Call to Order

Public Comment for items not on the agenda

Consent Agenda

CA 1 Adoption of Findings of Fact, Conclusions of Law and Decision of a Zone Change Application by Joan A. Williams Revocable Trust, represented by Opal Engineering, for an amendment to the City of Hailey Zoning District Map, Section 17.05.020. The proposed change includes amending 910 North Main Street (Lot 1, Haven Armstrong Subdivision) from General Residential (GR) to Business (B). ACTION ITEM.

CA 2 Adoption of Findings of Fact, Conclusions of Law and Decision of a Design Review Application by FAPO Holdings Idaho, LLC, represented by Opal Engineering, for a new parking area on South River Street. This parking area will consist of twenty-seven (27) onsite parking spaces, and public right-of-way improvements along River Street. Ten (10) off-site parking spaces are proposed within the public right-of-way. This project is located at 306 and 308 South River Street (Lots 13 and 14A, Block 20, Hailey Townsite) within the Business (B), Downtown Residential Overlay (DRO) and Townsite Overlay (TO) Zoning Districts. ACTION ITEM.

Public Hearing

PH 1 Continuation of a Design Review Application by West of First, LLC, represented by Opal Engineering, for construction of a new 44-unit apartment building, to be located at 40 McKercher Boulevard (Lot 1B, Block 2, Northridge Subdivision X). This parcel is located within the Business (B) and Downtown Residential Overlay (DRO) Zoning District. ACTION ITEM.

PH 2 Consideration of a Text Amendment to Title 17: Zoning Regulations, Chapter 17.09: Parking and Loading Spaces, Section 17.09.040.02: Commercial, Professional, Service, Recreation, and Entertainment to change the parking requirement for theatres from one (1) parking stall per 4.5 persons to one (1) parking stall per one thousand (1,000) square feet of gross building area. The Applicant requests the text amendment to support the viability of a movie theatre business at 801 N. Main Street (Lots 2, Block 2) in the Business (B) and Downtown Residential Overlay (DRO) Zoning Districts. ACTION ITEM.

Staff Reports and Discussion

SR 1 Discussion of current building activity, upcoming projects, and zoning code changes.

SR 2 Discussion of the next Planning and Zoning Meeting: October 3, 2022

- Title 18 Amendment River Street Design Concept
- Title 17 ADU Amendments
- City initiated Rezone Block 69, Lots 1-10
- PP: 550 Docs Hickory
Return to Agenda
FINDINGS OF FACT, CONCLUSIONS OF LAW AND DECISION

On September 6, 2022, the Hailey Planning and Zoning Commission considered and recommended for approval by the Hailey City Council a Zone Change Application by Joan A. Williams Revocable Trust, represented by Opal Engineering, for an amendment to the City of Hailey Zoning District Map, Section 17.05.020. The proposed change includes amending 910 North Main Street (Lot 1, Haven Armstrong Subdivision) from General Residential (GR) and Downtown Residential Overlay (DRO), to Business (B) and DRO.

FINDINGS OF FACT

Notice: Notice for the public hearing was published in the Idaho Mountain Express August 17, 2022, and mailed to property owners and agencies within 300 feet on August 17, 2022. Notice was posted on the property on August 29, 2022.

Application and Background: The Applicant requested an amendment to the City of Hailey Zoning District Map with a Rezone Application. The Hailey Planning and Zoning Commission considered and recommended for approval the Zone Change Application in August 2021. The proposed changes include amending the 1.02-acre parcel at 910 North Main Street (Hailey FR SESW TL 7589 SEC 4 2N 18E) from General Residential (GR) to Business (B). The images below depict the current zoning and the Applicant’s request to change the zoning to Business (B):
As noted above, the Hailey Planning and Zoning Commission considered and recommended for approval by the Hailey City Council the Zone Change Application in August 2021. This item was scheduled to be heard by the Hailey City Council in April 2022; however, the Applicant withdrew the Rezone Application for the reasons outlined in bold text below:

- **A new legal address has been assigned to the parcel, from 910 North Main Street (Hailey FR SESW TL 7589 SEC 4 2N 18E) to 910 North Main Street (Lot 1, Haven Armstrong Subdivision).** The Applicant applied for a Lot Line Adjustment Application (LLA) in October 2021. Under the LLA, the Applicant reconfigured the previous lots to form one (1) lot, comprising of 40,674 sq. ft., and Parcel A, comprising of 3,719 sq. ft. When the land is subdivided and a new plat is recorded, the legal address of the parcel changes. The new plat, showing the lot as 40,674 sq. ft. in size, and the dedication of Parcel A to the City of Hailey, has been recorded, thus, a new legal has been created to better reflect the reconfigured parcel.

- **One (1) or all of the Conditions of Approval imposed by the Planning and Zoning Commission previously are no longer valid and/or applicable. Further details are noted herein.** As noted, the Applicant applied for a Lot Line Adjustment Application (LLA) in October 2021. Under the LLA, the Applicant reconfigured the previous lots to form one (1) lot, comprising of 40,674 sq. ft., and Parcel A, comprising of 3,719 sq. ft. Parcel A was dedicated to the City of Hailey for the Cobblestone Lane Road Right-of-Way. Previously, Cobblestone Lane was substandard. It was not fully dedicated and was an easement, approximately 38’ wide. To service the community as a complete street, it was made a Condition of Approval to dedicate the additional 22’ during the platting process. This Condition has been met and Cobblestone Lane, from Main Street/SH 75 east to First Avenue is 60’ in width, or a complete street per City Standards.

**Further Analysis and Discussion:** The subject property is located on the northern edge of downtown, on the east side of Main Street. The parcel and surrounding parcels, with the exception of the AmericInn, are vacant. The AmericInn is nestled adjacent and to the east of the subject parcel. The area is primarily commercial, but transitions to residential along First Avenue. Properties to the south and west are zoned Business (B) and are located within the Downtown Residential Overlay (DRO), and the property to the north, occupied by Silver Creek Assisted Living (31 East McKercher Boulevard), is zoned Limited Residential (LR-1).

In February of 2021, Larry Green of L.L. Green’s Hardware and Silver Creek Property Holdings jointly proposed to rezone the subject parcel (910 North Main Street), and Lot 1, Block 2, Northridge X (21 East McKercher) from Limited Business (LB) to Business (B), and remain in the Downtown Residential Overlay (DRO). The rezone request also included rezoning Lot 1, Block 27, Northridge IX, from Limited Residential (LR-1) to General Residential (GR) and Downtown Residential Overlay (DRO). This rezone would have allowed for the development of a new car dealership for the existing business, Silver Creek Ford, as well as a new hardware store for the existing business, L.L. Green’s Hardware.

Due to various reasons, Silver Creek Property Holdings withdrew all applications (Rezone, CUP and Design Review Preapplication). Larry Green of L.L. Green’s Hardware, proceeded with the rezone request without Silver Creek Property Holdings, and on May 17, 2021, the Hailey Planning and Zoning Commission recommended for approval the Rezone Application by Larry Green of L.L. Green’s Hardware, represented by Galena Engineering, to rezone Lot 1, Block 2, Northridge X (21 East
McKercher) from Limited Business (LB) to Business (B), and remain in the Downtown Residential Overlay (DRO). The Council approved the Rezone Application on July 12, 2021.

With the approval of this rezone, the subject parcel has become a remnant parcel with regard to zoning, and is more noticeable by zoning of the adjacent parcels, zoned Business (B) and Limited Business (LB). The zone change would eliminate the only island of GR in the area, as well as provide consistency among the surrounding parcels and their zoning districts. For instance, the current GR zoning does not allow for commercial uses despite the property’s adjacency to Main Street and the surrounding business-zoned parcels.

1. **Purposes of Zoning Districts. Business (B):** The purpose of the B District is to provide areas for general business and commercial activities and a limited number of residential uses. The Applicant is proposing that the parcel, zoned General Residential (GR) and within the Downtown Residential Overlay (DRO), be zoned Business (B) and remain in the DRO.

   - **910 North Main Street (Lot 1, Haven Armstrong Subdivision)**

     All properties north of Walnut Street within the DRO and on both sides of Main Street are currently zoned Business (B) with the exception of this parcel, 910 North Main Street (Lot 1, Haven Armstrong Subdivision). By changing the existing zoning from GR to B, Staff feels the zone change would provide consistency with the northern DRO along Main Street. Additionally, the current GR Zoning District does not allow for commercial uses despite the property’s adjacency to Main Street and surrounding business-zoned properties.

     Located near the north entrance of the city, the subject parcel is undeveloped and underutilized. Per the Applicant, the change in zoning would further support the traditional character of the Business District by allowing traditional commercial and retail development along the Main Street Corridor. Such development would include high-density commercial, mixed-use, and residential development adjacent to Main Street, which is proximal to schools, downtown amenities, and public transit opportunities.

     Furthermore, the proposed rezone would allow for the development of new or expanded uses within the City of Hailey, creating career-oriented opportunities for young workers in Hailey, provide smaller scale housing in a mixed-use setting, and promote pedestrian transportation.

   **Summary of Uses:** The proposed zone change would increase the range of uses permitted on the subject parcel. Rezoning the parcel to Business (B) would also be consistent with the zone districts of neighboring parcels and all of Main Street north of Walnut Street. Additionally, the rezone would provide greater flexibility with density, setback and bulk requirements. Comparisons of existing and proposed rezones are noted below.

2. **Density, Setback and Bulk Requirement Comparison:** The density, setbacks and other bulk requirements would see the following changes, if rezoned as proposed:

<table>
<thead>
<tr>
<th>Address/Parcel/Use</th>
<th>Existing Zone District</th>
<th>Proposed Zone District</th>
</tr>
</thead>
<tbody>
<tr>
<td>910 North Main Street (Hailey FR SESW TL 7589 SEC 4 2N 18E)</td>
<td>GR/DRO</td>
<td>B/DRO</td>
</tr>
</tbody>
</table>
The existing parcel at 910 North Main Street (Lot 1, Haven Armstrong Subdivision) is approximately 0.933 acres. It is zoned GR and is within the DRO. Within the Business (B) Zoning District, the underlying density is 20 units per acre and does not have a maximum lot coverage. That said, the parcel is also located within the DRO, and within the DRO, the use and bulk requirements shall meet those of the underlying zoning district; however, some have been amended to allow for no maximum residential percentage on the ground level, and no provisions for residential units per acre applies. Additionally, density is limited by required open space, parking, landscaping and the Design Review Standards.

This zone change is a logical extension of the Business (B) Zoning District and would allow for additional commercial and retail development along the Main Street Corridor.

3. **Existing Land Uses**: The subject property is located on the northern edge of downtown, on the east side of Main Street. The parcels are vacant and the AmericInn is adjacent and to the east of the subject parcel. The area is primarily commercial, but transitions to residential along First Avenue. Properties to the south (both vacant) and west (Albertsons Grocery and Stinker Gas Station) are zoned Business (B) and are located within the Downtown Residential Overlay (DRO). The property to the north, occupied by Silver Creek Assisted Living (31 East McKercher Boulevard), is zoned Limited
Residential (LR-1), but is a more intensive use than typically found in that zone district.

Criteria for Review:
17.14.060(A) Criteria Specified: When evaluating any proposed amendment under this Article, the Commission shall make findings of fact on the following criteria:

1) The proposed amendment is in accordance with the Comprehensive Plan;
The Comprehensive Plan Land Use Map reflects suitable projected land uses for the city. It considers existing conditions, trends, and desirable future situations, the objective being a balanced mix of land uses for the community. The Map establishes a basis and direction for the expansion and/or location of business, residential, industrial, institutional and green space areas within and adjacent to the City. The area in question sees varied land use opportunities given its location and size, and the Land Use Map purposefully does not demarcate between land uses that are specific to property boundaries, allowing for decision-making processes such as this to determine actual zoning boundaries.

The Comprehensive Plan also calls for a strong retail core. The Comprehensive Land Use Map identifies this area as a Community Activity Area:

Community Activity Areas – located at the north and south ends of Main Street Corridor. High density residential is encouraged. Commercial and mixed-use development is appropriate, but should be subordinate to the infill of Downtown.

The parcel is located within a ‘1/4 Mile Service Area.’ It is within walking distance of businesses that provide similar products and services. It is also within walking distance of other uses and activities not found within the Downtown Core. This parcel - an infill project well within the City’s limits - is not located near any waterways, floodplains, wildlife migration corridors, or near any avalanche or wildfire hazards. The proposed rezone would help create economic diversity with products, services, and full-time jobs that are not directly dependent upon tourism and seasonal business, as well as allow for higher-density commercial and/or mixed-use developments at the current location.

The Applicant is proposing to rezone the parcel to Business (B). The purpose of the Business (B) Zoning District is to -- Provide areas for general business and commercial activities and a limited number of residential uses. If the rezone were approved, this 0.933-acre parcel would be available for other uses permitted in the District Use Matrix. This parcel is closer to commercial uses than residential, and is buffered by Limited Business (1.32 acres) and General Residential (2.64 acres) parcels to the east.

The Comprehensive Plan further states:

A Land Use Map is a required element of the Land Use component of the Comprehensive Plan. Pursuant to Idaho Code requirements, the Land Use Map reflects suitable projected land uses for the city. The creation of a land use map establishes general direction for projected land uses within and adjacent to the city. The Land Use Map depicts broad community goals. When considering land use applications, site-specific data and circumstances should be balanced with the overall goals depicted on the map.
Among others, the Application complies with the following goals and objectives of the Hailey Comprehensive Plan:

3.3 **Protect the traditional character and scale of the historic downtown and Main Street Corridor.** The proposed rezone would allow for traditional commercial and retail development along the Main Street Corridor.

5.1 **Retain a compact City comprised of a central downtown with surrounding diverse neighborhoods, areas and characteristics as depicted on the Land Use map.**
   a) **Main Street Corridor** – area of high density commercial, mixed-use and residential development. The proposed rezone provides the opportunity for high density commercial, mixed-use and residential development located adjacent to Main Street. The goal aimed to increase density along the Main Street Corridor, which this rezone request would support.
   b) **Downtown** – the historic commercial center containing the greatest concentration of commercial, cultural and civil activity. Downtown is the priority area for encouraging higher density commercial and mixed-use development. The proposed rezone would allow commercial and mixed-use developments that would support a historic commercial center.

5.2 **Maintain Downtown as the area containing the greatest concentration of commercial, cultural and civic activity and the priority area of encouraging higher density commercial and mixed-use development.** The proposed rezone supports this goal.

5.5 **Lessen the dependency on the automobile.** The proposed rezone allows for commercial and mixed-use development along Main Street, located in close proximity to schools, downtown amenities, and public transit opportunities, which reduces dependency on the automobile.

6.1 **Encourage a diversity of economic development opportunities within Hailey.** The proposed rezone would allow for the development of new or expanded uses within the City of Hailey, creating new jobs and economic development opportunities in Hailey.

6.2 **Encourage abundant, competitive and career-oriented opportunities for young workers.** The proposed rezone would allow for the development of new or expanded uses within the City of Hailey, creating career-oriented opportunities for young workers in Hailey. The proposed commercial zoning would allow for mixed-use and potentially live-work conditions, which could provide lower priced, small-scale housing opportunities for young workers.

The Hailey Comprehensive Plan also identifies housing as a high priority:

**High Density Residential** – high density residential infill is encouraged in the area along Main Street and River Street between Downtown and the north and south ends of Main Street.

The Land Use Map identifies likely areas for housing. In addition to housing, the Plan stresses the importance of downtown housing, and the reason to plan for mixed-uses:

**Promoting mixed use in Downtown ensures a diversified, sustainable economic condition.** Mixed-use buildings lining Downtown Main Street allow for commercial activity on the ground floor with residences or offices above. This type of planning helps maintain the neighborhood
scale. These types of buildings also ensure round the clock activity and eyes on the street for added safety.

While no use or development is proposed at this time, this project could see a traditional mixed-use project, and could serve as a seamless transition between commercial, Limited Business (AmricInn), and the nearby single-family residential.

The Land Use Section describes High-Density Residential as follows:

**High Density Residential** – high density residential infill is encouraged in the area along Main Street and River Street between Downtown and the north and south ends of Main Street.

5.6 Manage and accommodate population growth by infill development and, when appropriate, minimal expansion by annexation and/or density increases. The subject property is an infill site, which, when developed, would attract energy and life to the north gateway to Hailey.

