WS — WS — = WATER SERVICE
- (S) = SANITARY SEWER MANHOLE
- = STORM SYSTEM CATCH BASIN

N E

0 20 40

DATE	3/25/2016
SURVEYED	OSLS
ENGINEERED	DS
DRAWN	SK
CHECKED	RN
APPROVED	RN
REV.	

NELSON ENGINEERING
P.O. BOX 1599, JACKSON WYOMING (307) 733-2087

DRAWING TITLE
SITE UTILITY PLAN – PREFERRED

JOB TITLE
JH COMMUNITY HOUSING TRUST
TOWN OF JACKSON
REDMOND HALL RENTALS

DRAWING NO C3.0

JOB NO 16-028-01

S:\Proj\2016\028-01 CJHCT Redmond-Hall Street Rentals\Drawings\JHCHT Utility Designdwg <SITE UTILITY PLAN - PREFERRED> - Mar 25 2016 03:28 pm PLOTTED BY: seth DWG FORMAT: 19.1

PLANT SCHEDULE

TREES	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE	FIELD4	QTY
	Malus x 'Snowdrift'	Snowdrift Crab Apple	B & B	3"Cal			3

OPEN SPACE TREES	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE	FIELD4	QTY
	Picea pungens	Colorado Spruce	B & B		10' - 12'		15
	Populus tremuloides	Quaking Aspen	B & B	3"Cal			1

STREET TREES	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE	FIELD4	QTY
	Fraxinus americana 'Autumn Purple'	Autumn Purple Ash	B & B	3"Cal			7
	Populus tremula 'Erecta'	European Columnar Aspen	B & B	3"Cal			10
	Prunus virginiana 'Canada Red'	Canada Red Chokecherry	B & B	3"Cal		Single stem	6

SHRUBS	BOTANICAL NAME	COMMON NAME	SIZE	FIELD2	FIELD3		QTY
	Acer glabrum	Rocky Mountain Maple	B & B	min 6'-8'			92
	Aronia arbutifolia 'Brilliantissima'	Brilliant Red Chokeberry/Red Chokeberry	5 gal	3' min			64
	Cornus sericea 'Artic Fire'	Artic Fire Dogwood	B & B	4' min.			28
	Cotoneaster acutifolius	Peking Cotoneaster	B & B	min 6'-8'			26
	Pinus mugo 'Compacta'	Dwarf Mugo Pine	5 gal				11
	Prunus virginiana	Chokecherry	B & B	min 6'-8'			28
	Syringa x 'Bloomerang'	Lilac	5 gal				34

ANNUALS/PERENNIALS	BOTANICAL NAME	COMMON NAME	SIZE	FIELD2	FIELD3		QTY
	Calamagrostis x acutiflora 'Karl Foerster'	Feather Reed Grass	2 gal				84
	Helictotrichon sempervirens	Blue Oat Grass	2 gal				30
	Nepeta x faassenii 'Walkers Low'	Walkers Low Catmint	2 gal				26
	Rudbeckia fulgida sullivantii 'Goldsturm'	Black-eyed Susan	1 gal				16
	Salvia x sylvestris 'East Friesland'	Sage	1 gal				18

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NORTH

0 20 40 60 feet
SCALE: 1" = 20'

PROJECT TITLE:
JHCHT HALL REDMOND RENTAL PROJECT

DRAWING TITLE:
LANDSCAPE PLAN
OVERALL SITE
PREFERRED PLAN

DRAWING NUMBER: *L1.0*
Project Number: *2016-02*
Prepared By: *AMF* Date: *03/23/16* Rev. Date:

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NORTH

0 10 20 30 feet
SCALE: 1" = 10'

PROJECT TITLE:
JHCHT HALL REDMOND RENTAL PROJECT

DRAWING TITLE:
LANDSCAPE PLAN
PUBLIC SPACE
PREFERRED PLAN

DRAWING NUMBER: *L2.0*
Project Number: *2016-02*
Prepared By: *AMF* Date: *03/23/16* Rev. Date:

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Prunus virginiana 'Canada Red'

Populus tremuloides

Picea pungens

Populus tremula 'Erecta'

Malus x 'Snowdrift'

Pinus mugo 'Compacta'

Cotoneaster acutifolius

Cotoneaster acutifolius

Acer glabrum

Aronia arbutifolia 'Brilliantissima'

Calamagrostis x acutiflora 'Karl Foerster'

Cornus sericea 'Artic Fire'

Nepeta x faassenii 'Walkers Low'

Helictotrichon sempervirens

Rudbeckia fulgida sullivantii 'Goldsturm'

Salvia x sylvestris 'East Friesland'

Syringa x 'Bloomerang'

Prunus virginiana

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NORTH

0 20 40 60 feet
SCALE: 1" = 20'

PROJECT TITLE:
JHCHT HALL REDMOND RENTAL PROJECT

DRAWING TITLE:
LANDSCAPE PLAN
PLANT PHOTOS

DRAWING NUMBER: *L3.0*
Project Number: *2016-02*
Prepared By: *AMF* Date: *03/23/16* Rev. Date:

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SUFFICIENT SET

VICINITY MAP

PROJECT SITE

VIEW LOOKING NORTHWEST

SHEET INDEX

COVER SHEET
- A0.1 COVER SHEET

SITE PLANS
- A0.2 SITE PLAN
- A0.3 PERSPECTIVE
- A0.4 SITE SECTION
- A0.5 SITE DIAGRAMS

FLOOR PLANS
- A1.1 REDMOND UNIT 1ST FLOOR/BASEMENT
- A1.2 REDMOND-2ND FLOOR/ROOF
- A1.3 HALL UNIT E -1ST FLOOR/BASEMENT
- A1.4 HALL UNIT E -2ND FLOOR/ROOF PLAN
- A1.5 HALL UNIT F -1ST FLOOR/BASEMENT
- A1.6 HALL UNIT F -2ND FLOOR/ROOF PLAN
- A1.7 GARAGE UNIT FLOOR PLANS

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- A2.1 ELEVATIONS
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CIVIL DRAWINGS
- C1.0 EXISTING SITE PLAN
- C2.0 PROPOSED SITE DEVELOPMENT
- C2.1 SITE GRADING PLAN - SOUTH
- C2.2 SITE GRADING PLAN - NORTH
- C3.0 SITE UTILITY PLAN

LANDSCAPE DRAWINGS
- L1.0 PLANTING PLAN
- L2.0 PUBLIC SPACE PLAN
- L3.0 PLANT PHOTOS

PROJECT TEAM:

Client:
Jackson Hole Community Housing Trust
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307.739.0665
www.housingtrustjh.org

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Civil Engineers:
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Landscape Architect:
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Hawtin Jorgensen ARCHITECTS

Drawn By: #CAD Technician Full Name
Checked By: +CONTACT GIVEN NAME +CONTACT FAMILY NAME

REDMOND STREET RENTALS

335 REDMOND STREET
JACKSON, WYOMING

JACKSON HOLE COMMUNITY HOUSING TRUST
PO BOX 4498

Sheet Title: COVER SHEET

Development Plan: 03/25/2016
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SITE TABULATION
03/25/16

PROJECT: Redmond Rentals
Jackson Hole Community Housing Trust & The Town of Jackson
335 Redmond Street
Lots 1,3, 4, and 6, James G and Julia L. Scarlett Addition
Jackson, Wyoming
AR-PUD

EXISTING SITE

Existing Site (Gross Site Area)		56,170 sq. ft.		1.29 acres	56,170 sq. ft.
Sidewalk Easement		779			779 sq. ft.
Base Site Area		55,391			55,391 sq. ft.
Req'd. Landscape Area (LSR)		0.45			24,926 sq. ft.
Max. Lot Coverage		0.3			16,617 sq. ft.
Allowable Floor Area (FAR)		0.40 (+25% for dedicated affordable housing)			27,695 sq. ft.
Proposed Landscaped Area (LSR)				0.45	24,974 +/- sq. ft.
Proposed Lot Coverage					
Main building footprint	(7)	1,590	11,132		
Garage units	(6)	650	3,900		
Existing H unit	(1)	1,250	1,250		
Total				0.29	16,282 sq. ft.
Proposed Floor Area (FAR)					
Unit A	(6)	1,161	6,965		
Unit B	(5)	723	3,617		
Unit C	(7)	717	5,021		
Unit D	(6)	596	2,981		
Unit E	(1)	723	723		
Unit F	(1)	1,061	1,061		
Unit G	(1)	962	962		
Existing Unit H	(1)	1,250	1,250		
Total				0.41	22,580 sq. ft.
Proposed Parking				(1 per unit + 2 extra)	32.0 spaces