8.1 Encourage development that provides opportunities for home ownership and rental houses for individuals of all socio-economic levels. The proposed rezone provides opportunities for the development of smaller scale housing in a mixed-use setting that is not common in the City of Hailey.

By rezoning 910 North Main Street (Lot 1, Haven Armstrong Subdivision) from General Residential (GR) to Business (B), the Commission found (in October 2021) the change to be compatible with the Comprehensive Plan, as it would facilitate the development of high-density residential infill and mixed-use developments within the downtown corridor, and recommended approval by the Hailey City Council.

2) Essential public facilities and services are available to support the full range of proposed uses without creating excessive additional requirements at public cost for the public facilities and services;

It is anticipated that public facilities and services are available to support the full range of uses permitted by the zone district under consideration. Though no uses or buildings are proposed at this time, development would be compliant with the most recently adopted IBC, IRC and IFC (currently constructing under the 2018 code). Development of the site, streets, sidewalks, landscaping and other onsite improvements would be required as part of the Design Review process.

The current zoning would allow for approximately 10 single-family homes with each home having the option to construct an Accessory Dwelling Unit (subject to Design Review). That said, the Hailey Comprehensive Plan discourages single-family residential along Main Street, and the District Use Matrix prohibits new construction of single-family residences within the Business District. Changing the zoning district to Business (B) would encourage a mixed-use development project (commercial and residential uses) or multifamily dwellings. Additionally, the parcel is also located within the DRO, and within the DRO, the use and bulk requirements shall meet those of the underlying zoning district; however, some have been amended to allow for no maximum residential percentage on the ground level, and no provisions for residential units per acre applies. Density is also limited by required open space, parking, landscaping and the Design Review Standards. Given this information, the Commission did not believe
that the development of this parcel would impact water demand above what is already permitted on Main Street and the surrounding parcels. The Public Works Department concurred.

A Traffic Impact Study was completed for the rezone of abutting parcels, Lot 1, Block 2, Northridge Subdivision X and Lot 1, Block 27, Northridge Subdivision IX. The analysis concluded that all streets would remain functioning at Level of Service A during future project conditions, except for the intersection at Cobblestone Lane and Main Street.

As shown in the table below, this intersection was anticipated to fail in a background condition; however, the poor Level of Service was not project-related, but primarily related to the existing intersection volumes, geometry and lane-configurations. As such, the Commission requested that Cobblestone Lane be slightly reconfigured as noted below, and to the satisfaction of the City Engineer. This was made a Condition of Approval by the Planning and Zoning Commission.

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<tr>
<th>Intersection</th>
<th>Level of Service</th>
<th>Existing (2020)</th>
<th>Future (2025)</th>
<th>Future (2030)</th>
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<td>BG</td>
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At the time of this analysis, the drivable portion of Cobblestone Lane was not fully dedicated, but was a 38'-wide easement to benefit the City of Hailey shown on the plat of Hailey Business Center (property directly south of the subject property). To the east of the subject property, the AmericInn plat dedicated 22' in width to equal a 60'-wide right-of-way. City Staff requested and the Commission concurred that there be a dedicated right-of-way to the City of Hailey along the southern property line of the subject parcel abutting Cobblestone Lane of 22' in width, such that when the Hailey Business Center redevelops, a full 60'-wide right-of-way can be achieved.

The Commission and Applicant discussed possible dedication of the 22'-wide right-of-way at the time of development; however, the Commission concurred that dedication shall happen immediately rather than upon development of the site. On October 1, 2021, the Hailey Planning and Zoning Administrator considered and approved the Lot Line Adjustment Application wherein the subject parcel was subdivided into Lot 1 and Parcel A. Lot 1 comprised of 40,674 square feet in size, and Parcel A, dedicated to the City of Hailey for the Cobblestone Lane Public Right-of-Way, comprises of 3,719 square feet in size.
and is 22’ in width. This Condition of Approval, as requested by the Planning and Zoning Commission, has been met.

3) The proposed uses are compatible with the surrounding area; and
The zones and overlays under consideration would follow the same bulk requirements as adjacent blocks within the Business (B) Zone District. Nonresidential or multifamily projects would be subject to Design Review, allowing for community input, and Commission discussion of compatibility. The area contains a variety of commercial, multifamily and single-family projects. The Commission found that this standard was met and recommended approval of the Rezone Application by the Hailey City Council.

4) The proposed amendment will promote the public health, safety and general welfare.
The Commission noted a strong basis in the Hailey Comprehensive Plan for this type of amendment. This parcel has been vacant since the establishment as a parcel. The proposed zone change would enable development of the site, and provide economic diversity with products, services, and full-time jobs that are not directly dependent upon tourism and seasonal business.

Additionally, the city and the Wood River Valley have a documented need for housing. The Comprehensive Plan calls for housing initiatives. The current changes under consideration would allow for multifamily and mixed-use housing developments in an area within walking distance to many town services. The Commission found that this standard was met and recommended approval of the Rezone Application by the Hailey City Council.

Action: The Commission is required by the Hailey Municipal Code to make a recommendation to the Hailey City Council based on compliance with the Comprehensive Plan and the following criteria:

17.14.040(B) Recommendation.
  1. Following the hearing, if the Commission or Hearing Examiner makes a substantial change from what was presented at the hearing, the Commission or Hearing Examiner may either conduct a further hearing after providing notice of its recommendation, or make its recommendations to the Council, provided the notice of the Commission’s or Hearing Examiner’s recommendation shall be included in the notice of the hearing to be conducted by the Council.
  2. The Commission or Hearing Examiner shall recommend, with reasons therefore, to the Council that the proposed amendment be granted or denied, or that a modified amendment is granted.
  3. If the proposal initiated by an Applicant is not in accordance with the Comprehensive Plan, the Commission or Hearing Examiner shall notify the Applicant of this finding and inform the Applicant that the Applicant must apply for an amendment to the Comprehensive Plan before the Hailey Municipal Code or Zoning Map can be amended.

A. The Hearing Examiner or Commission and Council shall make findings of fact on the following criteria:
  1. The proposed amendment is in accordance with the comprehensive plan;
2. Essential public facilities and services are available to support the full range of proposed uses without creating excessive additional requirements at public cost for the public facilities and services;
3. The proposed uses are compatible with the surrounding area; and
4. The proposed amendment will promote the public health, safety and general welfare.

B. Rezones: When evaluating any proposed zoning ordinance map amendment to rezone property to business (B) zoning district, limited business (LB) zoning district or transitional (TN) zoning district, the hearing examiner or commission and council shall consider the following:
   1. Vacancy rates of existing buildings and land within the existing business (B), limited business (LB) or transitional (TN) zoning districts. A lower vacancy rate will favor a rezone, while a higher vacancy rate will not favor a rezone. (Ord. 1191, 2015).

The Commission discussed the standard above and requested that the Applicant provide information pertaining to items (1) and (2), as required by the Hailey Municipal Code. The Commission suggested that this be made a Condition of Approval and be considered by the Hailey City Council at a subsequent hearing.

The Applicant provided information pertaining to above items (1) and (2) in March 2022, which is attached. To summarize, the Applicant found that the information overwhelming supports the proposed rezone from GR to B to incentivize development of more commercial opportunities in Hailey. Factors that support this conclusion, and which best respond to Section 17.14.060: Criteria for Review, Subsection B, are:
   1. “There is virtually no street level retail space available in Hailey now. Unless there is no economic incentive or desire by business owners to operate in Hailey, which we do not believe, this must have a dramatic negative effect on the responsible, orderly expansion of Hailey’s economy, and on the revenues and benefits that flow to the city and its residents from such activity.
   2. Of the 10 office suites presently available in Hailey, 7 are in one building (314 S River Street), which property has been mostly vacant since its completion in 2007, some 14 years ago, indicating that it does not respond to the market’s needs and should likely be excluded from consideration in this decision. Taking this approach would leave 3 available office suites in Hailey’s Business zone for consideration as part of this decision.
   3. Only one (1) street level retail space and one (1) upper floor office space are available on Main Street (retail in Bullion Square, office in the Roark Law Building).
   4.Offsetting the criteria of distance from the City Center are the facts that:
      a. There is an already established commercial node on North Main Street in immediate proximity to the subject property, supporting additional commercial construction in this area to further environmental goals (less driving required) and convenience for residents (varied commercial uses in one location), making Business (B) Zoning far more appropriate than General Residential (GR), or any other zoning classification, for this site.
b. There is a scarcity of available Business-Zoned sites closer to the City Center that offer the same project feasibility as the subject property. Of the few closer sites available along River Street, none carry equal project feasibility (see the discussion of 314 S River Street, described in 2. above), especially for the development of smaller street level retail spaces and are therefore unlikely to be developed in the near term. This is unacceptable from the perspective of addressing Hailey’s pressing need to offer leasable premises to new and existing business owners seeking to provide goods and services to Hailey’s growing population”.

The Applicant further notes that while there are approximately 12 available retail or office suites available in the Business (B) Zoning District, nine (9) are under two (2) ownerships. The Applicant feels strongly that a “broader diversity of commercial space ownership would be beneficial”.

Given the information provided, the Commission is supportive of the Applicant’s request to rezone the subject parcel from General Residential (GR) and Downtown Residential Overlay (DRO), to Business (B) and remain in the DRO.

Summary and Suggested Conditions of Approval: The Commission shall recommend for approval by the Hailey City Council, deny or continue the Rezone Application by Joan A. Williams Revocable Trust, represented by Opal Engineering, for an amendment to the City of Hailey Zoning District Map, Section 17.05.020. The proposed change includes amending 910 North Main Street (Lot 1, Haven Armstrong Subdivision) from General Residential (GR) to Business (B), finding that the project does not jeopardize the health, safety or welfare of the public and the project conforms to the applicable specifications outlined in Hailey Municipal Code Section 17.14, Amendment, additional applicable requirements of Title 17, Title 18, and City Standards, and subject to the Conditions of Approval, if any, as noted below.

CONCLUSIONS OF LAW

Based upon the above Findings of Fact, the Commission makes the following Conclusions of Law:
1. Adequate notice, pursuant to Title 17, Section 17.14.040(A), was given.
2. The project is in general conformance with the Hailey Comprehensive Plan.
3. The project does not jeopardize the health, safety, or welfare of the public.
4. Upon compliance with the conditions set forth, the project conforms to the applicable standards of Chapter 17.14, Amendment, other Chapters of Title 17 and City Standards.

DECISION

The Rezone Application by Joan A. Williams Revocable Trust, represented by Opal Engineering, for an amendment to the City of Hailey Zoning District Map, Section 17.05.020, is hereby approved. The proposed change includes amending 910 North Main Street (Hailey FR SESW TL 7589 SEC 4 2N 18E) from General Residential (GR) to Business (B), finding that the project does not jeopardize the health, safety or welfare of the public and the project conforms to the applicable specifications outlined in Hailey Municipal Code Section 17.14, Amendment, and additional applicable requirements of Title 17, Title 18, and City Standards are met.
Signed this _____ day of ________________, 2022.

____________________________
Janet Fugate, Planning & Zoning Commission Chair

Attest:

_______________________________
Jessie Parker, Community Development Assistant
Return to Agenda
On September 6, 2022 the Hailey Planning and Zoning Commission considered and approved a Design Review Application by FAPO Holdings Idaho, LLC c/o Engel and Associates, LLC, represented by Samantha Stahlnecker, PE, of Opal Engineering, for the proposed parking lot improvements at 306 and 308 South River Street (Lots 13 and 14A, Block 20, Hailey Townsite). The proposed 37-parking stall design is intended to serve the adjacent mixed-use building, also owned by FAPO Holdings. The proposed project is located within the Business (B), Downtown Residential Overlay (DRO), and Townsite Overlay (TO) Zoning Districts.

FINDINGS OF FACT

Notice: Notice for the Public Hearing was published in the Idaho Mountain Express and mailed to property owners within 300 feet on the same day, August 17, 2022.

Application and Background: From 1933-1953, Block 20 of Hailey Townsite served as the Sawtooth National Forest Headquarters, including five or six (6) buildings. In November 2007, the City approved a Design Review and Development Agreement for the Applicant (FAPO Holdings, LLC) to develop the “Forest Service Block” (Lots 4-8 and 13-20 of Block 20, Hailey Townsite). The Area Development Plan for that project has only been partially executed with the development of the Applicant’s mixed-use building at 314 South River Street, which is on the southwest corner of Block 20 and adjacent to the proposed parking lot improvements.

In 2019, the City entered into a Development Agreement with the Applicant and approved their Design Review Application to relocate the historic Warehouse building of the Sawtooth Forest Service Supervisors Complex, and build a parking for the adjacent mixed-use building. Through a series of public hearings, as well as a determination of lead-based paint hazards within and located on the exterior of the building, the efforts to relocate the historic Warehouse were unsuccessful. It was determined that the building be demolished, not preserved.

At an earlier Design Review hearing (2019), the Planning and Zoning Commission suggested that the parking lot for the mixed-use building— proposed now in this Application— include the following:

a) A walkway to the mixed-use building;

b) Screened dumpsters that are out-of-view and do not impede access to/from the alley;

c) Vehicular access via the alley, fully eliminating or limiting curb cuts to one; and

d) A landscape buffer between the sidewalk and street, as set forth in Design Review standards.

The items above have either been completed and/or incorporated into the current proposal. The current Design Review Application was submitted on June 6, 2022, certified complete on June 8, 2022, then considered and approved by the Hailey Planning and Zoning Commission on September 6, 2022.
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<tr>
<th>Compliant</th>
<th>Standards and Staff Comments</th>
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| Staff Comments | The Applicant proposes to include one (1) solar-powered parking lot light pole of 14 feet in height (compliant with the 17-foot maximum, see Section 17.08C.040.03A). The light itself is downward facing, unshielded, and LED. The pole partially complies with Section 17.08C.040.02B, which allows for 40-watt lighting power yet excludes LED units. Section 17.08C.040.04A,C encourages the use energy efficient LED’s and establishes that parking lot lighting should not supersede an overall average of 1.5 Fc. The proposed design complies with the foot-candle (Fc) standard, demonstrating an average of 0.27 Fc and maximum of 1.18 Fc across the parking lot. Additionally, the light’s ‘SmartLight’ system configuration can reduce the pole light’s intensity at certain hours of the night (see the bar graph below).

The Commission found that the proposal met this standard.

Bulk Requirements | Zoning District: Business (B), Downtown Residential Overlay (DRO), and Townsite Overlay (TO) Zoning Districts
Maximum Height: 35’
Setbacks: 0’

Staff Comments | N/A – No building is proposed

17.06.070A1 Improvements Required | Sidewalks and drainage improvements are required in all zoning districts, except as otherwise provided herein.

Staff Comments | Section 17.06.070 provides general guidelines for sidewalk and drainage improvements, including:

2. Sidewalk and drainage improvements shall be located and constructed according to applicable city standards, except as otherwise provided herein.
   a. In the B and LB zoning districts, the following are required:
      (1) A minimum sidewalk width of ten feet (10’);
      (2) Street trees with tree grates or a landscape buffer between the sidewalk and curb determined to be adequate.
While the standard above specifies sidewalk and street tree dimensions pursuant Title 17, City Staff are requesting that all new development on River Street incorporate the parking, biking, and walking concept planned for the corridor within the River Street Concept. From left to right and as depicted below— the multimodal transportation concept for River Street involves angled parking, a raised curb, a separated bike lane at sidewalk-level, streets trees, and a sidewalk leading up to the development.

The multimodal transportation concept planned for River Street is an evolution of the City's long-time goals. The tenets of this concept date back to the 2007 Master Transportation Plan, which has evolved and been reiterated over the years—for example in the 2014 Blaine County Bicycle and Pedestrian Plan (pg. 57-58)— and, was most recently articulated in Hailey's 2020 update of the Master Transportation Plan. Page 14 of the 2020 Master Transportation Plan update reiterates the goals for River Street include:
- only two low-speed vehicle travel lanes;
- angled parking (to discourage back-in parking);
- dedicated bike lanes separated from the vehicle travel lanes;
- street trees; and
- sidewalks.

The River Street concept has been a central piece in Hailey’s bicycle and pedestrian planning for more than 10 years. The infrastructure improvements required to actualize the vision are costly. They involve years of plan-making, grant seeking, and actualization. The City asks that Applicants who seek to develop in the City of Hailey collaborate in actualizing our multimodal transportation plans, however piecemeal and slow the process might be. Without the cooperation of developers, the City’s goals for improved walking,
biking, and parking infrastructure become less attainable. This project is no exception.

More than ten (10) lots on River Street have completed, started, or planned for the River Street concept. While the infrastructure improvements might be costly, they are currently underway.

The Applicant’s proposed design neither meets the standards set forth in Section 17.06.070 for the Business District, nor the goals of the 2020 Master Transportation Plan update and planned River Street concept. Although the proposed design incorporates angled parking, it lacks:

- the ten (10) foot minimum sidewalk for the Business District (the proposed sidewalk is six (6) feet wide);
- street trees between the sidewalk and curb; and
- separated and dedicated bike lanes.

The proposed plan lacks infrastructure for bicycling, contrary to the City’s Master Transportation Plans and the River Street concept—both of which have been shaped by the Urban Renewal Agency, City Council, as well as this Commission and previous Planning and Zoning Commissions.

The Commission agreed that the Applicant must incorporate the River Street concept in a way that does not create an undue burden to the City, when the rest of the concept will be implemented on Block 20. A Condition of Approval requires the Applicant to implement Right of Way improvements that are aligned with the River Street concept and approved by the City Engineer.

### Design Review Requirements for Non-Residential, Multifamily, and/or Mixed-Use Buildings within the City of Hailey

1. Site Planning: 17.06.080 (A) 1, items (a) thru (n)

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<td>City Code</td>
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<td>17.06.080A1a</td>
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<td>Staff Comments</td>
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<td>17.06.080A1b</td>
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replaced with a species of tree found in the Tree Guide and shall be a minimum of 4-inch caliper.

<table>
<thead>
<tr>
<th>Staff Comments</th>
<th>N/A – No trees will be removed; the existing lot does not include plant material.</th>
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</thead>
<tbody>
<tr>
<td>☒ ☐ ☐</td>
<td>17.06.080A1c Site circulation shall be designed so pedestrians have safe access to and through the site and to building.</td>
</tr>
<tr>
<td>☒ ☐ ☐</td>
<td>17.06.080A1c The proposed design incorporates one (1) new ramped walkway to the sidewalk. Additionally, the design proposes improvements to the retaining wall on the south side of the lot, alongside the walkway and stairs on the neighboring lot.</td>
</tr>
<tr>
<td>☒ ☐ ☐</td>
<td>17.06.080A1d Building services including loading areas, trash storage/pickup areas and utility boxes shall be located at the rear of a building; the side of the building adjacent to an internal lot line may be considered as an alternate location. These areas shall be designed in a manner to minimize conflict among uses and shall not interfere with other uses, such as snow storage. These areas shall be screened with landscaping, enclosures, fencing or by the principal building.</td>
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<td>☒ ☐ ☐</td>
<td>17.06.080A1d-e 17.06.080e Loading Space Requirements and Dimensions. The following regulations shall apply to all commercial and industrial uses with on-site loading areas. A. One (1) loading space shall be provided for any single retail, wholesale or warehouse occupancy with a floor area in excess of 4000 square feet, except grocery and convenience stores where one (1) loading space shall be provided for a floor area in excess of 1000 square feet. An additional loading space shall be required for every additional 10,000 square feet of floor area, except grocery and convenience stores where an additional loading space shall be required for every additional</td>
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<td>5,000 square feet of floor area. Such spaces shall have a minimum area of 500 square feet, and no dimension shall be less than 12 feet. B. Convenient access driveways to loading spaces from streets or alleys shall be provided.</td>
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<td>As established in the Development Agreement, the Applicant will use the alley for loading spaces. Building services are currently accommodated by an enclosure on the adjacent lot with the mixed-use building.</td>
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<tr>
<td>17.06.080A1f</td>
<td>f. Where alleys exist, or are planned, they shall be utilized for building services.</td>
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<td>The existing alley is functional and has been incorporated into the design for vehicular access to the parking area, building services enclosure, and commercial loading.</td>
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<td>☒ ☐ ☐</td>
<td>17.06.080A1g</td>
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<td>N/A – No vending machines are proposed.</td>
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<td>☐ ☐ ☒</td>
<td>17.06.080(A)1h</td>
</tr>
<tr>
<td>i. Parking areas located within the SCI zoning district may be located at the side or rear of the building.</td>
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<td>ii. Parking areas may be considered at the side of buildings within the B, LB, TI, and LI zoning districts provided a useable prominent entrance is located on the front of the building and the parking area is buffered from the sidewalk adjacent to the street.</td>
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<td>The proposed parking lot is not on-site for the mixed-use building that it is meant to serve, it is on a separate lot and located to the side of the building—as it is allowed in the Business Zoning District. The Applicant proposes a landscape buffer between the parking area and sidewalk.</td>
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<td>☐ ☐ ☐</td>
<td>17.06.080(A)1i</td>
</tr>
<tr>
<td>The proposed parking lot is technically separate from the existing mixed-use building, and located to the side of the building on the neighboring lot. The design incorporates vehicular access from the alley and preserves the street frontage for pedestrian traffic.</td>
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17.06.080(A)1i
Snow storage areas shall be provided on-site where practical and sited in a manner that is accessible to all types of snow removal vehicles of a size that can accommodate moderate areas of snow.

**Staff Comments**
A Lot Line Adjustment Application to vacate the interior snow storage easements was approved in 2019. No further snow storage easements exist onsite, and the Applicant intends to haul snow off-site, as permitted in the Business (B) District, or if needed, the Applicant may utilize parking stalls to store snow in the interim until it can be hauled from the site.

The Commission found that the proposal met this standard.

17.06.080(A)1j
Snow storage areas shall not be less than 25% of the improved parking and vehicle and pedestrian circulation areas.

**Staff Comments**
A Lot Line Adjustment Application to vacate the interior snow storage easements was approved in 2019. No further snow storage easements exist onsite and the Applicant intends to haul snow off-site, as permitted in the Business (B) District, or if needed, the Applicant may utilize parking stalls to store snow in the interim until it can be hauled from the site.

The Commission found that the proposal met this standard.

17.06.080A1k
A designated snow storage area shall not have any dimension less than 10 feet.

**Staff Comments**
N/A, as no snow storage areas are proposed onsite at this time.

17.06.080A1l
Hauling of snow from downtown areas is permissible where other options are not practical.

**Staff Comments**
The Applicant intends to haul snow off-site.

The Commission found that the proposal met this standard.

17.06.080A1m
Snow storage areas shall not impede parking spaces, vehicular and pedestrian circulation or line of sight, loading areas, trash storage/pickup areas, service areas or utilities.

**Staff Comments**
N/A, as no snow storage areas are proposed at this time. The Applicant intends to haul snow from the site; however, the Applicant may utilize parking stalls to store snow in the interim until it can be hauled from the site.

17.06.080A1n
Snow storage areas shall be landscaped with vegetation that is salt-tolerant and resilient to heavy snow.

**Staff Comments**
Drought tolerant grasses, shrubs, and trees, plus riverstone mulch, are planned for the landscape perimeter and snow storage area. The proposed species are well-suited as street trees and parking lots because of their size and tolerance for stressful conditions, including snow and air pollution.

The Commission found that the proposal met this standard.

3. Accessory Structures, Fences and Equipment/Utilities: 17.06.080 (A) 3, items (a) thru (i)
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17.06.080A3g  

f. All ground-mounted mechanical equipment, including heating and air conditioning units, and trash receptacle areas shall be adequately screened from surrounding properties and streets by the use of a wall, fence, or landscaping, or shall be enclosed within a building.

Staff Comments  
N/A – The proposed design does not include ground-mounted mechanical equipment.

17.06.080(A)3h  

b. All service lines into the subject property shall be installed underground.

Staff Comments  
All services to the mixed-use building are installed underground.

17.06.080(A)3i  

c. Additional appurtenances shall not be located on existing utility poles.

Staff Comments  
N/A – No appurtenances are proposed on existing utility poles.

4. Landscaping: 17.06.080 (A) 4, items (a) thru (n)

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<tr>
<td>Yes</td>
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<tr>
<td>No</td>
<td>17.06.080A4a</td>
</tr>
<tr>
<td>N/A</td>
<td>a. Only drought tolerant plant species and/or xeriscape specific plant materials shall be used, as specified by the Hailey Landscaping Manual or an approved alternative.</td>
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<td>Staff Comments</td>
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<td></td>
<td>The design proposed drought tolerant grasses, shrubs, and trees, plus riverstone mulch. The proposed species are well-suited as street trees and for parking lots because of their size and tolerance for stressful conditions, including snow and air pollution. Please refer to Section 17.06.080A for further details.</td>
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<td>The Commission found that the proposal met this standard.</td>
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<td>Yes</td>
<td>17.06.080A4b</td>
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<td>No</td>
<td>b. All plant species shall be hardy to the Zone 4 environment.</td>
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<td>N/A</td>
<td>Staff Comments</td>
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<tr>
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<td>All the proposed plant species are hardy to the Zone 4 environment of the Wood River Valley.</td>
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<td>The Commission found that the proposal met this standard.</td>
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17.06.080A4c | c. At a minimum, a temporary irrigation system that fully operates for at least two complete growing seasons is required in order to establish drought tolerant plant species and/or xeriscape specific plant materials. Features that minimize water use, such as moisture sensors, are encouraged.

**Staff Comments** | Irrigation shall be required for the proposed design and has been made a condition of approval.

The Commission found that the proposal met this standard.

17.06.080A4d | d. Landscaped areas shall be planned as an integral part of the site with consideration of the urban environment. A combination of trees shrubs, vines, ground covers and ornamental grasses shall be used. New landscaped areas having more than 10 trees, a minimum of 10% of the trees shall be at least 4-inch caliper, 20% shall be at least 3-inch caliper, and 20% shall be at least 2½ inch caliper and a maximum of 20% of any single tree species may be used in any landscape plan (excluding street trees). New planting areas shall be designed to accommodate typical trees at maturity. Buildings within the LI and SCI-I zoning district are excluded from this standard.

**Staff Comments** | Thirteen (13) trees are planned for the perimeter of the parking lot, including the street frontage and northside of the lot abutting private property. The landscaping screens the parking lot and improves the pedestrian experience on River Street. Grasses and shrubs are planned at ground-level, below the trees. Two (2) of the proposed trees will improve the courtyard of the adjacent mixed-use building. As favored by the Hailey Tree Committee and recently by the Council, trees shall be no less than two-and-one-half (2 ½) inch caliper, but may be larger. The proposed trees are 2-2.5” caliper. The Landscape Plan does not delineate which trees will be of 2” or 2.5” caliper. Staff suggests that the trees proposed be no less than a 2.5” caliper. This has been made a Condition of Approval. Additionally, the Applicant is proposing a total of thirteen (13) trees onsite—the design surpasses the maximum allowed 20% or 2-3 trees of any one species, and includes 4-5 trees of each species. This shall be augmented to reflect a maximum of 20% of any single tree species to be planted onsite and no greater.

The Commission agreed to make this a Condition of Approval.

17.06.080A4e | e. Seasonal plantings in planter boxes, pots, and/or hanging baskets shall be provided to add color and interest to the outside of buildings in the LI and SCI-I zoning districts.

**Staff Comments** | N/A – This lot is located in the Business (B) and Townsite Overlay (TO) Zoning Districts.

17.06.080A4f | f. Plantings for pedestrian areas within the B, LB, TN and SCI-O zoning districts shall be designed with attention to the details of color, texture and form. A variety of trees, shrubs, perennials, ground covers and seasonal plantings,
With different shapes and distinctive foliage, bark and flowers shall be used in beds, planter boxes, pots, and/or hanging baskets.

**Staff Comments**

The design proposes a diversity of plant species, including:
- Three (3) different species of trees, of three different colors
- Two (2) different species of grasses, including three different colors; and
- One (1) type of shrub, which offers a unique geometry.

The green, yellow, red, and blue colors of the plant species differ, yet complement each other. The grasses, shrub, and trees provide a variety of textures and geometries—as does the river stone mulch groundcover. Please refer to Section 17.06.080A4 for further details.

The Commission found that the proposal met this standard.

**17.06.080A4g**

- Storm water runoff should be retained on the site wherever possible and used to irrigate plant materials.

**Staff Comments**

Storm water runoff will be retained onsite with one (1) drywell.

The Commission found that the proposal met this standard.

**17.06.080(A)4h**

- A plan for maintenance of the landscaping areas is required to ensure that the project appears in a well-maintained condition (i.e., all weeds and trash removed, dead plant materials removed and replaced).

**Staff Comments**

The landscaping maintenance will be coordinated by the property manager.

The Commission found that the proposal met this standard.

**17.06.080(A)4i**

- Retaining walls shall be designed to minimize their impact on the site and the appearance of the site.

**Staff Comments**

The Applicant proposes to improve the existing retaining wall between the mixed-use building courtyard and the proposed parking lot. The retaining walls are subtle and topped with landscaping. They distinguish between the pedestrian and vehicular circulation area, while maintaining a soft and open feel.

The Commission found that the proposal met this standard.

**17.06.080(A)4j**

- Retaining walls shall be constructed of materials that are utilized elsewhere on the site, or of natural or decorative materials.

**Staff Comments**

N/A – The retaining walls exist; the proposed improvements are minor and would not reconstruct the walls.

**17.06.080(A)4k**

- Retaining walls, where visible to the public and/or to residents or employees of the project, shall be no higher than four feet or terraced with a three-foot horizontal separation of walls.

**Staff Comments**

N/A – The retaining walls exist; the proposed improvements are minor and would not reconstruct the walls.
17.06.080(A)4l  
Staff Comments  
The existing retaining walls are subtle and topped with landscaping.  
The Commission found that the proposal met this standard.

17.06.080(A)4m  
Staff Comments  
N/A – The retaining walls and surrounding walkways are existing and located on the adjacent lot. This project does not intend to reconstruct the retaining walls nor reconfigure the pedestrian circulation around the retaining walls.

17.06.080(A)4n  
Staff Comments  
N/A – The retaining walls and surrounding walkways are existing and located on the adjacent lot. This project does not intend to reconstruct the retaining walls nor reconfigure the pedestrian circulation around the retaining walls.

**Additional Criteria for Parking and Loading Spaces**

1. General Requirements

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<tr>
<td>Yes</td>
<td>City Code: 17.09.020. Spaces Required: No building or structure shall be erected unless permanently maintained parking and loading spaces have been provided in accordance with the provisions of this chapter.</td>
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<td>Staff Comments: N/A – This project does not include a building, but rather proposes to improve parking for the adjacent mixed-use building.</td>
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<tr>
<td>No</td>
<td>City Code: 17.09.040.07 Alterations Require Additional Parking: Any person making any alteration to a building or use, which increases the required parking of the building or use beyond that already provided, shall provide the additional parking spaces mandated by the alteration prior to completion of the alteration, except as otherwise provided herein.</td>
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<td>Staff Comments: N/A – This project does not propose a new or altered building.</td>
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</table>
| N/A       | City Code: 17.09.040.07 C. Central Business District:  
|           | E. Continuation of a former use or a change of use within the central business district that does not involve the expansion of the gross floor area of the building is exempt from providing additional parking spaces.  
|           | 2. Should a change of use within the central business district involve the expansion of gross floor area of the building, only the additional building area is subject to the on-site parking requirements. (Ord. 1191, 2015) |
|           | Staff Comments: N/A – This project is located outside of the Central Core Overlay. |
### 2. Standards

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<th>City Code</th>
<th>Standards and Staff Comments</th>
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</table>
| ☒         | ☐   | ☐  | ☐   | 17.09.020.01 | LOCATION OF ON SITE PARKING SPACES: The following regulations shall govern the location of on site parking spaces and areas, except as otherwise provided below and in section 17.09.040.08 of this chapter:  
  E. Single-Family Dwellings: Parking spaces for all single-family dwellings shall be located on the same lot as the dwelling which they serve, except as otherwise provided in section 17.09.040.01 of this chapter.  
  B. Multi-Family, Institutional Uses: Parking spaces for multi-family or institutional uses shall be located not more than three hundred feet (300') from the principal use.  
  C. Commercial, Industrial Uses: Parking spaces for commercial or industrial uses shall be located not more than eight hundred feet (800') from the principal use and must be located within a B, LB, SCI or LI district.  
  D. Rear Location; Exception: New on site parking areas shall be located at the rear of the building, except within the SCI zoning district where parking is allowed at the side of the building.  
  E. Prohibited Location; Exception: On site parking areas are not permitted between the sidewalk within the public right of way and the primary frontage of a building, except where the location of an existing buildings or site conditions precludes another location for parking; such parking requires a landscape buffer, or an alternative approved by the administrator, between sidewalk and parking. (Ord. 1191, 2015) |
| ☐         | ☐   | ☝️ | ☐   | 17.09.040.07 | LOADING SPACE REQUIREMENTS AND DIMENSIONS: The following regulations shall apply to all commercial and industrial uses with on site loading areas:  
  A. Requirements: One loading space shall be provided for any single retail, wholesale or warehouse occupancy with a floor area in excess of four thousand (4,000) square feet, except grocery and convenience stores where one loading space shall be provided for a floor area in excess of one thousand (1,000) square feet. An additional loading space shall be required for every additional ten thousand (10,000) square feet of floor area, except grocery and convenience stores where an additional loading space shall be required for every additional five thousand (5,000) square feet of floor area. Such spaces shall have a minimum area of five hundred (500) square feet, and no dimension shall be less than twelve feet (12').  
  B. Access Driveways: Convenient access driveways to loading spaces from streets or alleys shall be provided; they shall not be less than twelve feet (12') in width.  
  C. Projection Prohibited: No loading space required by this chapter shall project into any street, alley or other public right of way. (Ord. 1191, 2015) |

**Staff Comments**

The proposed parking area is in the Business (B) District, includes commercial space, and is located less than 800 feet away from the mixed-use building courtyard. The proposed design meets these standards. The Commission found that the proposal met this standard.