SITE PLAN -SUFFICIENT

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REDMOND STREET RENTALS

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JACKSON, WYOMING

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SITE PLAN

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REDMOND VIEW

COURTYARD VIEW

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REDMOND STREET RENTALS

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PERSPECTIVE

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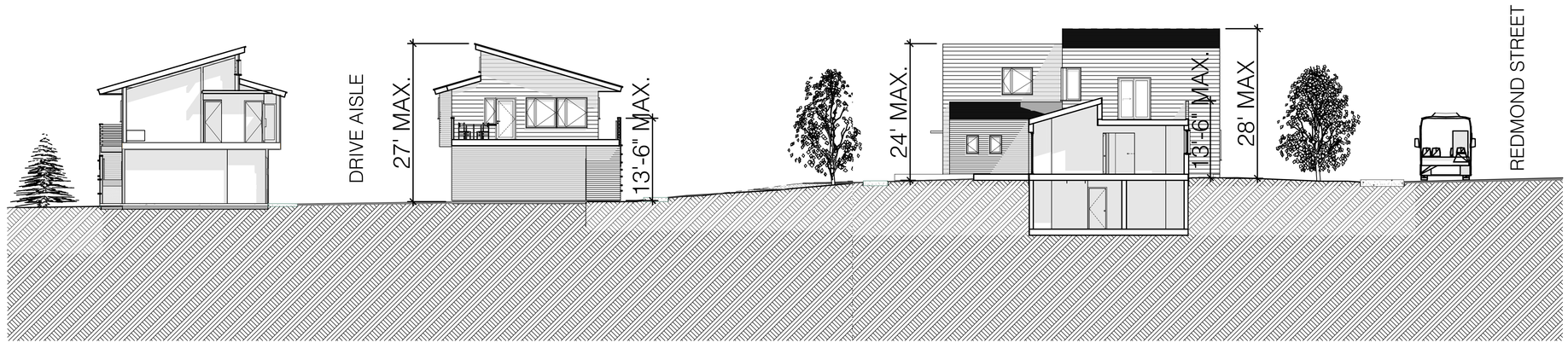
VIEW LOOKING NORTHEAST



SITE SECTION

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REDMOND STREET RENTALS

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SITE SECTION

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EXISTING PUDs PROJECT SITE

PUD COMPARISON

FIGURE/GROUND DIAGRAM

PROPOSED		UNDERLYING ZONING COMPARISON			
PLANNED UNIT DEVELOPMENT		AUTO RESIDENTIAL ZONE (AR)			
		PER AR LOT:		TYPICAL AR LOT:	
1.29	ACRES OF SITE AREA (56,198 sq.ft.)	1	AR LOT EQUIVALENT	1	AR LOT
7.5	TYPICAL AR LOTS (EQUAL TO)	3.7	UNITS PER LOT	3	UNITS PER LOT
28	UNITS 7 TWO-BEDROOM 2 EXISTING TWO-BEDROOM 19 ONE-BEDROOM/STUDIO	4.9	BEDROOMS PER LOT	6+/-	BEDROOMS PER LOT
37	BEDROOMS	4.3	PARKING SPACES PER LOT	5.5	PARKING SPACES PER LOT
32	PARKING SPACES				
80%	OF ALLOWABLE FLOOR AREA 22,580 sq.ft. PROPOSED FLOOR AREA 28,084 sq.ft. ALLOWABLE FLOOR AREA				

DENSITY ANALYSIS - SUFFICIENT

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REDMOND STREET RENTALS

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Sheet Title: SITE DIAGRAMS

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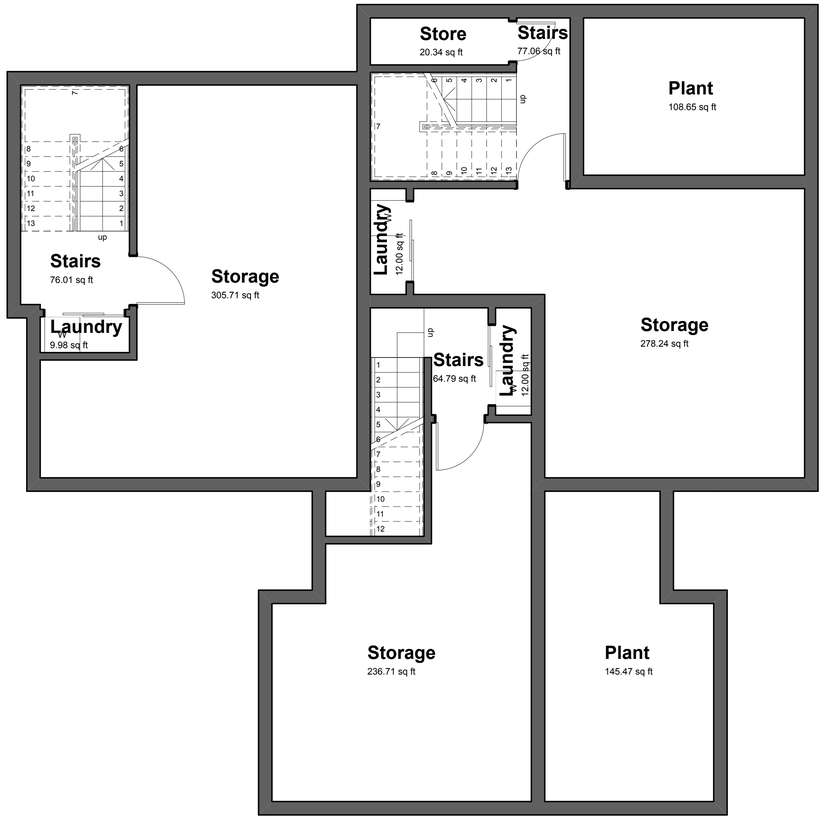

BASEMENT FLOOR PLAN
SCALE: 1/4" = 1'-0"

MAIN FLOOR PLAN
SCALE: 1/4" = 1'-0"

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Sheet Title: REDMOND UNIT 1ST FLOOR/ BASEMENT

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SECOND FLOOR PLAN
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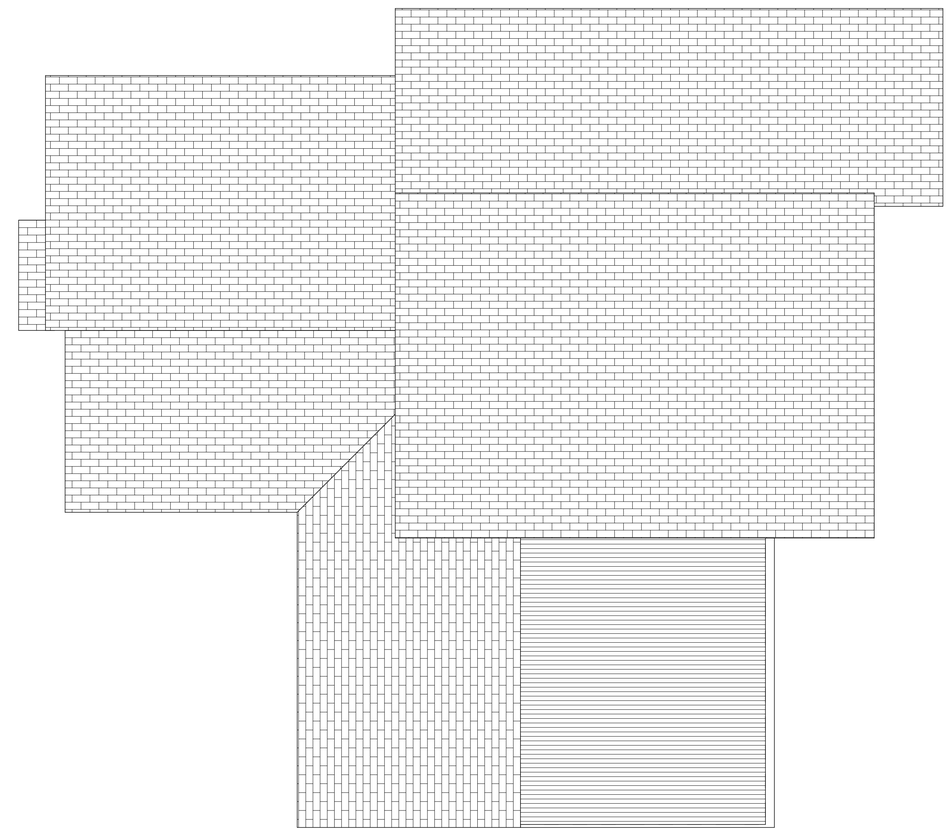

ROOF PLAN
SCALE: 1/4" = 1'-0"

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REDMOND STREET RENTALS

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JACKSON, WYOMING

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Sheet Title:
REDMOND-2ND FLOOR/ROOF

Development Plan: 03/25/2016
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A1.2