The existing alley is functional and has been incorporated into the design for vehicular access to the parking area, building services enclosure, and commercial loading. Although contrary to code, the alley was permitted for...
loading space in the 2019 Design Review process, as well as within the existing Development Agreement.

The Commission found that the proposal met this standard.

17.09.020.03 PARKING CREDIT:
Nonresidential uses within the business, limited business districts and transitional districts may improve city right of way and may be credited with the parking spaces created by that improvement.
A. Location: Improvements shall be located within areas that meet the greatest number of the following criteria used to determine the funding priority of city projects:
   1. Located within one-fourth (1/4) or one-half (1/2) mile of a school;
   2. Provides continuous connection;
   3. Decreases a hazardous condition in need of repair;
   4. Located within or adjacent to designated bicycle and pedestrian corridors;
   5. Located within or adjacent to designated collectors;
   6. Provides neighborhood interconnection;
   7. Located within one-fourth (1/4) or one-half (1/2) mile of downtown or neighborhood services;
   8. Located within downtown.
B. Requirements For Credit: Parking credited shall be subject to the following requirements:
   1. Improvements for parking spaces to be credited to a property will be constructed in accordance with city standards and approved engineered drawings for the right of way. Sufficient space, exclusive of travel lanes, for the planned parking within the right of way must exist. These improvements may include concrete curb, gutter and sidewalk, asphalt paving, storm drainage, street trees, including irrigation, ornamental lamps, benches, trash receptacles or other street furniture, parking striping or any other improvement considered necessary or appropriate to the district and surrounding uses by the administrator or the commission.
   2. No parking area within any city right of way shall be held or used for exclusive parking for any property owner. The right of way shall be open to use by the public. Upon approval by the council, the right of way improved may be posted for short term parking only.
   3. Credit shall also be given for those improvements installed as a portion of a local improvement district (LID) which assessed the subject property.
   4. The owner or owner’s successors shall be credited the total number of spaces credited by an LID or other improvements to the city right of way allowed in this section. (Ord. 1191, 2015)

Staff Comments
N/A, as the proposed project is not eligible for this Parking Credit. The improvements to the public right-of-way were contemplated within the 2019 Development Agreement to satisfy a portion of the required number of parking spaces onsite. The proposed onsite parking spaces and public right-of-way improvements are required to adequately serve the building situated on Lot 20, Block 20.

17.09.020.04 MAINTENANCE:
The owner of property used for parking and/or loading shall maintain such area in good condition without holes and free of all dust, trash, other debris and snow. (Ord. 1191, 2015)

Staff Comments
The proposed parking area maintenance will be coordinated by the property manager.

The Commission found that the proposal met this standard.
<table>
<thead>
<tr>
<th>17.09.020.05</th>
<th>SURFACING AND CONSTRUCTION:</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td>All required parking and loading spaces, together with driveways, aisles and other circulation areas, shall be constructed in accordance with the city standards.</td>
</tr>
<tr>
<td>B.</td>
<td>Parking areas and driveways for single-family, accessory dwelling unit, and duplex residences may be improved with compacted gravel or other dustless material. (Ord. 1275, 2021; Ord. 1191, 2015)</td>
</tr>
</tbody>
</table>

**Staff Comments**
The proposed parking area will be paved with asphalt. The Commission found that the proposal met this standard.

<table>
<thead>
<tr>
<th>17.09.020.06</th>
<th>DRAINAGE:</th>
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<tbody>
<tr>
<td>All parking, loading or other nonpermeable surface areas shall provide for on site drainage of surface water to prevent the drainage of such water onto adjacent properties, walkways or into the public right of way. Drainage provided shall be in accordance with city standards. (Ord. 1191, 2015)</td>
<td></td>
</tr>
</tbody>
</table>

**Staff Comments**
The proposed design incorporates grading for drainage into one (1) new drywell well. The Commission found that the proposal met this standard.

<table>
<thead>
<tr>
<th>17.09.020.07</th>
<th>LIGHTING:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any parking area which is intended to be used during non-daylight hours shall be properly illuminated to avoid accidents. Any lights used to illuminate a parking lot shall be so arranged as to direct the light away from the adjoining property, and shall be of a type and method of construction to shield the light source from direct view from any adjacent property or right of way. All parking area lighting shall comply with the standards as set forth in chapter 17.08, article C of this title. (Ord. 1191, 2015)</td>
<td></td>
</tr>
</tbody>
</table>

**Staff Comments**
See Section 17.08C.040C for a detailed explanation of the lighting for the proposed parking area. The proposed design abides by the permitted luminance or foot candles (Fc, Code allows for up to 1.5 Fc), it proposes a maximum of 0.23 Fc on the northernmost side of the lot, abutting private property. Additionally, trees and a fence on the northside of the lot provide screening. Staff does not anticipate light trespass. The Commission found that the proposal met this standard.

<table>
<thead>
<tr>
<th>17.09.020.08A</th>
<th>ACCESS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Design: Except as otherwise provided herein, any parking area on private property shall be designed in such a manner that any vehicle leaving or entering the parking area from or onto a public street shall be traveling in a forward motion.</td>
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</tr>
</tbody>
</table>

**Staff Comments**
N/A – The design proposes vehicular access via the alley, not the public street.

<table>
<thead>
<tr>
<th>17.09.020.08B</th>
<th>THROUGH ALLEYS:</th>
</tr>
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<tbody>
<tr>
<td>B.</td>
<td>Where alleys exist, access to on site parking for any nonresidential use or for any multi-family dwelling of three (3) or more units shall be from the alley. Parking areas adjacent to alleys may be designed to allow a vehicle to back from the parking area into the alley.</td>
</tr>
</tbody>
</table>

**Staff Comments**
The design proposes vehicular access via the alley, for an adjacent off-site mixed-use building. The Commission found that the proposal met this standard.
17.09.020.08C  C. Alley Not Present: If the site is not serviced by an alley, access shall be from a single approach to the street to confine vehicular/pedestrian conflict to limited locations, allow more buffering of the parking area and preserve the street frontage for pedestrian traffic.

Staff Comments  N/A – The design proposes vehicular access via the alley.

17.09.020.08D  D. Visibility: Access for on site parking areas or loading spaces shall be located in such a way that any vehicle entering or leaving such area shall be clearly visible by a pedestrian or motorist approaching the access or driveway from a public or private street.

Staff Comments  N/A – The design proposes vehicular access via the alley, not the public street.

17.09.040.07E  E. Subdivisions: Access for subdivisions shall be provided in accordance with standards set forth in title 16, chapter 16.04 of this code.

Staff Comments  N/A – The design does not include a subdivision.

17.09.040.07F  F. Backing Design Permitted: Parking areas containing no more than two (2) parking spaces in any zoning district or parking areas within the LR, GR, TN, TI and LI districts may be designed to allow a vehicle to back from the parking area into the public right of way.

Staff Comments  Visitors may use the public alley to back out of the two (2) parking stalls furthest to the southeast. The proposed design prohibits backing into the public right of way on the street frontage.

The Commission found that the proposal met this standard.

17.09.040  G. Stacking: Parking areas for residential uses only may be designed to allow required parking spaces for one vehicle to deny access to another vehicle, thus "stacking" the parking area. For nonresidential uses, stacked parking may be allowed only for additional spaces that may be provided in excess of the required number of parking spaces. (Ord. 1191, 2015)

Staff Comments  N/A – No stacked parking areas are planned.

17.09.020.0 SCREENING & LANDSCAPING:

A. Screening From Residential Property:
1. All loading space areas and parking areas shall be screened from a public street and shall be screened on all sides which adjoin or face any residential property.
2. The screening shall consist of an acceptably designed wall, fence or drought tolerant landscaping.
3. Such a fence or wall shall be not less than four feet (4') nor more than six feet (6') in height and shall be maintained in good condition. The space between such fence or wall and the lot line of the adjoining premises in any residential district shall be landscaped with drought tolerant landscaping and maintained in good condition.

Staff Comments  The proposed parking area is screened from the street frontage and abutting private property to the north by one (1) six-foot cedar fence on the northern lot line, and landscaping on the western and northern lot lines. The proposed design meets these standards.

The Commission found that the proposal met this standard.
### 17.09.020.0B

When Buffer Required: When a project is being reviewed pursuant to chapter 17.06 of this title, and an existing on site parking area is located adjacent to a sidewalk, a landscape buffer is required between the surface of the parking area and the sidewalk.

**Staff Comments**

The proposed design incorporates a landscape buffer between the parking area and sidewalk. See Sections 17.06.080A4a-n for more details. The proposed design meets these standards.

*The Commission found that the proposal met this standard.*

**Compliant Standards and Staff Comments**

<table>
<thead>
<tr>
<th>Standard</th>
<th>Staff Comments</th>
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</thead>
<tbody>
<tr>
<td>17.09.020.0B</td>
<td>The proposed design incorporates a landscape buffer between the parking area and sidewalk. See Sections 17.06.080A4a-n for more details. The proposed design meets these standards.</td>
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### 17.09.020.0B

Landscaping Within Parking Area: Parking areas designed to accommodate sixty (60) or more cars shall include landscaping appropriately located within the parking area to adequately break up the pavement area. The landscaping shall include deciduous trees no smaller than two inch (2") caliper.

**Staff Comments**

The parking lot only includes 37 parking stalls and landscaping on the perimeter. Landscaping within the parking area is neither required nor included.

*The Commission found that the proposal met this standard.*

**Compliant Standards and Staff Comments**

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<tr>
<th>Standard</th>
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### 17.09.020.0B

Mitigation for Accessory Dwelling Unit parking spaces: Parking stalls for Accessory Dwelling Units shall be reviewed to assess light trespass into residential indoor living areas on adjacent properties. Mitigation measures may include fencing, landscaping, screening, landscape walls, and similar treatments. (Ord. 1275, 2021; Ord. 1191, 2015)

**Staff Comments**

N/A – This project does not involve Accessory Dwelling Units.

*The Commission found that the proposal met this standard.*

**Compliant Standards and Staff Comments**

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### 17.09.020.10

WHEEL BLOCKS:

Whenever a parking lot extends to a property line, wheel blocks or other suitable devices shall be installed to prevent any part of a parked vehicle from extending beyond the property line. (Ord. 1191, 2015)

**Staff Comments**

N/A – The design does not propose any parking stalls abutting property lines.

### 17.09.030

ON SITE PARKING DIMENSION:

For the purposes of this chapter, the dimensions of all parking areas within the city right of way shall be in accordance with the city standards. The dimensions of all on site parking areas shall be according to the following table:

- Parking Angle: 60 degrees; 90 degrees
- Stall Width: 9 feet; 9 feet
- Stall Depth: 21 feet; 18 feet
- Aisle Width: 18 feet; 24 feet

**Staff Comments**

The proposed design adheres to the standards for parking stalls angled at 60 and 90 degrees. Respectively, it includes:

- stall widths of 9 feet;
- stall depths of 21 and 18 feet;
- aisle widths of 18 and 24 feet.

*The Commission discusses the parking dimensions at length. As articulated in the Conditions of Approval, City Staff and the Applicant Team will work internally to refine the River Street Concept if and where necessary. The Commission found that the proposal met this standard.*

**Compliant Standards and Staff Comments**

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<tr>
<td></td>
<td>- aisle widths of 18 and 24 feet.</td>
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*The Commission discusses the parking dimensions at length. As articulated in the Conditions of Approval, City Staff and the Applicant Team will work internally to refine the River Street Concept if and where necessary. The Commission found that the proposal met this standard.*
17.09.040.01  RESIDENTIAL

| Staff Comments | N/A – The proposed parking area is for a mixed-use building subject to the shared parking provisions below. |

17.09.040.02  COMMERCIAL, PROFESSIONAL, SERVICE, RECREATION AND ENTERTAINMENT:

All commercial, professional, service, recreation and entertainment uses shall provide improved parking in the amount of one parking space for every one thousand (1,000) square feet of gross building area, except as follows:

| Staff Comments | N/A – The proposed parking area is for a mixed-use building subject to the shared parking provisions below. |

17.09.040.03  INSTITUTIONAL:

| Staff Comments | N/A – The proposed parking area is for a mixed-use building subject to the shared parking provisions below. |

17.09.040.04  SCHOOLS:

| Staff Comments | N/A – The proposed parking area is for a mixed-use building subject to the shared parking provisions below. |

17.09.040.05  INDUSTRIAL:

| Staff Comments | N/A – The proposed parking area is for a mixed-use building subject to the shared parking provisions below. |

7.09.040.06  EXCESS OF PERMITTED PARKING

A. Approval Required: No use shall provide on site parking for more than two hundred percent (200%) of the number of spaces required by this chapter unless permitted by specific action of the commission. Applications for parking in excess of that normally permitted will be heard by the commission as part of other applications, or, where no other application is pertinent, under the notice and hearing procedures set forth for design review.