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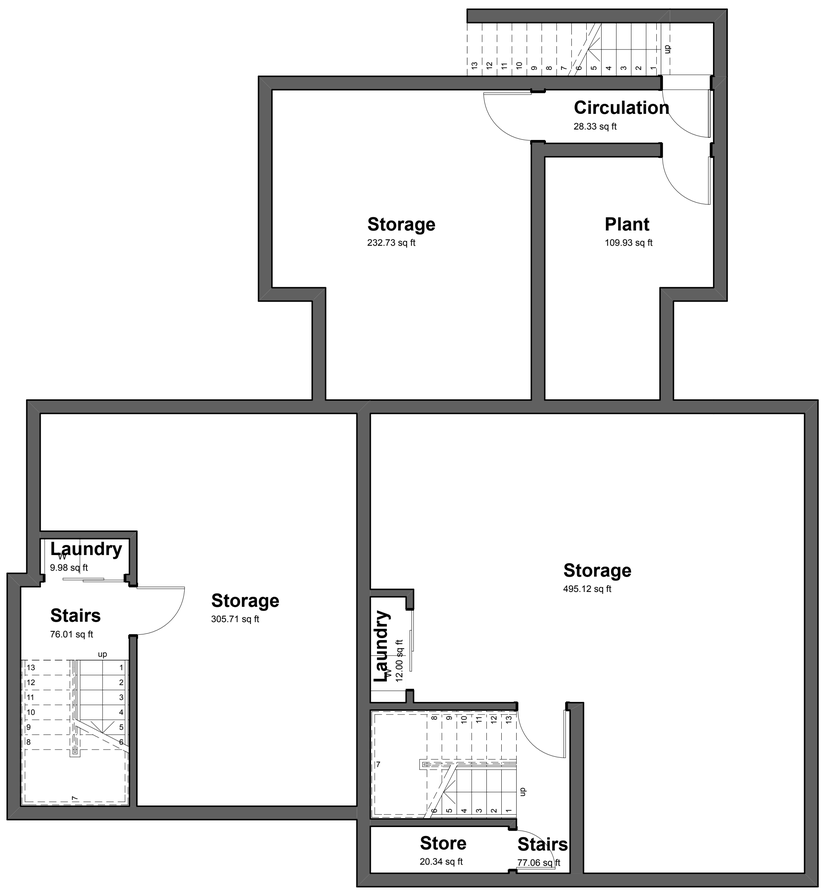

BASEMENT FLOOR PLAN
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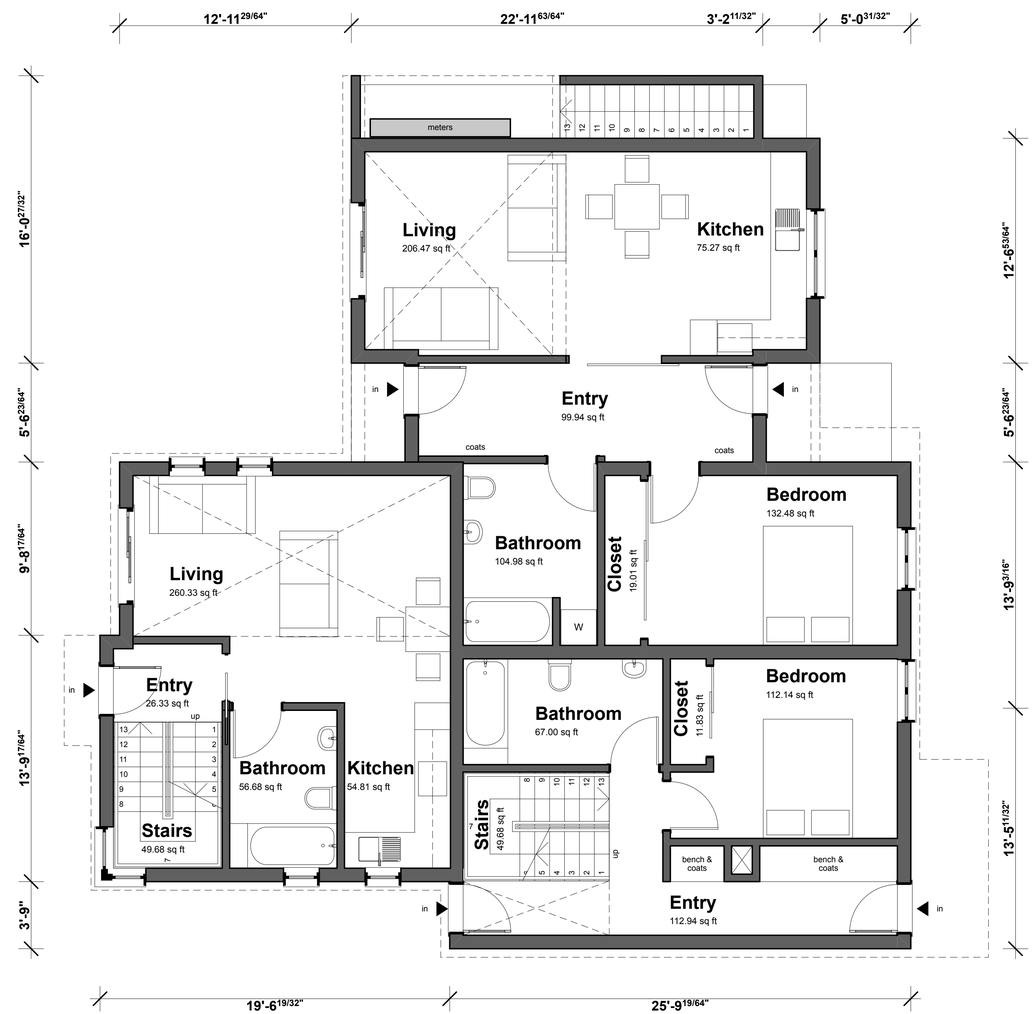

MAIN FLOOR PLAN
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REDMOND STREET RENTALS

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JACKSON, WYOMING

JACKSON HOLE COMMUNITY HOUSING TRUST
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Sheet Title:
HALL UNIT E -1ST FLOOR/BASEMENT

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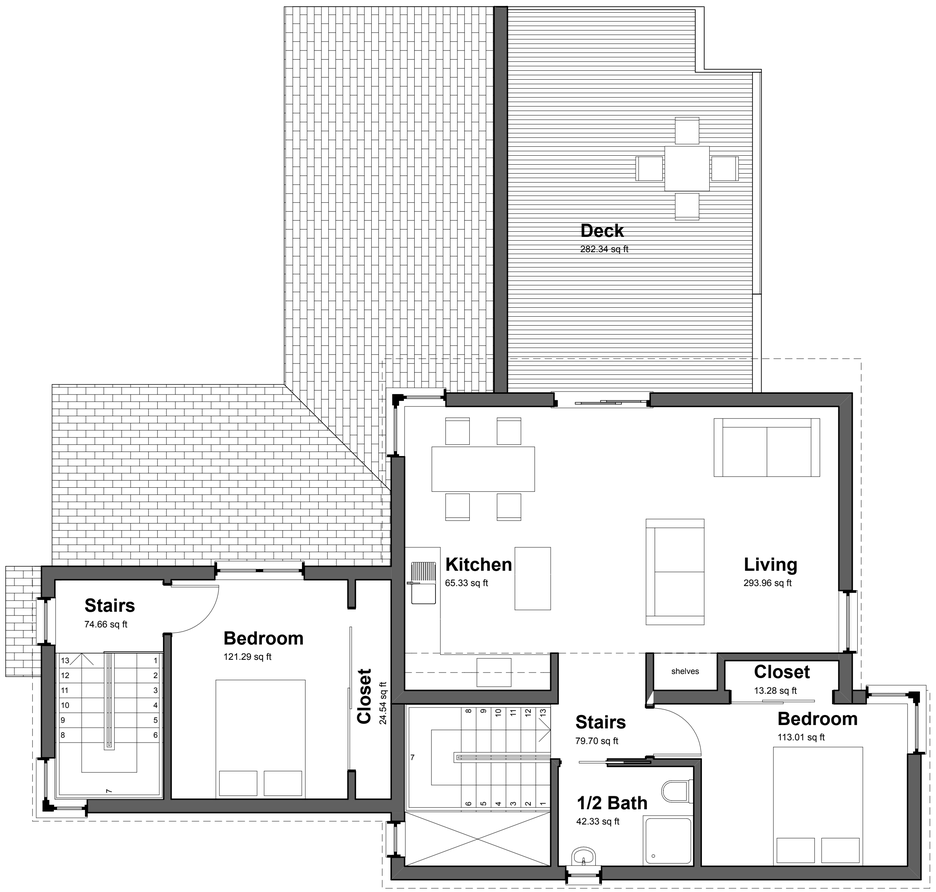