B. Criteria: The commission shall consider the following criteria when evaluating any application for parking in excess of that normally permitted. Applicants are required to satisfy at least four (4) of the following criteria:

1. The excess parking area will be commonly used for public interests such as park and ride or carpool lots. The property owner will be permitted to reserve the use of the parking area twelve (12) days in any calendar year.
2. The excess parking area provided would relieve or help to relieve a substantial shortage of parking within an eight hundred foot (800') radius.
3. The excess parking area will not be adjacent to a public right of way, and will be separated from the right of way by a building.
4. The excess parking area is part of an overall development scheme which compensates for insufficient parking in other portions of the same development.
5. The excess parking area will be used as an alternate facility, such as a basketball court or skateboard park, when not in use as an overflow parking area. The property owner will be permitted to reserve the use of the parking area twelve (12) days in any calendar year.
6. The excess parking area will surfaced with an alternative and attractive material. (Ord. 1191, 2015)

| Staff Comments | Forty-nine (49) parking spaces were originally required of the properties within the 2008 Development Agreement. Within the Seconded Amended |
| 17.09.040.08(A) | **17.09.040.07: BICYCLE PARKING:**  
All multi-family residential and commercial or mixed-use development, including new construction and additions, shall provide at least three (3) bicycle parking spaces or bicycle spaces equivalent to twenty five percent (25%) of the required number of vehicle parking spaces, whichever is greater. (Ord. 1191, 2015) |
<p>| Staff Comments | Bicycle racks exist in front of the building located at 314 South River Street. It doesn’t appear that additional bicycle spaces are proposed at this time. The Commission found that the proposal met this standard. |
| 17.09.040.08A | <strong>17.09.040.08A: Shared Parking Program:</strong> Notwithstanding any other parking requirements set forth in this chapter, a mixed use shared parking program (“shared parking program”) may be applied where mixed uses are proposed or existing, and the mix of uses creates staggered peak periods of parking demand. A shared parking program allows the property developer to use parking spaces more efficiently by allowing the same spaces to be “shared” by various land uses, thus reducing the total amount of required parking. A shared parking program may include parking on the same site or different sites subject to the provisions herein. Shared parking is not intended to be used by two (2) or more residential uses or other uses which have the same peak demand. |
| Staff Comments | It appears that the proposed parking area qualifies as a shared program for the mixed-use building on the adjacent lot. The Applicant can further describe if they intend to utilize a Shared Parking Program in this location. The Commission found that the proposal met this standard. |
| 17.09.040.08B | <strong>17.09.040.08B: Conditions:</strong> The commission may approve a shared parking program; provided that: 1) pedestrian access is provided to and from the parking area and the building; and 2) all other requirements set forth herein are met. |
| Staff Comments | The proposed project incorporates pedestrian access between the improved parking area, mixed-use building, and sidewalk. The Commission found that the proposal met this standard. |
| 17.09.040.08C | <strong>17.09.040.08C: Conditions:</strong> The commission may approve a shared parking program; provided that: 1) pedestrian access is provided to and from the parking area and the building; and 2) all other requirements set forth herein are met. |
| Staff Comments | The proposed design incorporates two (2) ADA parking spaces. The Commission found that the proposal met this standard. |</p>
<table>
<thead>
<tr>
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<th><strong>17.09.040.08D</strong></th>
<th>Feasibility; Maximum Reduction: Those wishing to apply for a shared parking program must demonstrate to the commission the feasibility of shared parking in accordance with this section. The maximum reduction in the number of parking spaces required for all uses sharing the parking area shall be twenty percent (20%), unless otherwise provided by subsection F of this section.</th>
</tr>
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<tr>
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<td></td>
<td><strong>Staff Comments</strong></td>
<td>It appears that the proposed parking area qualifies as a shared program for the mixed-use building on the adjacent lot. The Applicant can further describe if they intend to utilize a Shared Parking Program in this location. The Commission found that the proposal met this standard.</td>
</tr>
</tbody>
</table>
|   |   |   | **17.09.040.08E** | Location On Different Lot Than Use: Shared parking spaces may be located on a different lot than the use, which it serves only where the following conditions are met:
   1. The parking is located no more than three hundred feet (300') from the use that it serves. The distance between the use and the parking lot shall be measured following a reasonable and safe walking route from the main entrance of the use to the nearest parking lot;
   2. The applicant(s) for a building permit or certificate of occupancy for the use which is to be served by a shared parking program shall submit a copy of a written agreement pursuant to subsection H of this section, along with his or her application for such permit or certificate. |
|   |   |   | **Staff Comments** | The proposed project is a parking area adjacent to the building it intends to serve, and is less than 300 feet from said building. The proposed design includes one (1) new walkway connecting the sidewalk, mixed-use building courtyard, and parking area; and relies on existing pathway infrastructure for additional pedestrian circulation between the parking area and courtyard. If intended and approved as a shared-parking program, the mixed-use building tenants shall submit a sign, as well as a shared-parking program agreement as part of their terms of occupancy. The Commission found that the proposal met this standard. |
|   |   |   | **17.09.040.08F** | F. Shared Parking Study: Determination of the shared parking requirements may be determined by the applicant using the parking calculation methods set forth in subsection G of this section, or the commission, in its sole and absolute discretion may allow shared parking arrangements based upon a more detailed study which clearly establishes which uses will utilize the shared spaces at different times of the day, week, month or year. A more detailed study may:
   1. Be based on the urban land institute's or another accredited methodology;
   2. Address the size and type of activities, the composition of tenants, the rate of turnover for proposed shared spaces and the anticipated peak parking and traffic loads. |
|   |   |   | **Staff Comments** | Staff does not consider a shared parking study to be necessary at this time. The Commission found that the proposal met this standard. |
|   |   |   | **17.09.040.08G** | G. Parking Credit Schedule Chart For Mixed Use Shared Parking Calculation: The minimum number of parking spaces required for a shared parking plan may be determined by multiplying the minimum parking requirements for each individual use by appropriate percentage, as set forth in table 1 of this section, for each of the five (5) designated time periods, and then add the resulting sums from each vertical |
The column total having the highest total value is the minimum shared parking space requirement for that combination of land uses.

**Staff Comments**

The 2019 Development Agreement articulates 25,431 square feet being used for commercial space and 1,161 square feet being used for one (1) residential unit in the mixed-use building, for a total building square footage of 26,592 square feet. Mixed-use buildings are required to provide 1.5 spaces per unit and commercial spaces are required to provide one (1) space per 1,000 square feet of building area. Approximately 26 spaces are required to satisfy the commercial parking standards, as well as 1.5 spaces to satisfy the residential unit, which totals 27.5 parking spaces. The Applicant is proposing 27 parking spaces within the parking area, as well as ten (10) additional parking spaces within the public right-of-way, as contemplated within the 2019 Development Agreement. When calculated referencing Table 1 in Section 17.09.040.8G, the shared parking space requirement is reduced by 1.5 spaces, or to 25.5 spaces.

That being said, neither Staff nor the Applicant could verify the correct gross square footage of the building, which underwent several design modifications. If the Applicant and Staff agree to utilize the Shared Parking Program, gross square footage of the building will be determined and, subsequently, Staff and the Applicant will clarify how many parking stalls are required. An acceptable plan will be presented at a subsequent hearing.

The Commission found that the proposal met this standard.

**17.09.040.08**

**H. Agreement For Shared Parking Plan:** The developer(s) applying for a shared parking program in accordance with this section shall submit a written agreement approved by the city attorney requiring that the parking spaces shall be maintained as long as the uses requiring the parking exist or unless the required parking is provided elsewhere in accordance with the provisions of this section. Such written agreement shall be recorded by the developer(s) with the Blaine County recorder prior to the issuance of a building permit or business license if no building permit is necessary, and a copy filed in the project review file. The agreement shall, at a minimum:

1. List the names and ownership interest of all parties to the agreement and contain the signatures of those parties;
2. Provide a legal description of the land upon which the parking area(s) and building(s) appurtenant to the parking areas are located;
3. Include a site plan showing the area of the parking parcel and open space reserved area which would provide for future parking;
4. Agree and expressly declare the intent for the covenant to run with the land and bind all parties and all successors in interest to the covenant;
5. Assure the continued availability of the spaces for joint use and provide assurance that all spaces will be usable to all participating uses;
6. Describe the obligations of each party, including the maintenance responsibility to retain and develop reserved open space for additional parking spaces if the need arises;
7. Describe the method by which the covenant may be revised, if necessary.

**Staff Comments**

If approved as a shared-parking program, the Applicant shall review and sign a written agreement, prepared by staff and the City Attorney, affirming both the committed intent of serving the adjacent mixed-use building and the conditions determined by the Planning & Zoning Commission.

The Commission found that the proposal met this standard.
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<tr>
<th></th>
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<th><strong>17.09.040.08I</strong> Change In Use: In the event a use is changed, the application for the new business license related to the changed use must be accompanied by evidence that the parking necessary for the new uses does not exceed the amount that was required by the previous uses, or that the applicant can satisfy the parking requirements existing at that time. (Ord. 1191, 2015)</th>
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<tbody>
<tr>
<td></td>
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<td><strong>Staff Comments</strong> The Applicant shall satisfy this requirement in the event of a change in use. The Commission found that the proposal met this standard.</td>
</tr>
</tbody>
</table>

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<tr>
<th></th>
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<th><strong>17.09.050 IN LIEU CONTRIBUTIONS</strong> 17.09.050.01 PURPOSE: In lieu parking contributions are hereby created to allow the city to waive parking requirements set forth in this chapter in exchange for the payment of fees to the parking improvement fund. (Ord. 1191, 2015)</th>
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<td><strong>Staff Comments</strong> N/A – No in-lieu contributions are proposed as part of this project.</td>
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</table>

|   |   |   | **17.09.050.02 GENERAL PROVISIONS:**  
A. Application; Review: In lieu of providing the parking spaces required by this chapter, the owner of a building or use requiring parking spaces may, at their option, make application to the commission to make payments to the city, in an amount per parking space to be specified by the council by separate ordinance, for each parking space not provided.  
B. In Lieu Amount Reviewed By Council: The per space in lieu amount shall be reviewed on an annual basis by the council. Factors to be considered by the council when establishing the amount of funds to be contributed per in lieu space are: the cost of land; the amount of land needed for each parking space along with travel lanes, landscape areas and other amenities; the cost of physical improvements to the property, including grading, compaction, drainage, asphalt, concrete, landscaping, lighting, striping and other amenities as may be considered appropriate.  
C. Recommendation To Council: The commission, after hearing the application and receiving public testimony concerning it, shall make a recommendation to the council concerning the number, if any, of in lieu payments to be allowed.  
D. City Right To Deny: Maximum Percentage: The city reserves the right to deny in lieu payment. The maximum number of payments any business may make in lieu of providing parking shall not be greater than thirty three percent (33%) of the total number of parking spaces required.  
E. Elimination Of Off Street Parking: Property owners may eliminate existing off street parking if in lieu payment is approved and made according to the provisions of this section.  
F. Use Of Funds Received: All funds received in lieu of parking spaces shall be placed into a separate parking improvement fund to be used solely for the acquisition and/or improvement of public parking.  
G. Payment: Payment of in lieu fees must be made to the city prior to issuance of the applicable building permit or, in the case of an existing building, prior to issuance of a business license. (Ord. 1191, 2015) establishes which uses will utilize the shared spaces at different times of the day, week, month or year. A more detailed study may:  
1. Be based on the urban land institute’s or another accredited methodology;  
2. Address the size and type of activities, the composition of tenants, the rate of turnover for proposed shared spaces and the anticipated peak parking and traffic loads. |
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<td><strong>Staff Comments</strong> N/A – No in-lieu contributions are proposed as part of this project.</td>
</tr>
</tbody>
</table>
CONCLUSIONS OF LAW

Based upon the above Findings of Fact, the Commission makes the following Conclusions of Law:

1. Adequate notice, pursuant to Title 17, Section 17.14.040(A), was given.
2. The project is in general conformance with the Hailey Comprehensive Plan.
3. The project does not jeopardize the health, safety, or welfare of the public.
4. Upon compliance with the conditions set forth, the project conforms to the applicable standards of Chapter 17.14, Amendment, other Chapters of Title 17 and City Standards.

DECISION

A Design Review Application, submitted by FAPO Holdings Idaho, LLC, c/o Engel and Associates, LLC, represented by Samantha Stahlnecker, PE, of Opal Engineering, for the proposed parking lot improvements at 306 and 308 South River Street (Lots 13 and 14A, Block 20, Hailey Townsite), was approved, finding that the project does not jeopardize the health, safety or welfare of the public and the project conforms to the applicable specifications outlined in the Design Review Guidelines, applicable requirements of the Zoning Ordinance, Title 18, and City Standards, provided conditions (a) through (l) are met:

a) All applicable Fire Department and Building Department requirements shall be met.
b) All City infrastructure requirements shall be met. Detailed plans for all infrastructure to be installed or improved at or adjacent to the site shall be submitted for Department Head approval and shall meet City Standards where required.
c) The project shall be constructed in accordance with the application or as modified by these Findings of Fact, Conclusions of Law and Decision.
d) All new and existing exterior lighting shall comply with the Outdoor Lighting requirements according to 17.08C.
e) This Design Review approval is for the date the Findings of Fact are signed. The Planning and Zoning Administrator has the authority to approve minor modifications to this project prior to, and for the duration of a valid Building Permit.
f) The Landscape Plan shall be updated to show that all trees planted onsite be no less than two-and-one-half (2 ½) inches in caliper size.
g) The Landscape Plan shall be updated to show that all trees planted onsite do not exceed a maximum of 20% of any single tree species.
h) A municipal water connection from the main line in the alley to the proposed street trees and onsite landscaping shall be established as part of the requested River Street Design Concept.
i) If a Shared Parking Program is utilized, City Staff and the Applicant shall develop a written agreement affirming both the committed intent of serving the adjacent mixed-use building and the conditions determined by the Planning & Zoning Commission.
j) Verification of the total number of required parking spaces to serve the building situated on Lot 20A, Block 20, will be pursued by City Staff and the Applicant. Any changes or modifications hereto will be accounted for via a Design Review Modification, as approved by the Administrator and Chair.
k) The Applicant shall incorporate the River Street Design within the proposed project, which best reflects the multimodal transportation concept as approved by the Hailey City Council. The
Applicant Team and City Staff shall work internally to modify the River Street Concept, if and where necessary for the dimensions of parking stalls, bike lanes, and sidewalks. The final design shall be reviewed and approved by the City Engineer prior to the commencement of construction.

l) A Right-of-Way (ROW) Maintenance Agreement shall be developed and approved by the Hailey City Council with regard to infrastructure maintenance prior to completion of construction.

Signed this _____ day of ________________, 2022.

_____________________________
Janet Fugate, Planning & Zoning Commission Chair

Attest:

_____________________________
Jessie Parker, Community Development Assistant
Return to Agenda
Overview: Continuation of a Design Review Application by West of First, LLC, represented by Opal Engineering, for construction of a new 44-unit apartment building, to be located at 40 McKercher Boulevard (Lot 1B, Block 2, Northridge Subdivision X). This parcel is located within the Business (B) and Downtown Residential Overlay (DRO) Zoning District.

Applicant: West of First, LLC

Location/Size: 40 McKercher Boulevard (Lot 1B, Block 2, Northridge Subdivision X); 31,855 sq. ft. (0.73 acres)

Zoning: Business (B) and Downtown Residential Overlay (DRO) Zoning Districts

Notice: Notice for the September 19, 2022, public hearing was published in the Idaho Mountain Express on August 31, 2022 and mailed to property owners within 300 feet on August 31, 2022.

Background and Application: In June 2021, Larry Green of L.L. Green’s received approval to rezone the subject parcel from Limited Business (LB) to Business (B) and remain within the Downtown Residential Overlay (DRO) Zoning District. The Final Plat to subdivide the parcel into two (2) lots, Lot 1A and Lot 1B (subject parcel) was also approved by the Hailey City Council in October 2021. Construction for the new L.L. Green’s Hardware Store is currently underway and will be constructed on Lot 1A. The proposed multifamily apartment building is requesting Design Review approval to begin construction on Lot 1B.

This project, to be known as 40 McKercher, will comply with the DRO requirements and is proposing the following:

- 44 residential units to comprise of:
  - Eight (8) two-bedroom units (1,226 sq. ft.)
  - Fourteen (14) one-bedroom units (624 sq. ft.)
  - Twenty-two (22) studio units (553 sq. ft.)
- 56 total parking spaces:
  - 35 parking spaces within the enclosure (regular, compact, ADA, guest)
  - 21 parking spaces along the eastern side of the building (covered, uncovered, regular, compact, ADA, guest)

Shared vehicular access from existing easement between Lot 1A and 1B.
• Secondary Driveway Access, Drainage, Landscaping and Utility Easement along east side of building
• Reconstruction of the asphalt multiuse pathway to 10’ in width
• 3,800 square feet of common useable open space
• Additional covered storage for all residential units
• Sustainable Building Initiatives: Build Better Program, US Green Building initiatives – utilizing Glulam/CLT and modular wood construction, utilizing Energy Start appliances, and future proofed for solar and electric-vehicle charging

Parking for the proposed units will be accessed off the proposed driveway access, drainage, landscaping, and utility easement along the east side of the building, and from the existing public street, McKercher Boulevard. Twenty-one (21) parking spaces are proposed off this easement, which includes six (6) guest parking spaces, compact, regular, and ADA-compliant spaces. A 20’-wide entrance to a heated garage is also accessed off this easement. The garage contains 33 parking stalls. Two (2) guest spaces achieve access from the westernmost approach of the building, from the existing driveway access easement to benefit Lot 1B. All proposed parking is located on private property. Trash and recycling access can be achieved via the existing westernmost easement.