SECOND FLOOR PLAN
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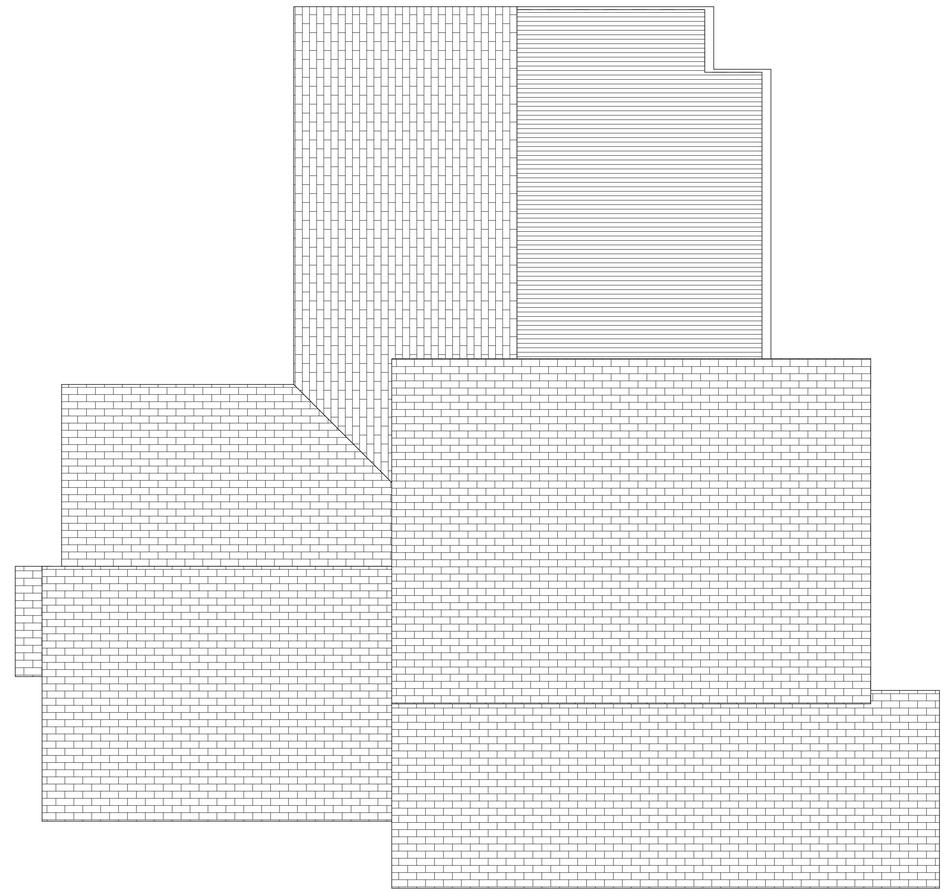

ROOF PLAN
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REDMOND STREET RENTALS

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JACKSON, WYOMING

JACKSON HOLE COMMUNITY HOUSING TRUST
PO BOX 4498

Sheet Name:
HALL UNIT E -2ND FLOOR/ROOF PLAN

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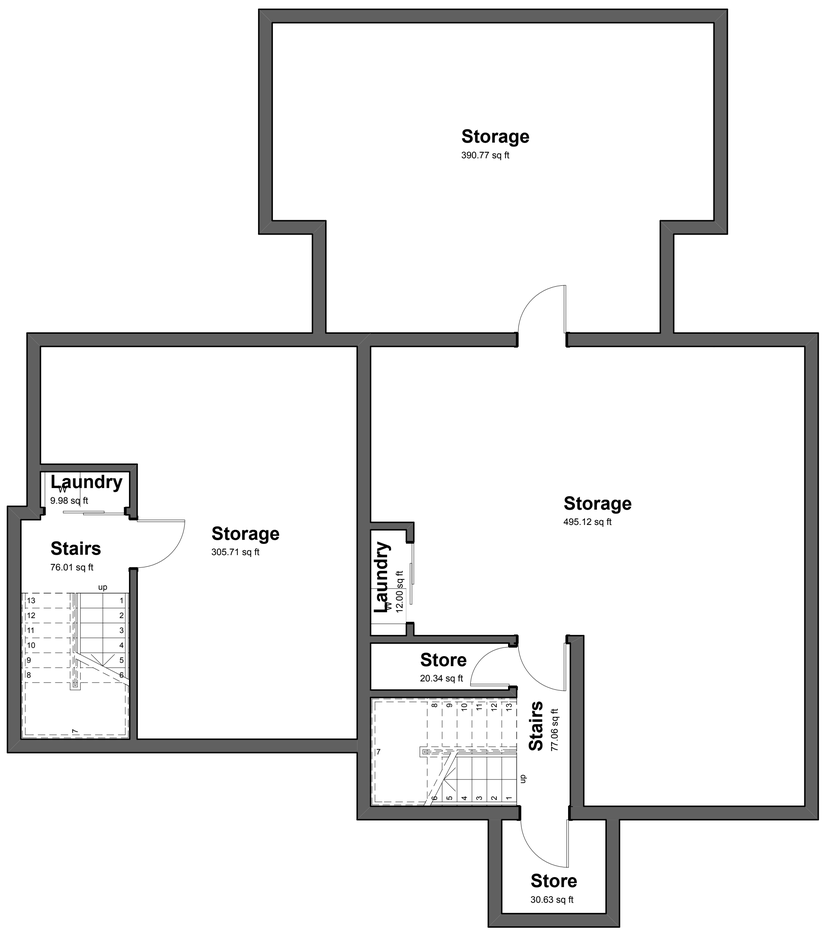

BASEMENT FLOOR PLAN
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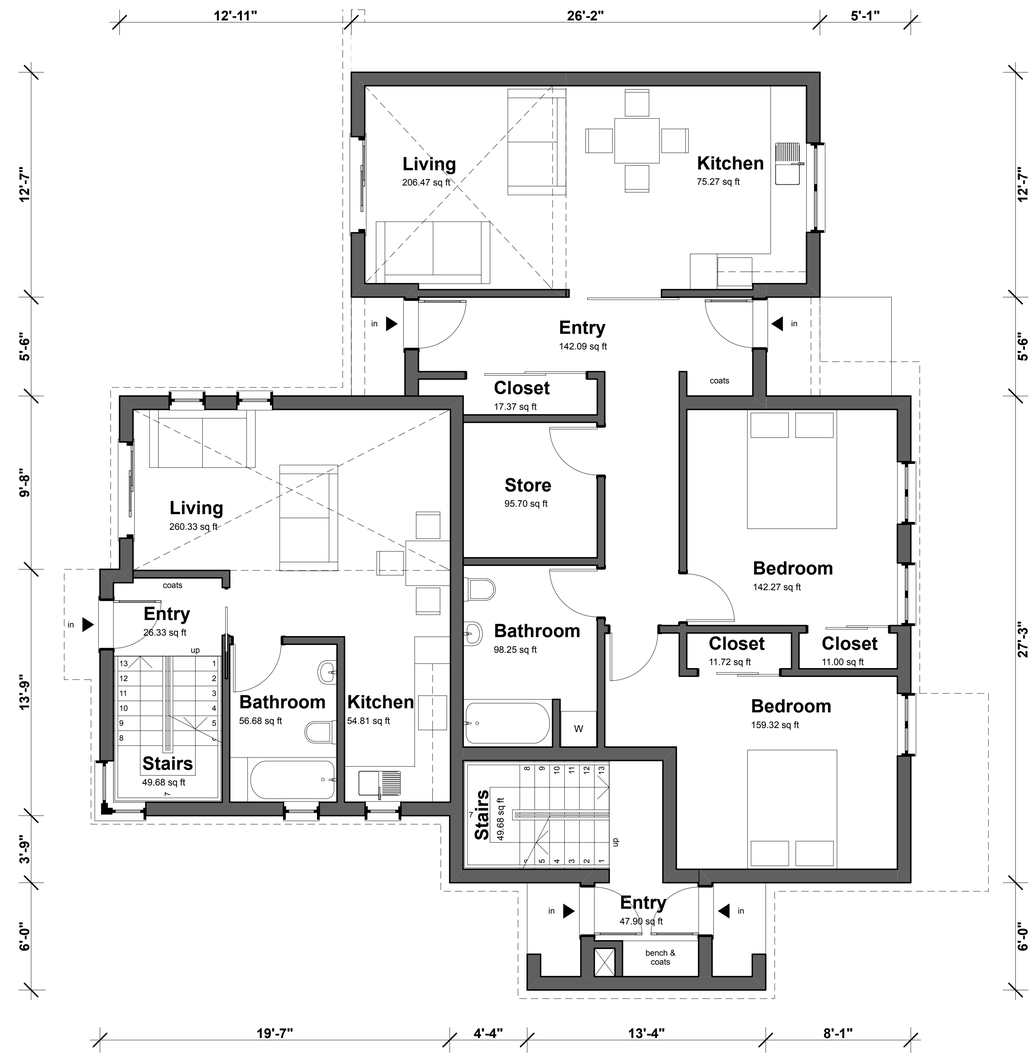