While the apartment building is located within the Business (B) Zoning District, the Applicant is utilizing the Downtown Residential Overlay (DRO). Requirements within the DRO allow for greater flexibility with regard density, parking, open space, and setbacks. The Applicant is proposing a front yard setback of 25’ (required by the plat), a side yard setback of 4’-2” (west) and 23’ (east), and a rear yard setback of 0’. These setbacks are generous within the Business (B) District, as a 0’ setback is permitted on all sides.

Procedural History: The Planning and Zoning Commission first heard the Planned Unit Development (PUD) and Design Review Pre-Applications on May 2, 2022. The Commission suggested that the Applicant Team consider the following:

• Deed or rent-restricting units. The Applicant Team did not propose to offer deed or rent-restrict residential units.
• Provide elevation of building from street level, specifically from First Avenue. The Applicant provided a color elevation of the building from First Street, which is attached.
• Create more useable open space. The Applicant Team proposed to plant large trees and landscape features for residents and neighbors. Walkways framed by low level gabions provide wayfinding, and the parklet/green space adjacent McKercher Boulevard, provide attractive, exterior seating for residents and visitors alike. Patio space to the rear of the building is also proposed, and landscaping along the western side of the building naturally divides the building from the existing driveway easement.
• Supply underground parking, if utilizing as an amenity for PUD. The Applicant Team withdrew the PUD Application, and they are no longer requesting waivers to the building height. No underground parking is proposed at this time.
• Reduce building height and/or density. The Applicant Team withdrew the PUD Application, and they are no longer requesting waivers to the overall building height. The building height proposed is 35’, which is a permitted building height in the Business (B) Zoning District.
Then, at the first Design Review Application hearing on August 1, 2022, the Planning and Zoning Commission suggested that the Applicant Team consider incorporating and/or providing the following:

- **Removal of the gated entry into the covered parking area.** While not required within Title 17, the Applicant has chosen to remove the proposed parking area gate.
- **Provide a Water Model Study commenting on water pressure and flow rates in this area.** The Applicant has provided a Hydraulic Modeling Study from Clear Solutions Engineering (any comments from the City’s Contract Engineer, HDR, will be brought to the hearing). This technical memorandum presents the results of hydraulic modeling with any potential impacts of the 40 McKercher project on the water system.

To best assess the potential impacts of the proposed project on the water system, three (3) criteria were reviewed – **Fire Flow**, **System Pressure**, and **System Velocity** (see Table 3 and the summary below for further details):

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>CURRENT CONDITIONS</th>
<th>AFTER PROJECT</th>
<th>STANDARD</th>
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<tbody>
<tr>
<td>Fire Flow Availability</td>
<td>1,869 gpm</td>
<td>1,830 gpm</td>
<td>1,500 gpm minimum</td>
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<tr>
<td>Pressure at Peak Hour Demand</td>
<td>71 psi</td>
<td>71 psi</td>
<td>40 psi minimum</td>
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<tr>
<td>Water Velocity at Peak Hour Demand</td>
<td>0.10 fps</td>
<td>0.38 fps</td>
<td>&lt;6 fps for planning</td>
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- **Fire Flow.** The State of Idaho requires public water systems to provide sufficient fire flow availability during maximum day demands while maintaining a 20 pounds per square inch (psi) residual pressure in the distribution system. A minimum fire flow requirement of 1,500 gallons per minute (gpm) was established and approved by the City in the City’s 2015 Water Master Plan. The fire flow availability after construction of the proposed project would result in an availability of 1,830 gpm.

- **System Pressure.** The State of Idaho requires public water systems to maintain a minimum pressure of 40 psi throughout the distribution system during peak hour demands. The minimum pressure after construction of the proposed project would result in a pressure of 71 psi at peak hour demand.

- **System Velocity.** While the State of Idaho does not regulate pipe velocities in water distribution systems, velocities that exceed 6 to 8 feet per second (fps) result in decreased system performance and may result in excessive water hammer (vibrating pipes due to high pressure). For best practices, maintaining pipe velocities below 6 fps is recommended. The system velocity after construction of the proposed project would result in 0.38 fps at peak hour demand.

For each of the criteria established above and located within Section 3 of the attached study, the system exceeds state regulatory requirements, as well as the recommended engineering standards for water system performance.
In conclusion, the proposed development has a negligible impact on the available fire flow, system pressure, and system velocity in the project area, and the City’s water system will continue to operate at an acceptable level with the additional demand from the proposed 44-unit project.

- **Deed or rent-restricting units.** Currently, the Applicant Team is not proposing to deed or rent-restrict any of the residential units.

- **Consider the utilization of traffic calming measures.** The Applicant Team has supplied revised Civil Design Plans that illustrate pavement markings within the multiuse pathway, as well as the addition of a stop sign at the new private access approach onto McKercher Boulevard. The Applicant considered the inclusion of speed bumps; however, felt the markings and stop sign were more effective in providing protection of bicyclists and pedestrians utilizing the multiuse pathway.

- **Consider the addition of a berm and/or sound buffering.** The Applicant Team is proposing open space between McKercher Boulevard and the proposed building; however, the Applicant Team feels this area is not large enough to provide for an effective sound-buffering berm. To provide some sound protection on the second and third levels, the Applicant Team is suggesting the addition of conifer trees in-lieu of the currently proposed deciduous trees along McKercher Boulevard. City Staff prefers to see tree species from the Approved Street Tree list utilized in this
area, as said trees, while located on private property, are considered street trees (also made a Condition of Approval within the Final Plat Application of Lot 1A and 1B (L. L. Green’s)).

Public Hearing: A public hearing before the Planning and Zoning Commission was held on August 1, 2022, in the Hailey City Council Chambers and remotely via GoTo Meeting. The project was continued, as the Commission requested that a Water Model Study be provided. A public hearing before the Planning and Zoning Commission will be held on September 19, 2022, in the Hailey City Council Chambers and remotely via GoTo Meeting.

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**Engineering:** A Water Model Study was recommended by the City Engineer to prove water pressure and flow rates in this area. This study has been provided and is attached to this report. In summary, the Hydraulic Modeling Study and Memorandum from Clear Solutions Engineering notes that the impacts of the proposed development are negligible, and the City’s water system will continue to operate at an acceptable level with the additional demand (refer to the ‘Background and Application’ section of this report for further details).

This analysis, while completed by a third party, will also be reviewed by the city’s contract engineer (SPF/HDR) for review and comment. Any comments made by SPF/HDR will be brought to the hearing.

**Life/Safety:** The building shall comply with IFC and IBC code requirements. No additional comments at this time.

**Water and Sewer:** No comments

**Building:** No comments

**Streets:** Drywell Permits shall be applied for at the time of the Building Permit.

An aging eight (8) foot wide multiuse asphalt pathway exists along the property frontage (McKercher Boulevard) of the project. In lieu of the installation of a sidewalk or sidewalk in-lieu fees, the Applicant is required to reconstruct and increase this pathway to ten (10) feet in width along the property frontage, as well as the installation street trees (required by the Final Plat of L.L. Greens).

The Streets Division recommends that the Applicant install audible warning inserts at the crosswalks over the easement between the subject parcel and L.L. Greens. This has been made a Condition of Approval.

Regarding drainage improvements, the Streets Division further recommends that the proposed drywell located within the multiuse asphalt path be relocated outside of the pathway (see image within the Staff Report for further details). This has been made a Condition of Approval.

Additionally, the Streets Division requests the following:
- No winter parking will be permitted along McKercher Boulevard and First Avenue. Any issues that arise or towing expenses will be the responsibility of the owner and/or HOA. This has been made a Condition of Approval.

17.08A Signs

17.08A Signs: The applicant is hereby advised that a sign permit is required for any signage exceeding four square feet in sign area. Approval of signage areas or signage plan in Design Review does not constitute approval of a sign permit.

Staff Comments
N/A, as no signage is proposed at this time. Signage must be reviewed via a Sign Permit Application, if proposed, and comply with City Standards.

17.09.040 On-site Parking Req.

See Section 17.09.040 for applicable code.

Staff Comments
The proposed project is located within the Downtown Residential Overlay (DRO). The Hailey Municipal Code requires a minimum of one (1) parking space per residential dwelling unit. The project proposes a total of 44 residential units, thereby requiring that 44 onsite parking spaces be provided.

The site plan shows a total of 56 parking spaces, which includes eight (8) guest parking spaces, as outlined within the DRO – at least one (1) parking space shall be provided for every six (6) dwelling units where the public right-of-ways are not improved. This provision requires that approximately eight (8) additional spaces be provided onsite, and the Applicant Team has shown eight (8) guest spaces and four (4) extra spaces in addition to the required 44 spaces. The total number of spaces provided onsite is 56 parking stalls.

Further, thirty-three (33) of the proposed spaces will be enclosed and on the ground level within the proposed building. These spaces will be guest, regular, compact and ADA. Twenty-one (21) spaces will be exterior spaces along the eastside of the structure. These spaces will be covered, uncovered, guest, regular, compact, and ADA. Two (2) additional spaces, located off the westernmost driveway access easement, are proposed as guest spaces. Three (3) accessible spaces have also been provided onsite: two (2) are located within the structure and one (1) space is located along the eastern side of the building, and closest to the lobby entrance, stairs, and elevator.

The project meets the total number of parking spaces required by the Hailey Municipal Code.

17.09.040.06: EXCESS OF PERMITTED PARKING:

A. Approval Required: No use shall provide on-site parking for more than two hundred percent (200%) of the number of spaces required by this
### 17.08C.040 Outdoor Lighting Standards

**General Standards**

- All exterior lighting shall be designed, located and lamped in order to prevent:
  1. Overlighting;
  2. Energy waste;
  3. Glare;
  4. Light Trespass;
  5. Skyglow.
- All non-essential exterior commercial and residential lighting is encouraged to be turned off after business hours and/or when not in use. Lights on a timer are encouraged. Sensor activated lights are encouraged to replace existing lighting that is desired for security purposes.
- Canopy lights, such as service station lighting shall be fully recessed or fully shielded so as to ensure that no light source is visible from or causes glare on public rights of way or adjacent properties.
- Area lights. All area lights are encouraged to be eighty-five (85) degree full cut-off type luminaires.
- Idaho Power shall not install any luminaires after the effective date of this Article that lights the public right of way without first receiving approval for any such application by the Lighting Administrator.

**Staff Comments**
The Applicant is proposing a variety of light fixtures. Cut sheets are attached and comply with Dark Sky Standards. The proposed fixtures can be reviewed on A1.1 of the Additional Drawings Set.

### Bulk Requirements

**Zoning District(s):** Business (B) and Downtown Residential Overlay (DRO)

**Proposed Height:** 35’ from Finished Floor

**Proposed Setbacks:**
- Front Yard: 25’ (as required by the plat)
- Side Yard (east): 23’
- Side Yard (west): 4’-2”
- Rear Yard: 0’

The proposed project complies with setback requirements of the Hailey Municipal Code. The building height shall be measured from record grade, not finished floor. This has been made a Condition of Approval.

### Street Improvements

Sidewalks and drainage improvements are required in all zoning districts, except as otherwise provided herein.

**Staff Comments**
An aging eight (8) foot wide multiuse asphalt pathway exists along the property frontage (McKercher Boulevard) of the project. In lieu of the...
installation of a sidewalk or sidewalk in-lieu fees, the Applicant is required to
reconstruct and increase this pathway to ten (10) feet in width along the
property frontage, as well as the installation street trees (as required by the
Final Plat of L.L. Greens). To provide some sound protection on the second and
third levels, the Applicant Team is suggesting the addition of conifer trees in-
lieu of the currently proposed deciduous trees along McKercher Boulevard.
City Staff prefers to see tree species from the Approved Street Tree list utilized
in this area, as said trees, while located on private property, are considered
street trees.

The Streets Division recommends that the Applicant install audible warning
inserts at the crosswalks over the easement between the subject parcel and
L.L. Greens. This has been made a Condition of Approval.

Regarding drainage improvements, the Streets Division further recommends
that the proposed drywell located within the multiuse asphalt path be
relocated outside of the pathway (see image below for further details). This
has been made a Condition of Approval.

In the Townsite Overlay District, any proposal for new construction or addition of a
garage accessing from the alley, where water main lines within the alley are less
than six (6) feet deep, the developer shall install insulating material (blue board
insulation or similar material) for each and every individual water service line and
main line between and including the subject property and the nearest public street,
as recommended by the City Engineer.

**Staff Comments**: N/A, as this site is not in Townsite Overlay.
**Design Review Requirements for Non-Residential, Multifamily, and/or Mixed-Use Buildings within the City of Hailey**

1. **Site Planning:** 17.06.080(A)1, items (a) thru (n)

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<tr>
<td>17.06.080(A)1a</td>
<td>a. The location, orientation and surface of buildings shall maximize, to the greatest extent possible sun exposure in exterior spaces to create spaces around buildings that are usable by the residents and allow for safe access to buildings.</td>
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<td></td>
<td>Staff Comments: The proposed building follows the grid pattern in downtown Hailey. The primary walls of the proposed building are oriented east/west, with the primary entrance facing north and having frontage off McKercher Boulevard. Exterior spaces are proposed along the north and south sides of the building, creating open spaces around the building that are usable by the residents of the building. Entries to and from the building are located adjacent to these open space areas.</td>
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<tr>
<td>17.06.080(A)1b</td>
<td>b. All existing plant material shall be inventoried and delineated, to scale, and noted whether it is to be preserved, relocated or removed. Removal of trees larger than 6-inch caliper proposed to be removed require an arborist review. Any tree destroyed or mortally injured after previously being identified to be preserved, or removed without authorization, shall be replaced with a species of tree found in the Tree Guide and shall be a minimum of 4-inch caliper.</td>
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<td>Staff Comments: N/A, as the site does not contain any existing mature landscaping.</td>
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<tr>
<td>17.06.080(A)1c</td>
<td>c. Site circulation shall be designed so pedestrians have safe access to and through the site and to building.</td>
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<td>Staff Comments: An aging eight (8) foot wide multiuse asphalt pathway exists along the property frontage (McKercher Boulevard) of the project. In lieu of the installation of a sidewalk or sidewalk in-lieu fees, the Applicant is required to reconstruct and increase this pathway to ten (10) feet in width along the property frontage, as well as the installation of street trees (required by the Final Plat of Lots 1A and 1B). To provide some sound protection on the second and third levels, the Applicant Team is suggesting the addition of conifer trees in-lieu of the currently proposed deciduous trees along McKercher Boulevard. City Staff prefers to see tree species from the Approved Street Tree list utilized in this area, as said trees, while located on private property, are considered street trees. To ensure safe pedestrian access through the site, the Applicant has designed a four-foot (4’) wide heated paver walkway from the primary entrance through the open space parcel and to the multiuse asphalt pathway. A covered paver walkway, approximately five feet (5’) wide is proposed along the eastern side of the building, where it transitions around the corner and west to an uncovered pathway and connects to the trash area/easement between the subject parcel and Sublot 1A (L.L. Greens). Circulation to all entrances is pedestrian friendly and provides safe access to/from the building.</td>
</tr>
<tr>
<td>17.06.080(A)1d</td>
<td>d. Building services including loading areas, trash storage/pickup areas and utility boxes shall be located at the rear of a building; the side of the building adjacent to an internal lot line may be considered as an alternate location. These areas shall be designed in a manner to minimize conflict among uses and shall not interfere with other uses, such as snow storage. These areas</td>
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shall be screened with landscaping, enclosures, fencing or by the principal building.

**Staff Comments**

The Applicant is proposing a trash enclosure area at the southwestern corner of the building. A heated paver walkway is proposed leading up to the enclosure area, which is screened by opening doors. This enclosure area can be accessed via an existing driveway access easement. A letter from Clear Creek Disposal was provided to City Staff on August 4, 2022, commenting on the adequacy of said enclosure/accessibility.

- ☐ 17.06.080(A)1e e. Where alleys exist, or are planned, they shall be utilized for building services.

**Staff Comments**

N/A, as this block does not contain a platted alley.

- ☒ 17.06.080(A)1f f. Vending machines located on the exterior of a building shall not be visible from any street.

**Staff Comments**

No vending machines will be located on the exterior of the building. This has been added as a Condition of Approval.