MAIN FLOOR PLAN
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REDMOND STREET RENTALS

335 REDMOND STREET
JACKSON, WYOMING

JACKSON HOLE COMMUNITY HOUSING TRUST
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Sheet Title:
HALL UNIT F -1ST FLOOR/BASEMENT

Development Plan:	03/25/2016
Permit Set:	
Bid Set:	
Revisions:	

NOT FOR CONSTRUCTION

Date: 3/25/16

Drawing Number:
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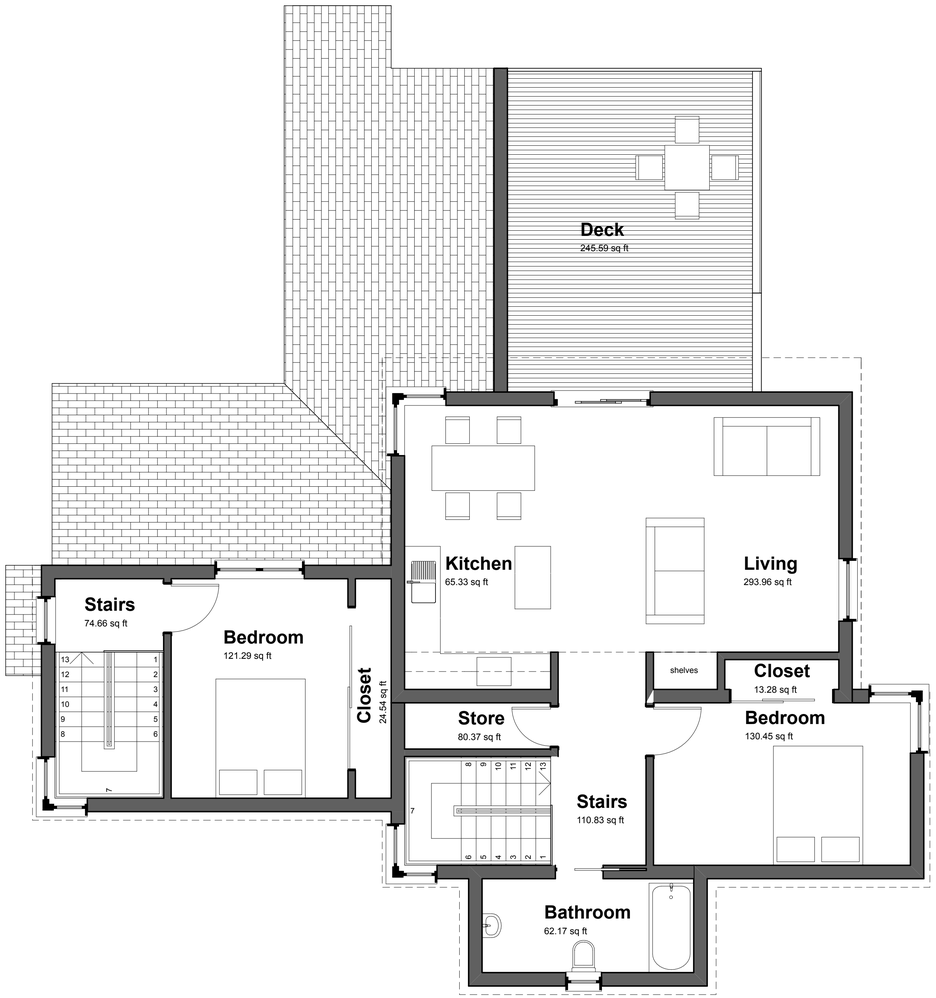
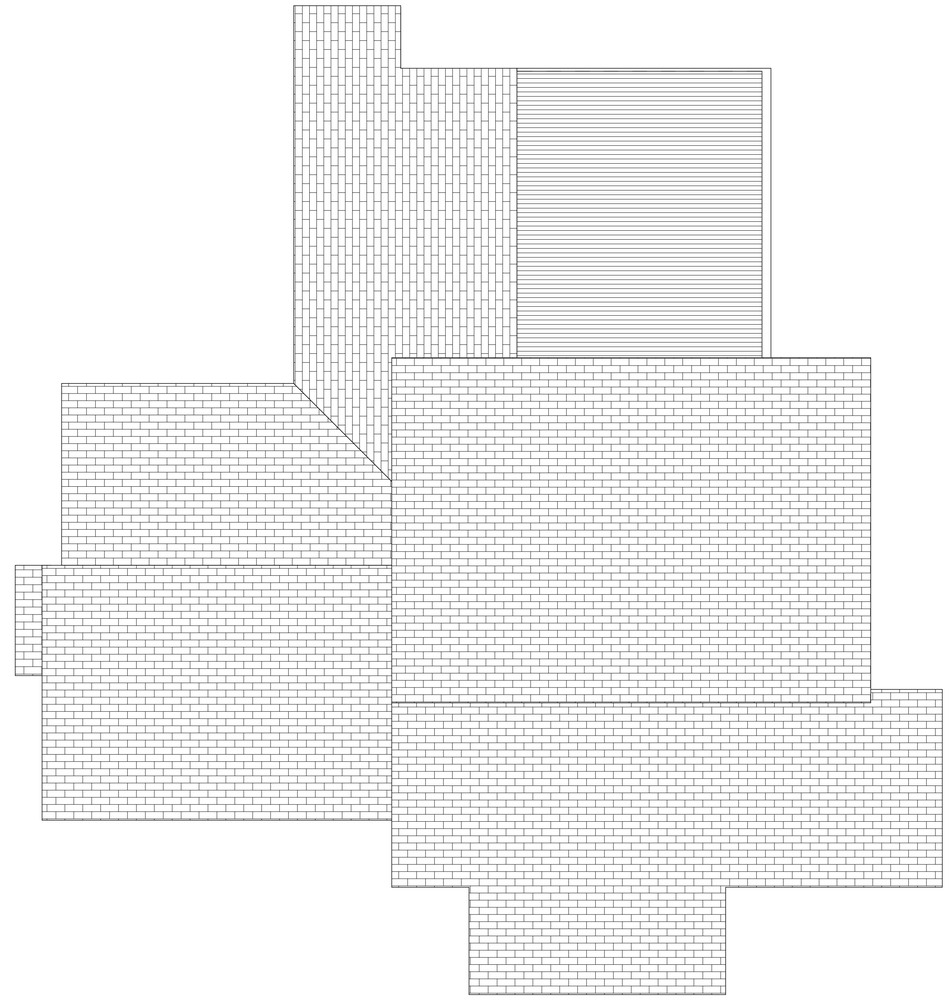
Scale Accurate on 24 x 36 Sheets



SECOND FLOOR PLAN
SCALE: 1/4" = 1'-0"



ROOF PLAN
SCALE: 1/4" = 1'-0"

2 BED HALL:

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REDMOND STREET RENTALS

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JACKSON, WYOMING

JACKSON HOLE COMMUNITY HOUSING TRUST
PO BOX 4498

Sheet Name: HALL UNIT F -2ND FLOOR/ROOF PLAN

Development Plan:	03/25/2016
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Bid Set:	
Revisions:	

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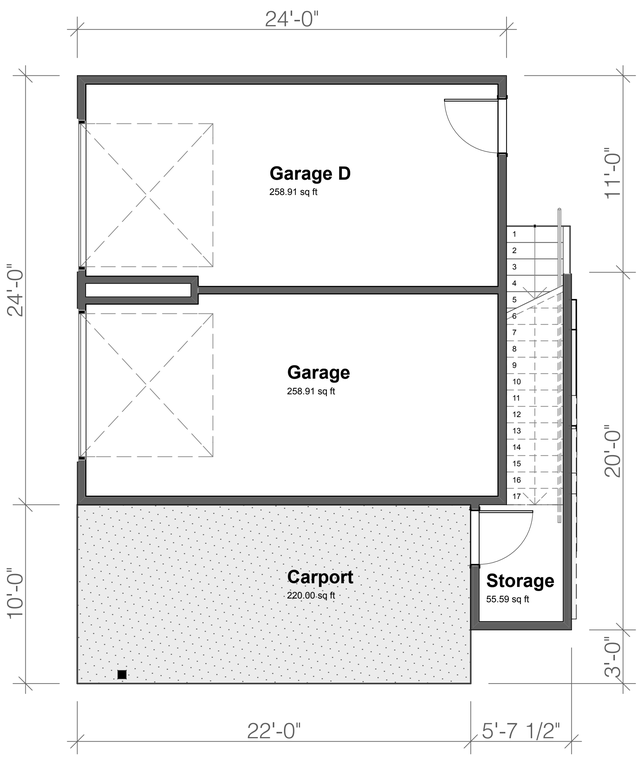
Date: **3/25/16**