- ☒ 17.06.080(A)1g g. On-site parking areas shall be located at the rear of the building and screened from the street. Parking and access shall not be obstructed by snow accumulation. *(NOTE: If project is in Airport West Subdivision, certain standards may apply that are not listed here. See code for details.)*

  - i. Parking areas located within the SCI zoning district may be located at the side or rear of the building.
  - ii. Parking areas may be considered at the side of buildings within the B, LB, TI and LI zoning districts provided a useable prominent entrance is located on the front of the building and the parking area is buffered from the sidewalk adjacent to the street.

**Staff Comments**

Most of the onsite parking is located within the proposed structure. All other onsite parking is located along the eastern side of the structure. A useable prominent entrance is located on the front of the building and the parking area is buffered from the street by a multiuse asphalt pathway, open space, and building.

Additionally, the Streets Division requests the following:

- No winter parking will be permitted along McKercher Boulevard and First Avenue. Any issues that arise or towing expenses will be the responsibility of the owner and/or HOA.

This has been made a Condition of Approval.

- ☒ 17.09.020.02 Loading Space Requirements and Dimensions: The following regulations apply to all commercial and industrial uses with onsite loading areas:

  - a. Requirements: One loading space shall be provided for any single retail, wholesale or warehouse occupancy with a floor area in excess of 4,000 square feet, except grocery and convenience stores where one loading space shall be provided for a floor area in excess of 1,000 square feet. An additional loading space shall be required for every additional 10,000 square feet of floor area, except grocery and convenience stores where an additional loading space shall be required for every additional 5,000 square feet of floor area. Such spaces shall have a minimum area of 500 square feet, and no dimension shall be less than 12’.

**Staff Comments**

N/A, as the proposed use is residential. No retail, wholesale or warehouse occupancy is proposed.

- ☒ 17.09.020.09A(3) Screening and Landscaping:

  - A. Screening from Residential Property:
1. All loading space areas and parking areas shall be screened from the public street and shall be screened on all sides which adjoin or face any residential property.
2. The screening shall consist of an acceptably designed wall, fence or drought tolerant landscaping.
3. Such a fence or wall shall not be less than four (4’) feet nor more than six (6’) feet in height and shall be maintained in good condition. The space between such fence or wall and the lot line of the adjoining premises in any residential district shall be landscaped with drought tolerant landscaping and maintained in good condition.

**Staff Comments**

Onsite parking along the eastern side of the proposed building faces the large residential parcel to the east. The Applicant Team is proposing a ten-foot-wide (10’) landscape buffer to the east of the proposed Driveway Access, Drainage, Landscaping and Utilities Easement to screen said parking from any future residential properties within that block. The landscaping proposed is drought tolerant and will be maintained in a healthy condition by the Owner.

**17.09.020.09B**

B. When Buffer Required: When a project is being reviewed pursuant to Chapter 17.06 of this title, and an existing onsite parking area is located adjacent to a sidewalk, a landscape buffer is required between the surface of the parking area and the sidewalk.

**Staff Comments**

Please refer to Section 17.06.080(A)1g for further detail.

**17.06.080(A)1h**

h. Access to on-site parking shall be from the alley or, if the site is not serviced by an alley, from a single approach to the street to confine vehicular/pedestrian conflict to limited locations, allow more buffering of the parking area and preserve the street frontage for pedestrian traffic.

**Staff Comments**

This block does not contain a platted alley. The onsite parking area can be accessed via a new curb cut along McKercher Boulevard (a 26’-wide driveway access easement). The location of the access and parking area are along the eastern side of the proposed building, which buffers the parking from the street and preserves the street frontage for pedestrian traffic. Two (2) additional parking spaces can be accessed via the existing driveway access easement along the western side of the building. These spaces are enclosed within the proposed structure.

**17.06.080(A)1i**

i. Snow storage areas shall be provided on-site where practical and sited in a manner that is accessible to all types of snow removal vehicles of a size that can accommodate moderate areas of snow.

**Staff Comments**

Snow storage areas have been provided onsite where practical. The Applicant also intends to haul snow from the site where needed.

**17.06.080(A)1j**

j. Snow storage areas shall not be less than 25% of the improved parking and vehicle and pedestrian circulation areas.

**Staff Comments**

The site plan proposes approximately 1,166 square feet of snow storage areas for Lot 1B, which is 85% more than the improved parking, vehicle and pedestrian circulation areas. These areas do not impede vehicular circulation areas; however, it appears that a snow storage area is proposed in the open space located to the rear of the building. Snow shall not be stored within useable open spaces areas and shall be relocated from this space. This has been made a Condition of Approval.

**17.06.080(A)1k**

k. A designated snow storage area shall not have any dimension less than 10 feet.

**Staff Comments**

Snow storage areas vary in width, and they appear to meet all requirements.
### 17.06.080(A)1l

- **Hauling of snow from downtown areas is permissible where other options are not practical.**

  **Staff Comments**  
  It is anticipated that snow will be stored onsite, as well as hauled from the site, where necessary.

### 17.06.080(A)1m

- **Snow storage areas shall not impede parking spaces, vehicular and pedestrian circulation or line of sight, loading areas, trash storage/pickup areas, service areas or utilities.**

  **Staff Comments**  
  Snow storage areas to not impede parking areas, nor vehicular circulation of the site. It appears that a snow storage area is proposed in the open space located to the rear of the building. Snow shall not be stored within useable open spaces areas and shall be relocated from this space. This has been made a Condition of Approval.

### 17.06.080(A)1n

- **Snow storage areas shall be landscaped with vegetation that is salt-tolerant and resilient to heavy snow.**

  **Staff Comments**  
  Snow storage areas contain shrubs, native grasses and other low-lying plants.

### 2. Building Design: 17.06.080(A)2, items (a) thru (m)

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</table>
| | | | | **Staff Comments**  
  The proposed building responds to the layout of the individual housing units. The articulation of the exterior decks, rooflines, and materials complement the surrounding area. The roofline is articulated in a comparable manner to the surrounding area with varying overhangs and parapets that provide human scale to the overall massing, as well as visual identity to each individual residence. The building is proportional in size and shape to the surrounding building(s) (AmericInn), and the use of natural stone, exposed structural timber and siding offer warmth, variety and visual interest. |
| ☐ | ☐ | ☒ | 17.06.080(A)2b | b. Standardized corporate building designs are prohibited. |
| | | | | **Staff Comments**  
  N/A, as the proposed building design is not a standardized corporate building design. |
| ☒ | ☐ | ☐ | 17.06.080(A)2c | c. At ground level, building design shall emphasize human scale, be pedestrian oriented and encourage human activity and interaction. |
| | | | | **Staff Comments**  
  The Applicant has integrated the building to the surrounding site and greater area. Open space areas, pathway connections and various exterior materials emphasize human scale, are pedestrian oriented and encourage human activity. The large trees and landscape features provide screening for both residents and neighbors. Walkways framed by low level gabions provide wayfinding and exterior seating that encourages human activity. Green space and a parklet are proposed along McKercher Boulevard to further enhance pedestrian interaction. |
| ☒ | ☐ | ☐ | 17.06.080(A)2d | d. The front façade of buildings shall face the street and may include design features such as windows, pedestrian entrances, building off-sets, projections, architectural detailing, courtyards and change in materials or similar features to create human scale and break up large building surfaces and volumes. |
| | | | | **Staff Comments**  
  The front façade and front entry of the building faces McKercher Boulevard. Paver pathways, open space and seating areas adjacent to the primary entrance create human scale and break up larger building surfaces. |
The enclosed parking podium is expressed in the form of natural rock filled gabions while mass timber (glulam/CLT) members articulate the structure. The housing units themselves, rest on top of this stone base and create a rhythm of board/baton covered masses and light exterior decks. The roof line is articulated in a comparable manner with varying overhangs and parapets that give a human scale to the overall building massing and a visual identity to each individual residence. The use of trellising, overhangs, and fenestration in the form of railings and siding provide shade, scale, and privacy. The use of natural stone, exposed structural timber and siding expressed in warm earth tones, with black/bronze steel railings and facias, together offer multiple layers of material expression and detail.

<table>
<thead>
<tr>
<th>Code</th>
<th>Section</th>
<th>Staff Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>☒</td>
<td>17.06.080(A)2e</td>
<td>e. Any addition onto or renovation of an existing building shall be designed to create a cohesive whole.</td>
</tr>
<tr>
<td>☒</td>
<td>17.06.080(A)2f</td>
<td>f. All exterior walls of a building shall incorporate the use of varying materials, textures and colors.</td>
</tr>
<tr>
<td>☒</td>
<td>17.06.080(A)2g</td>
<td>g. Exterior buildings colors and materials shall be integrated appropriately into the architecture of the building and be harmonious within the project and with surrounding buildings.</td>
</tr>
<tr>
<td>☒</td>
<td>17.06.080(A)2h</td>
<td>h. Flat-roofed buildings over two stories in height shall incorporate roof elements such as parapets, upper decks, balconies or other design elements.</td>
</tr>
<tr>
<td>☒</td>
<td>17.06.080(A)2i</td>
<td>i. All buildings shall minimize energy consumption by utilizing alternative energy sources and/or passive solar techniques. At least three (3) of the following techniques, or an approved alternative, shall be used to improve energy cost savings and provide a more comfortable and healthy living space:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>i. Solar Orientation. If there is a longer wall plane, it shall be placed on an east-west axis. A building’s wall plane shall be oriented within 30 degrees of true south.</td>
</tr>
</tbody>
</table>
ii. South facing windows with eave coverage. At least 40% of the building’s total glazing surface shall be oriented to the south, with roof overhang or awning coverage at the south.

iii. Double glazed windows.

iv. Windows with Low Emissivity glazing.

v. Earth berming against exterior walls

vi. Alternative energy. Solar energy for electricity or water heating, wind energy or another approved alternative shall be installed on-site.

vii. Exterior light shelves. All windows on the southernmost facing side of the building shall have external light shelves installed.

**Staff Comments**

The building incorporates the following techniques that minimize its energy consumption:

- All windows will be double glazed and incorporate low emissivity glazing properties
- The proposed building utilizes mass timber and prefabrication to mitigate excessive use of concrete and construction waste
- The prefabricated building components will be manufactured from Idaho, mitigating the costs of transport and logistics
- The building will be entirely electric, with no gas service
- Energy Star Appliances will be utilized
- Windows on the south side of the building will have trellis/shade features
- The building will be constructed with conduit for future solar and electric vehicle charging stations. Wire for solar and EV chargers will be run at the time of solar panel or EV charger install.

<table>
<thead>
<tr>
<th>17.06.080(A)2j</th>
<th>j. Gabled coverings, appropriate roof pitch, or snow clips and/or gutters and downspouts shall be provided over all walkways and entries to prevent snow from falling directly onto adjacent sidewalks.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Staff Comments</strong></td>
<td>Pedestrian areas are either under covered walkways or have the appropriate snow retention devices above to prevent snow from falling directly onto adjacent sidewalks. Pathways to the primary entrance, drive entry and trash enclosure area are proposed to incorporate heat to further mitigate snow and ice buildup within these areas.</td>
</tr>
</tbody>
</table>

| 17.06.080(A)2k | k. Downspouts and drains shall be located within landscape areas or other appropriate locations where freezing will not create pedestrian hazards. |
| **Staff Comments** | Downspouts from the building appear to be routed underground to a drywell. All downspouts, overflow downspouts, and roof leaders will either drain into drywells or into landscape areas only and not onto pedestrian and hardscape locations. |

| 17.06.080(A)2l | l. Vehicle canopies associated with gas stations, convenience stores or drive-through facilities shall have a minimum roof pitch of 3/12 and be consistent with the colors, material and architectural design used on the principal building(s). |
| **Staff Comments** | NA, as no drive-through canopies are proposed. |

| 17.06.080(A)2m | m. A master plan for signage is required to ensure the design and location of signs is compatible with the building design and compliance with Article 8. |
| **Staff Comments** | N/A, as a Master Signage Plan is not required of a single-tenant building. |

3. Accessory Structures, Fences and Equipment/Utilities: 17.06.080(A)3, items (a) thru (i)
Compliant | City Code | City Standards and Staff Comments
---|---|---
☐ | ☐ | ☒ | 17.06.080(A)3a  
 a. Accessory structures shall be designed to be compatible with the principal building(s).

  **Staff Comments**  
  N/A, as no accessory structures are proposed.

☐ | ☐ | ☒ | 17.06.080(A)3b  
 b. Accessory structures shall be located at the rear of the property.

  **Staff Comments**  
  N/A, as no accessory structures are proposed.

☐ | ☐ | ☒ | 17.06.080(A)3c  
 c. Walls and fences shall be constructed of materials compatible with other materials used on the site.

  **Staff Comments**  
  N/A, as no walls or fences are proposed at this time.

☐ | ☐ | ☒ | 17.06.080(A)3d  
 d. Walls and fencing shall not dominate the buildings or the landscape. Planting should be integrated with fencing in order to soften the visual impact.

  **Staff Comments**  
  N/A, as no walls or fences are proposed at this time.

☒ | ☐ | ☐ | 17.06.080(A)3e  
 e. All roof projections including, roof-mounted mechanical equipment, such as heating and air conditioning units, but excluding solar panels and Wind Energy Systems that have received a Conditional Use Permit, shall be shielded and screened from view from the ground level of on-site parking areas, adjacent public streets and adjacent properties.

  **Staff Comments**  
  Roof-mounted equipment is proposed and will be located toward the center of the roof. All roof-mounted mechanical equipment shall be screened or not visible from the ground level of on-site parking areas, adjacent streets and properties. This has been made a Condition of Approval.

☒ | ☐ | ☐ | 17.06.080(A)3f  
 f. The hardware associated with alternative energy sources shall be incorporated into the building’s design and not detract from the building and its surroundings.

  **Staff Comments**  
  The Applicant intends to construct the building with conduit for future solar and electric vehicle charging stations. The wiring for solar and EV chargers will be run at the time of solar panel or EV charger install. No additional hardware for alternative energy sources is proposed at this time.

☒ | ☐ | ☐ | 17.06.080(A)3g  
 g. All ground-mounted mechanical equipment, including heating and air conditioning units, and trash receptacle areas shall be adequately screened from surrounding properties and streets using a wall, fence, or landscaping, or shall be enclosed within a building.

  **Staff Comments**  
  Ground-mounted mechanical equipment is not anticipated for the proposed building. All service lines into the property shall be installed underground and no service equipment shall be placed on utility poles.

☒ | ☐ | ☐ | 17.06.080(A)3h  
 h. All service lines into the subject property shall be installed underground

  **Staff Comments**  
  All service lines shall be installed underground. City Staff requests that, if applicable, transformer locations be shown on the Building Permit drawings.

☐ | ☐ | ☒ | 17.06.080(A)3i  
 i. Additional appurtenances shall not be located on existing utility poles.

  **Staff Comments**  
  N/A, as no additional appurtenances are proposed.

4. Landscaping: 17.06.080(A)4, items (a) thru (n)
### 17.06.080(A)4a

| Staff Comments | a. Only drought tolerant plant species and/or xeriscape specific plant materials shall be used, as specified by the Hailey Landscaping Manual or an approved alternative. |

### Staff Comments

Drought tolerant plant species are proposed. The Applicant is proposing the following landscaping onsite:

**Trees:**
- Three (3) Washington Hawthorn Trees at 2½” caliper
- Three (3) Thornless Honeylocust Trees (Street Trees) at 4” caliper
- Three (3) Autumn Blaze Maple Trees at 4” caliper
- Three (3) Tartarian Maple Trees at 3” caliper
- One (1) Crabapple Morning Princess Tree at 2½” caliper

**Evergreen Trees** (19 at 12’ in height or “3” caliper):
- Sub Alpine Fir
- Colorado Spruce
- Austrian Pine

**Small Evergreen Trees** (11 total at 15 gallons each or “2½” caliper):
- Rocky Mountain Juniper
- Tannenbaum Pine

**Shrub Massing** (35 total at 5 gallons each):
- Peking Cotoneaster
- Diablo Ninebark
- Miss Kim Lilac
- Snowmound Spirea
- Tor Birchleaf Spirea
- Common Snowberry

**Ornamental Grasses and Perennials** (180 total at 5 gallons each):
- Reed grass
- Flame Grass
- Blue Oat Grass
- Black Eye Susan
- Lavender
- Salvia

**Grass Space** (1,300 square feet of sod):
- Drought tolerant Wood River Low Maintenance Scottish Links (Hard Fescue, Chewing Fescue, Sheep Fescue, Idaho Fescue)

To provide some sound protection on the second and third levels, the Applicant Team is suggesting the addition of conifer trees in-lieu of the currently proposed deciduous trees along McKercher Boulevard. City Staff prefers to see tree species from the Approved Street Tree list utilized in this area, as said trees, while located on private property, are considered street trees, and were required as part of the Final Plat process for Lot 1A and 1B (L.L. Green’s).