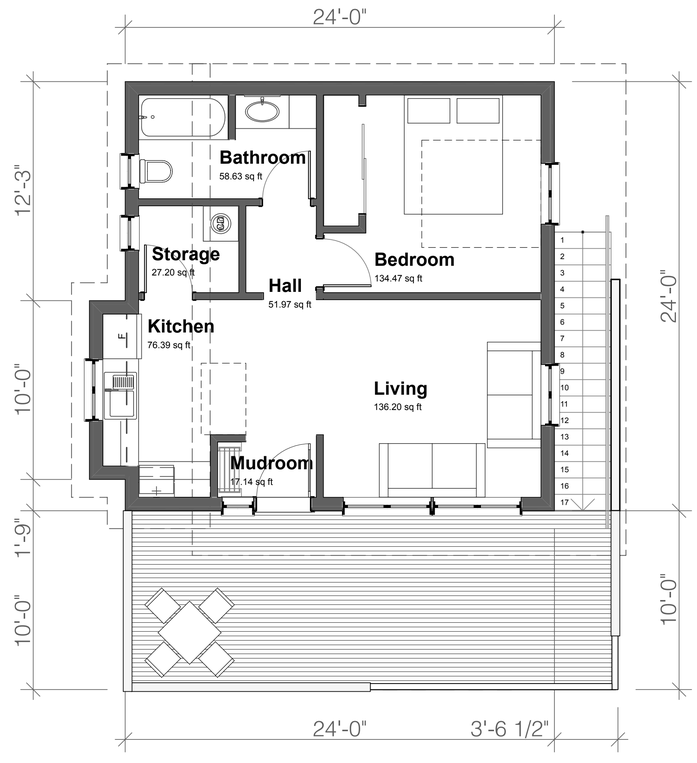
Drawing Number: A1.6

Scale Accurate on 24 x 36 Sheets

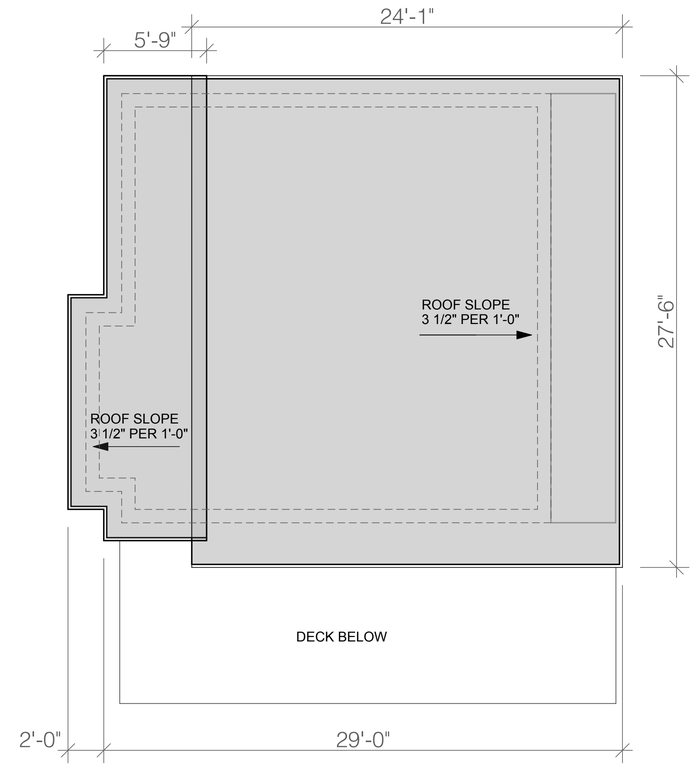
SUFFICIENT SET



1 MAIN FLOOR PLAN
SCALE: 1/4" = 1'-0"



2 SECOND FLOOR PLAN
SCALE: 1/4" = 1'-0"



3 ROOF PLAN
SCALE: 1/4" = 1'-0"

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Drawn By: #CAD Technician Full Name
Checked By: +CONTACT GIVEN NAME +CONTACT FAMILY NAME

REDMOND STREET RENTALS

335 REDMOND STREET
JACKSON, WYOMING

JACKSON HOLE COMMUNITY HOUSING TRUST
PO BOX 4498

Sheet Title:
GARAGE UNIT FLOOR PLANS

Development Plan: 03/25/2016
Permit Set:
Bid Set:
Revisions:

NOT FOR CONSTRUCTION

Date: 3/25/16
Drawing Number:
A1.7

Scale Accurate on 24 x 36 Sheets

SUFFICIENT SET

REDMOND ELEVATION

BACK ELEVATION

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REDMOND STREET RENTALS

335 REDMOND STREET
JACKSON, WYOMING

JACKSON HOLE COMMUNITY HOUSING TRUST
PO BOX 4498

Sheet Title:
ELEVATIONS

Development Plan: 03/25/2016
Permit Set:
Bid Set:
Revisions:

NOT FOR CONSTRUCTION

Date: 3/25/16
Drawing Number:
A2.1

Scale Accurate on 24 x 36 Sheets

SUFFICIENT SET

DRIVE AISLE ELEVATION

HALL ELEVATION

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REDMOND STREET RENTALS

335 REDMOND STREET
JACKSON, WYOMING

JACKSON HOLE COMMUNITY HOUSING TRUST
PO BOX 4498

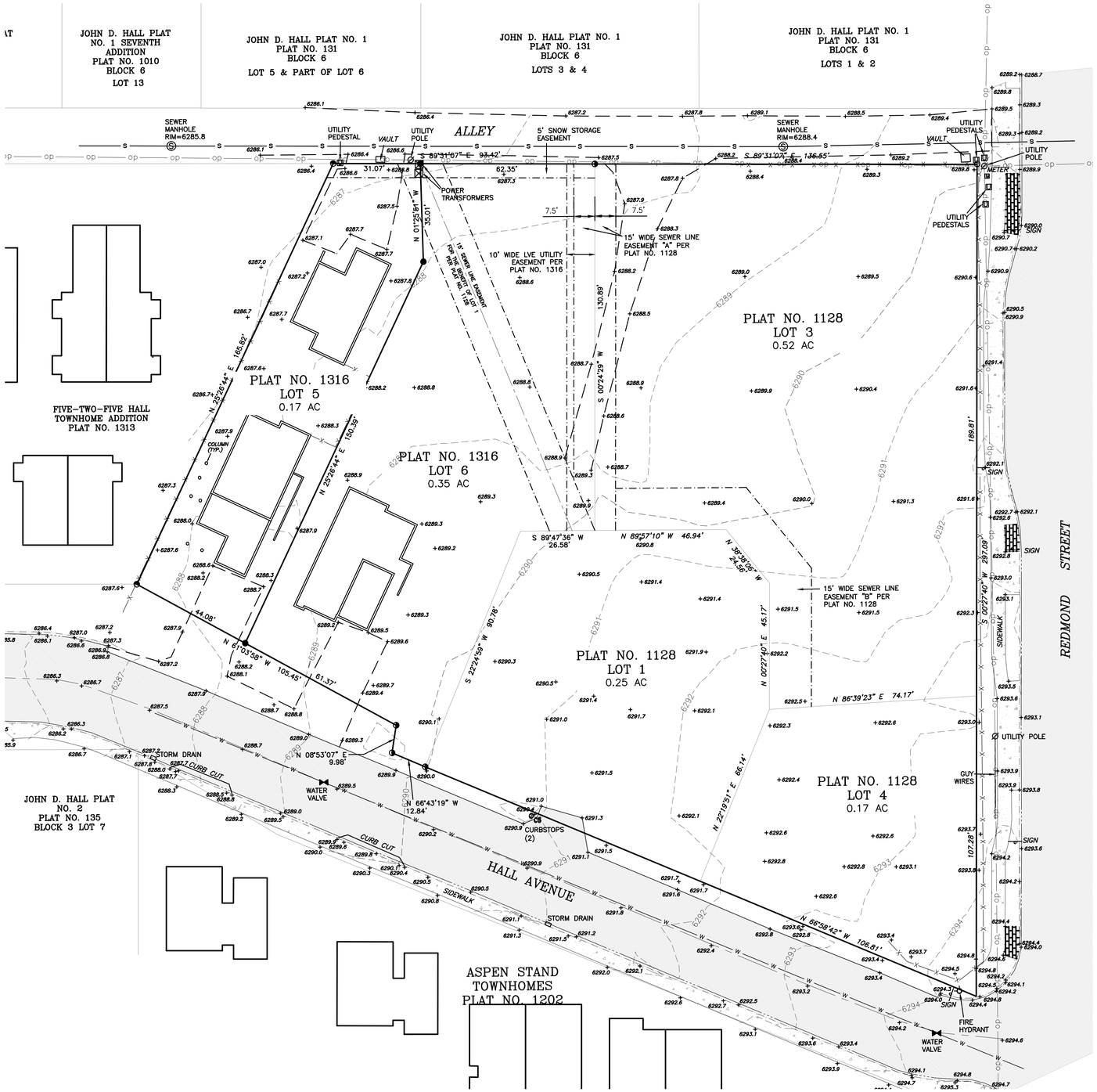
Sheet Title:
ELEVATIONS

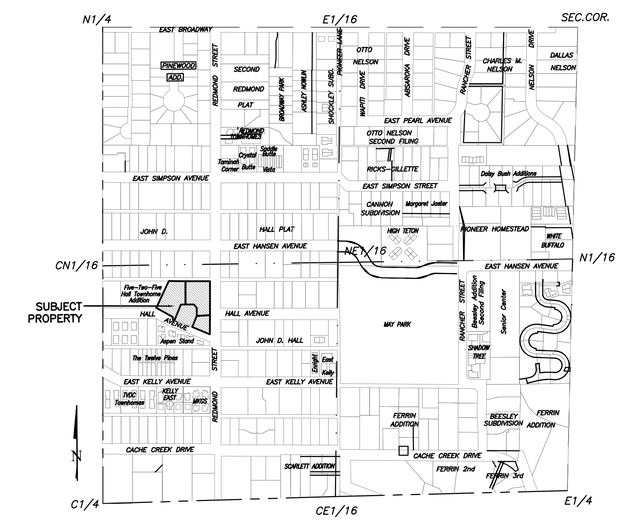
Development Plan: 03/25/2016
Permit Set:
Bid Set:
Revisions:

NOT FOR CONSTRUCTION

Date: 3/25/16
Drawing Number:
A2.2

Scale Accurate on 24 x 36 Sheets





VICINITY MAP
NE1/4 SECTION 34
T41N, R116W, 6TH P.M.
TOWN OF JACKSON
TETON COUNTY, WYOMING

LEGEND

- INDICATES A 5/8 INCH DIAMETER STEEL REBAR WITH AN ALUMINUM CAP FOUND THIS SURVEY
- INDICATES A 5/8 INCH DIAMETER STEEL REBAR FOUND THIS SURVEY
- INDICATES A 5/8 INCH DIAMETER STEEL REBAR WITH AN ALUMINUM CAP INSCRIBED "PLS 2727" FOUND THIS SURVEY
- INDICATES A 5/8 INCH DIAMETER STEEL REBAR WITH AN ALUMINUM CAP INSCRIBED "PLS 6447" FOUND THIS SURVEY
- SUBJECT LOT LINE
- ADJACENT LOT LINE
- EASEMENT
- CENTERLINE OF EASEMENT
- CENTERLINE OF STREET
- EDGE OF PAVEMENT
- EDGE OF GRAVEL
- EDGE OF CONCRETE SIDEWALK
- TOP BACK OF CURB
- FLOW LINE OF CURB
- FENCELINE – POST AND RAIL
- OVERHEAD LINE
- SEWERLINE
- WATERLINE
- FOUNDATION – RECENT CONSTRUCTION
- BRICK PAVERS
- TYPICAL SPOT ELEVATION

PROFESSIONAL ENGINEER (CIVIL) DANIEL C. SMITH 11808 WYOMING 9-25-16

JACKSON HOLE COMMUNITY HOUSING TRUST

LOTS 3 & 4
JAMES G. AND JULIA L. SCARLETT ADDITION
PLAT NO. 1128
AND
LOTS 5 & 6
JAMES G. AND JULIA A. SCARLETT ADDITION
SECOND FILING
PLAT NO. 1316
TOWN OF JACKSON
TETON COUNTY, WYOMIN

NELSON ENGINEERING
P.O. BOX 1599, JACKSON WYOMING (307) 733-2087

		REV.
DATE	3/25/16	
SURVEYED	OSLS	
ENGINEERED	DS	
DRAWN	SK	
CHECKED	RN	
APPROVED		

DRAWING TITLE: EXISTING SITE PLAN

JOB TITLE: JH COMMUNITY HOUSING TRUST
TOWN OF JACKSON
REDMOND HALL RENTALS

DRAWING NO: C1.0

JOB NO: 16-028-01

S:\Proj\2016\028-01 (JHCT Redmond Hall Street Rentals)\Drawings\Existing.dwg (Existing) - Mar 25 2016 07:25:43 am PLOTTED BY: smith DWG FORMAT: 19.1

S:\Proj2016\028-01 (JHCT Redmond-Hall Street Rentals)\Drawings\JHCHT Rentals Design.dwg (2.0 OVERALL SUFFICIENT PROPOSED SITE PLAN) - Mar 25 2016 01:29:14 pm PLOTTED BY: smith DWG FORMAT: 19.1

DRAWING NO	JOB TITLE	DRAWING TITLE			
C2.0	JH COMMUNITY HOUSING TRUST	PROPOSED SITE DEVELOPMENT – SUFFICIENT	NELSON ENGINEERING	DATE	3/26/16
JOB NO	TOWN OF JACKSON		P.O. BOX 1599, JACKSON WYOMING (307) 733-2087	SURVEYED	OSLS
16-028-01	REDMOND HALL RENTALS			ENGINEERED	DS
				DRAWN	SK
				CHECKED	RN
				APPROVED	

REV.

S:\Proj2016\028-01 (JHCT Redmond-Hall Street Rentals)\Drawings\JHCHT Rentals Design.dwg <SOUTH HALF SUFFICIENT GRADING PLAN> - Mar 25 2016 01:30:26 pm PLOTTED BY: smith DWG FORMAT: 191

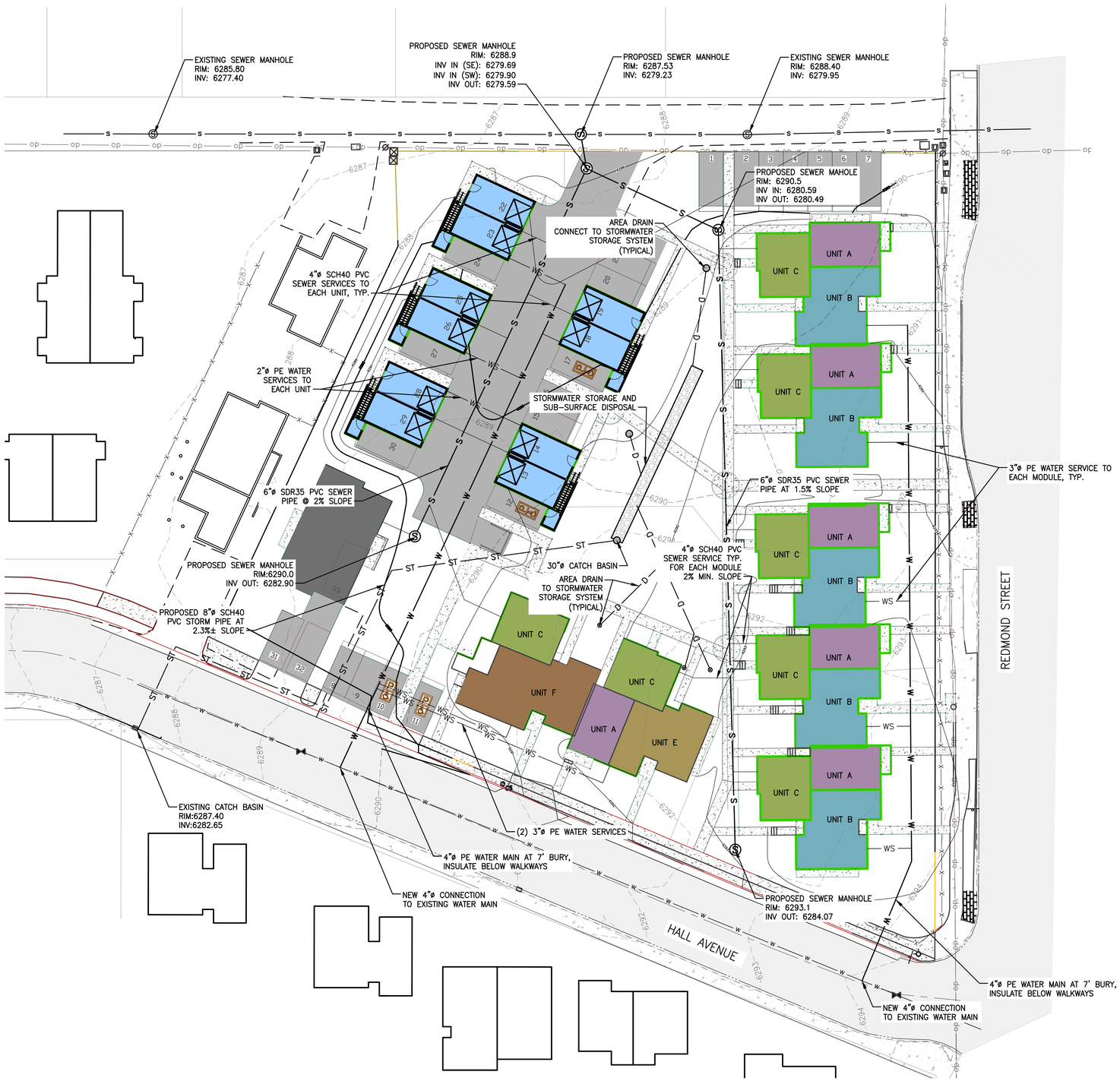
DRAWING NO	JOB TITLE	DRAWING TITLE			
C2.1	JH COMMUNITY HOUSING TRUST TOWN OF JACKSON REDMOND HALL RENTALS	SITE GRADING PLAN (SOUTH) – SUFFICIENT	NELSON ENGINEERING P.O. BOX 1599, JACKSON WYOMING (307) 733-2087	DATE	3/26/16
JOB NO				SURVEYED	OSLS
16-028-01				ENGINEERED	DS
				DRAWN	SK
				CHECKED	RN
				APPROVED	

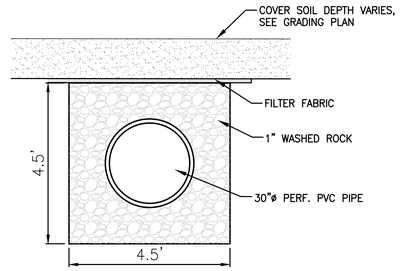
REV.

S:\Proj2016\028-01 (JHCT Redmond-Hall Street Rentals)\Drawings\JHCHT Rentals Design.dwg (NORTH HALF SUFFICIENT GRADING PLAN) - Mar 25 2016 01:30:15 pm PLOTTED BY: smith DWG FORMAT: 19.1

DRAWING NO	JOB TITLE	DRAWING TITLE			
C2.2	JH COMMUNITY HOUSING TRUST	SITE GRADING PLAN (NORTH) – SUFFICIENT	NELSON ENGINEERING	DATE	3/26/16
JOB NO	TOWN OF JACKSON		P.O. BOX 1599, JACKSON WYOMING (307) 733-2087	SURVEYED	OSLS
16-028-01	REDMOND HALL RENTALS			ENGINEERED	DS
				DRAWN	SK
				CHECKED	RN
				APPROVED	

REV.





STORMWATER STORAGE

SCALE: N.T.S.

PROPOSED LEGEND

- W — = WATER LINE
- S — = SEWER LINE
- ST — = STORM SEWER LINE
- WS — = WATER SERVICE
- (S) = SANITARY SEWER MANHOLE
- = STORM SYSTEM CATCH BASIN

0 20 40

		REV.
DATE	3/25/2016	
SURVEYED	GSLS	
ENGINEERED	DS	
DRAWN	SK	
CHECKED	DS	
APPROVED	RN	

NELSON ENGINEERING
P.O. BOX 1599, JACKSON WYOMING (307) 733-2087

DRAWING TITLE
SITE UTILITY PLAN - SUFFICIENT

JOB TITLE
JH COMMUNITY HOUSING TRUST
TOWN OF JACKSON
REDMOND HALL RENTALS

DRAWING NO C3.0

JOB NO 16-028-01

S:\Proj\2016\028-01 (JHCT Redmond-Hall Street Rentals)\Drawings\JHCHT Utility Designdwg (SITE UTILITY PLAN - SUFFICIENT) - Mar 25 2016 01:57 pm PLOTTED BY: smith DWG FORMAT: 19.1

PLANT SCHEDULE

TREES	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE	FIELD4	QTY
	Malus x 'Snowdrift'	Snowdrift Crab Apple	B & B	3"Cal			3

OPEN SPACE TREES	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE	FIELD4	QTY
	Picea pungens	Colorado Spruce	B & B		10' - 12'		12
	Populus tremuloides	Quaking Aspen	B & B	3"Cal			2

STREET TREES	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE	FIELD4	QTY
	Fraxinus americana 'Autumn Purple'	Autumn Purple Ash	B & B	3"Cal			6
	Populus tremula 'Erecta'	European Columnar Aspen	B & B	3"Cal			12
	Prunus virginiana 'Canada Red'	Canada Red Chokecherry	B & B	3"Cal		Single stem	4

SHRUBS	BOTANICAL NAME	COMMON NAME	SIZE	FIELD2	FIELD3		QTY
	Acer glabrum	Rocky Mountain Maple	B & B	min 6'-8'			92
	Aronia arbutifolia 'Brilliantissima'	Brilliant Red Chokeberry/Red Chokeberry	5 gal	3' min			62
	Cornus sericea 'Artic Fire'	Artic Fire Dognood	B & B	4' min.			32
	Cotoneaster acutifolius	Peking Cotoneaster	B & B	min 6'-8'			26
	Pinus mugo 'Compacta'	Dwarf Mugo Pine	5 gal				12
	Prunus virginiana	Chokecherry	B & B	min 6'-8'			19
	Syringa x 'Bloomerang'	Lilac	5 gal				42

ANNUALS/PERENNIALS	BOTANICAL NAME	COMMON NAME	SIZE	FIELD2	FIELD3		QTY
	Calamagrostis x acutiflora 'Karl Foerster'	Feather Reed Grass	2 gal				75
	Helictotrichon sempervirens	Blue Oat Grass	2 gal				30
	Nepeta x faassenii 'Walkers Low'	Walkers Low Catmint	2 gal				26
	Rudbeckia fulgida sullivantii 'Goldsturm'	Black-eyed Susan	1 gal				5
	Salvia x sylvestris 'East Friesland'	Sage	1 gal				6

SOD/SEED	BOTANICAL NAME	COMMON NAME	CONT	FIELD2	FIELD3	SPACING	QTY
	Festuca glauca	Blue Fescue	sod				14,[illegible] sf

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Allison Fleury, PLA
allison.iola@gmail.com
allison_fleury@fastmail.fm

NORTH

0 20 40 60 feet
SCALE: 1" = 20'

PROJECT TITLE:
JHCHT HALL REDMOND RENTAL PROJECT

DRAWING TITLE:
LANDSCAPE PLAN
OVERALL SITE
SUFFICIENT PLAN

DRAWING NUMBER: *L1.0*
Project Number: *2016-02*
Prepared By: *AMF* Date: *03/23/16* Rev. Date:

Inside Out Landscape Architecture, LLC
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www.insideoutlandscapearchitecture.com

NORTH

0 10 20 30 feet

SCALE: 1"=10'

PROJECT TITLE:
JHCHT HALL REDMOND RENTAL PROJECT

DRAWING TITLE:
LANDSCAPE PLAN
PUBLIC SPACE
SUFFICIENT PLAN

DRAWING NUMBER: *L2.0*

Project Number: *2016-02*
Prepared By: *AMF* Date: *03/23/16* Rev. Date:

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Allison Fleury, PLA
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Prunus virginiana 'Canada Red'

Populus tremuloides

Picea pungens

Populus tremula 'Erecta'

Malus x 'Snowdrift'

Pinus mugo 'Compacta'

Cotoneaster acutifolius

Cotoneaster acutifolius

Acer glabrum

Aronia arbutifolia 'Brilliantissima'

Calamagrostis x acutiflora 'Karl Foerster'

Cornus sericea 'Artic Fire'

Nepeta x faassenii 'Walkers Low'

Helictotrichon sempervirens

Rudbeckia fulgida sullivantii 'Goldsturm'

Salvia x sylvestris 'East Friesland'

Syringa x 'Bloomerang'

Prunus virginiana

Inside Out Landscape Architecture, LLC
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www.insideoutlandscapearchitecture.com

NORTH

0 20 40 60 feet
SCALE: 1" = 20'

PROJECT TITLE:
JHCHT HALL REDMOND RENTAL PROJECT

DRAWING TITLE:
LANDSCAPE PLAN
PLANT PHOTOS

DRAWING NUMBER: *L3.0*
Project Number: *2016-02*
Prepared By: *AMF* Date: *03/23/16* Rev. Date:

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