### 17.06.080(A)4b

| Staff Comments | b. All plant species shall be hardy to the Zone 4 environment. |

### Staff Comments

Plant materials will be appropriate for the Zone 4 environment.

### 17.06.080(A)4c

| Staff Comments | c. At a minimum, a temporary irrigation system that fully operates for at least two complete growing seasons is required in order to establish drought tolerant plant species. |

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Design Review: 40 McKercher
40 East McKercher Boulevard (Lot 1B, Block 2, Northridge Subdivision X)
Hailey Planning Zoning Commission – September 19, 2022
Staff Report – Page 16 of 22
| **17.06.080(A)4d** | **d.** Landscaped areas shall be planned as an integral part of the site with consideration of the urban environment. A combination of trees, shrubs, vines, ground covers and ornamental grasses shall be used. New landscaped areas having more than 10 trees, a minimum of 10% of the trees shall be at least 4-inch caliper, 20% shall be at least 3-inch caliper, and 20% shall be at least 2½ inch caliper and a maximum of 20% of any single tree species may be used in any landscape plan (excluding street trees). New planting areas shall be designed to accommodate typical trees at maturity. Buildings within the LI and SCI-I zoning districts are excluded from this standard. |
| **Staff Comments** | Proposed landscaping is varied. A combination of trees, shrubs, and native grasses will be utilized to soften the site. This is a newly landscaped area, and more than ten (10) trees are proposed. The Applicant is proposing a total of 43 trees. The breakdown is as follows:
- A minimum of 10% of the trees, or four (4) of the trees, shall be at least a four-inch (4”) caliper. The Applicant is proposing a total of six (6) trees at a 4” caliper.
- A minimum of 20% of the trees, or eight (8) trees, shall be at least a three-inch (3”) caliper. The Applicant is proposing a total of twenty-two (22) trees at a 3” caliper.
- A minimum of 20% of the trees, or eight (8) trees, shall be at least a two-and-one-half-inch (2 ½”) caliper. The Applicant is proposing a total of fifteen (15) trees at a 2 ½” caliper. |

| **17.06.080(A)4e** | **e.** Seasonal plantings in planter boxes, pots, and/or hanging baskets shall be provided to add color and interest to the outside of buildings in the LI and SCI-I zoning districts. |
| **Staff Comments** | N/A, as this parcel is located within the Business (B) Zoning District. |

| **17.06.080(A)4f** | **f.** Plantings for pedestrian areas within the B, LB, TN and SCI-O zoning districts shall be designed with attention to the details of color, texture and form. A variety of trees, shrubs, perennials, ground covers and seasonal plantings, with different shapes and distinctive foliage, bark and flowers shall be used in beds, planter boxes, pots, and/or hanging baskets. |
| **Staff Comments** | The subject parcel is located within the Business (B) Zoning District. The landscape plan incorporates a variety of trees, shrubs, grasses and perennials that soften the site, while also providing visual interest from the various colors, textures and forms of each plant. There are also open areas that further enhance the site – open space, benches and parklet seating, heated pathways, and distinctive foliage (see image below for images of the proposed plant material). |
### Design Review: 40 McKercher
40 East McKercher Boulevard (Lot 1B, Block 2, Northridge Subdivision X)
Hailey Planning Zoning Commission – September 19, 2022
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<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>☒</td>
<td>17.06.080(A)Ag</td>
<td>g. Storm water runoff should be retained on the site wherever possible and used to irrigate plant materials. Storm water runoff is located within the landscaping beds, turf area, and/or drywells, as shown on the civil plans.</td>
</tr>
<tr>
<td>☒</td>
<td>17.06.080(A)Ah</td>
<td>h. A plan for maintenance of the landscaping areas is required to ensure that the project appears in a well-maintained condition (i.e., all weeds and trash removed, dead plant materials removed and replaced). The Applicant shall be responsible for maintaining plant material in a healthy condition. Plants were chosen for reduced maintenance, drought tolerance and ability to thrive in the conditions on-site.</td>
</tr>
<tr>
<td>☒</td>
<td>17.06.080(A)Al</td>
<td>i. Retaining walls shall be designed to minimize their impact on the site and the appearance of the site. N/A, as no retaining walls are proposed at this time.</td>
</tr>
<tr>
<td>☒</td>
<td>17.06.080(A)Aj</td>
<td>j. Retaining walls shall be constructed of materials that are utilized elsewhere on the site, or of natural or decorative materials. N/A, as no retaining walls are proposed at this time.</td>
</tr>
<tr>
<td>☒</td>
<td>17.06.080(A)Ak</td>
<td>k. Retaining walls, where visible to the public and/or to residents or employees of the project, shall be no higher than four feet or terraced with a three-foot horizontal separation of walls. N/A, as no retaining walls are proposed at this time.</td>
</tr>
<tr>
<td>☒</td>
<td>17.06.080(A)Al</td>
<td>l. Landscaping should be provided within or in front of extensive retaining walls. N/A, as no retaining walls are proposed at this time.</td>
</tr>
<tr>
<td>☒</td>
<td>17.06.080(A)Am</td>
<td>m. Retaining walls over 24” high may require railings or planting buffers for safety. N/A, as no retaining walls are proposed at this time.</td>
</tr>
<tr>
<td>☒</td>
<td>17.06.080(A)An</td>
<td>n. Low retaining walls may be used for seating if capped with a surface of at least 12 to 16 inches wide. N/A, as no retaining walls are proposed at this time.</td>
</tr>
</tbody>
</table>
### Additional Design Review Requirements for Multifamily Buildings within the City of Hailey

#### 1. Site Planning: 17.06.080 (D) 1, items (a) thru (c)

<table>
<thead>
<tr>
<th>Compliant</th>
<th>Standards and Staff Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>☒ Yes</td>
<td>N/A, as no retaining walls are proposed at this time.</td>
</tr>
</tbody>
</table>

#### 17.06.080(D)1a

- The location of the buildings shall respond to the specific site conditions, such as topography, street corners, open space and existing and planned adjacent uses.

  **Staff Comments**
  The proposed building complements the surrounding area and adjacent uses. The proposed residential use within the Business (B) Zoning District will create a strong transition from adjacent commercial uses, Albertsons, L.L. Greens (proposed), and the AmericInn. The proposed building will create a natural transition from commercial use to higher-density residential use, and in-turn, to less-dense residential use that is evident in the original Townsite.

  Integration of the building to the surrounding site and landscape is an imperative facet of the project with a variety of key large trees and landscape features providing screening for both residents and neighbors alike. Walkways framed by low level gabions provide way finding and exterior seating that allows the green space/parklet provided on McKercher Boulevard, to give the residents an attractive, exterior communal area. Native plantings, together with sensitive landscape lighting, further embed the structure in the surrounding area.

#### 17.06.080(D)1b

- Site plans shall include a convenient, attractive and interconnected pedestrian system of sidewalks and shared pathways to reinforce pedestrian circulation within a site.

  **Staff Comments**
  The site plan includes convenient, attractive and interconnected pedestrian system of pathways, multiuse and perimeter, as well as open space pathways, which reinforces pedestrian circulation of the site.

#### 17.06.080(D)1c

- Buildings shall be organized to maximize efficient pedestrian circulation and create gathering places.

  **Staff Comments**
  An aging eight (8) foot wide multiuse asphalt pathway exists along the property frontage (McKercher Boulevard) of the project. In lieu of the installation of a sidewalk or sidewalk in-lieu fees, the Applicant is required to reconstruct and increase this pathway to ten (10) feet in width along the property frontage, as well as the installation street trees (required by the Final Plat of Lots 1A and 1B).

  To ensure safe pedestrian access through the site, the Applicant has designed a four-foot (4’) wide heated paver walkway from the primary entrance through the open space parcel and to the multiuse asphalt pathway. A covered paver walkway, approximately five feet (5’) wide is proposed along the eastern side of the building, where it transitions around the southeast corner and moves west to an uncovered pathway. This path connects to the trash area/easement between the subject parcel and Sublot 1A (L.L. Greens). Circulation to all entrances is pedestrian friendly and provides safe access to/from the building.
Pedestrian amenities include open space at the front and rear of the building. This open space includes seating, turf area, bicycle racks and raised planters to encourage human interaction.

2. Building Design: 17.06.080 (D) 2, items (a) thru (b)

<table>
<thead>
<tr>
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<th>Standards and Staff Comments</th>
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<tbody>
<tr>
<td>Yes</td>
<td>City Code</td>
</tr>
<tr>
<td></td>
<td>City Standards and Staff Comments</td>
</tr>
<tr>
<td></td>
<td>17.06.080(D)2a a. Buildings shall incorporate massing, group lines and character that responds to single-family homes. Buildings may also include the use of varying materials, textures and colors to break up the bulk and mass of large multi-family buildings. Windows should be residential in scale and thoughtfully placed to provide for privacy and solar gain.</td>
</tr>
<tr>
<td>No</td>
<td>Staff Comments</td>
</tr>
<tr>
<td></td>
<td>The proposed building design provides a transition to adjoining residential neighbors. Design features that reduce the mass of the building include:</td>
</tr>
<tr>
<td>N/A</td>
<td>- This building is three stories in height - the total building along all frontages rises to a maximum of 35’ allowing for the ground level to be dedicated purely to enclosed parking. The height varies along all frontages, bringing variety and interest to each elevation.</td>
</tr>
<tr>
<td></td>
<td>- The rhythm of the building responds to the layout of the individual housing units, the articulation of exterior decks, roof lines and a material approach that grounds the project in the surrounding area. The roof line is articulated in a comparable manner with varying overhangs and parapets that give a human scale to the overall building massing and a visual identity to each individual residence.</td>
</tr>
<tr>
<td></td>
<td>- The use of trellising, overhangs, and fenestration in the form of railings and siding provide shade, scale, and privacy.</td>
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<tr>
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<td>- The proposed open space and landscaping plan further separate the building from less intensive uses.</td>
</tr>
<tr>
<td></td>
<td>The proposed residential use within the Business (B) Zoning District will create a strong transition from adjacent commercial uses, Albertsons, L.L. Greens (proposed), and the AmericInn. The proposed building will create a transition from commercial use to higher-density residential use, and in-turn, to less-dense residential use that is evident in the original Townsite.</td>
</tr>
<tr>
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<td>☒</td>
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<tr>
<td></td>
<td>17.06.080(D)2b b. At ground level, buildings shall present a setting that is visually pleasing to the pedestrian and that encourages human activity and interaction.</td>
</tr>
<tr>
<td></td>
<td>Staff Comments</td>
</tr>
<tr>
<td></td>
<td>The building achieves human scale using a prominent entrance, open space areas, pathway connections and various exterior materials. The landscaping also maximizes human scale and enhances the “sense of place”. The large trees and landscape features provide screening for both residents and neighbors. Walkways framed by low level gabions provide wayfinding and exterior seating that encourages human activity. Green space and a parklet are proposed along McKercher Boulevard to further enhance pedestrian interaction.</td>
</tr>
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</table>

17.06.060 Criteria.

A. The Commission or Hearing Examiner shall determine the following before approval is given:

1. The project does not jeopardize the health, safety, or welfare of the public.
2. The project conforms to the applicable specifications outlined in the Design Review Guidelines, as set forth herein, applicable requirements of the Hailey Municipal Code, and City Standards.

B. Conditions. The Commission or Hearing Examiner may impose any condition deemed necessary. The Commission or Hearing Examiner may also condition approval of a project with subsequent review and/or approval by the Administrator or Planning Staff. Conditions which may be attached include, but are not limited to those which will:

1. Ensure compliance with applicable standards and guidelines.
2. Require conformity to approved plans and specifications.
3. Require security for compliance with the terms of the approval.
4. Minimize adverse impact on other development.
5. Control the sequence, timing, and duration of development.
6. Assure that development and landscaping are maintained properly.
7. Require more restrictive standards than those generally found in the Hailey Municipal Code.

C. Security. The applicant may, in lieu of actual construction of any required or approved improvement, provide to the City such security as may be acceptable to the City, in a form and in an amount equal to the cost of the engineering or design, materials and installation of the improvements not previously installed by the applicant, plus fifty percent (50%), which security shall fully secure and guarantee completion of the required improvements within a period of one (1) year from the date the security is provided.

1. If any extension of the one-year period is granted by the City, each additional year, or portion of each additional year, shall require an additional twenty percent (20%) to be added to the amount of the original security initially provided.
2. In the event the improvements are not completely installed within one (1) year, or upon the expiration of any approved extension, the City may, but is not obligated, to apply the security to the completion of the improvements and complete construction of the improvements.

The following Conditions are placed on approval of this Application:

a) All applicable Fire Department and Building Department requirements shall be met.
b) Any change in use or occupancy type from that approved at time of issuance of Building Permit may require additional improvements and/or approvals. Additional parking may also be required upon subsequent change in use, in conformance with Hailey’s Municipal Code at the time of the new use.
c) All City infrastructure requirements shall be met. Detailed plans for all infrastructure to be installed or improved at or adjacent to the site shall be submitted for Department Head approval and shall meet City Standards where required. Infrastructure to be completed at the Applicant’s sole expense include, but will not be limited to, the following requirements and improvements:
i. Install audible warning inserts at the crosswalks over the easement between the subject parcel and the neighboring parcel (Lot 1A - L.L. Greens).

ii. Replace the existing asphalt path along McKercher Boulevard and the property’s frontage with a new 10’ wide multiuse asphalt path.

iii. The drywell located within the 10’-wide asphalt multiuse path shall be relocated from the path. This revision shall be shown on the Building Permit submittal.

d) The Applicant shall be responsible for winter snow clearing and maintenance of the McKercher Boulevard multiuse path.

e) No winter parking will be permitted along McKercher Boulevard and First Avenue. Any issues that arise or towing expenses will be the responsibility of the owner and/or HOA.

f) The Applicant shall be responsible for the maintenance of all landscaping: perimeter, onsite, screening east of the easternmost easement, and street trees.

g) The building height shall be measured from record grade, not the finished floor. The Building Permit plans shall include the building height as measured from record grade.

h) Snow shall not be stored within proposed open space areas. All snow stored within these areas shall be relocated and/or hauled from the site.

i) The project shall be constructed in accordance with the Application or as modified by these Findings of Fact, Conclusions of Law, and Decision.

j) Except as otherwise provided, all the required improvements shall be constructed and completed, or sufficient security provided as approved by the City Attorney before a Certificate of Occupancy can be issued.

k) This Design Review approval is for the date the Findings of Fact are signed. The Planning & Zoning Administrator has the authority to approve minor modifications to this project prior to, and for the duration of a valid Building Permit.

l) All new exterior lighting shall comply with the Outdoor Lighting Ordinance.

m) Construction parking shall be on private property and not within the City Right-of-Way nor the edge of the road.

n) All ground-mounted and roof-mounted equipment shall be screened from view of surrounding properties.

Motion Language:

Approval: Motion to approve the Design Review Application by West of First, LLC, represented by Opal Engineering, for construction of a new 44-unit apartment building, to be located at 40 McKercher Boulevard (Lot 1B, Block 2, Northridge Subdivision X), finding that the project does not jeopardize the health, safety or welfare of the public and the project conforms to the applicable specifications outlined in the Design Review Guidelines, applicable requirements of the Hailey Municipal Code, Title 18, and City Standards, provided conditions (a) through (n) are met.

Denial: Motion to deny the Design Review Application by West of First, LLC, represented by Opal Engineering, for construction of a new 44-unit apartment building, to be located at 40 McKercher Boulevard (Lot 1B, Block 2, Northridge Subdivision X, finding that ______________________ [the Commission should cite which standards are not met and provide the reason why each identified standard is not met].

Continuation: Motion to continue the public hearing to______ [Commission should specify a date].
A Plat Showing
LOTs 1A & 1B, BLOCK 2, NORTHRIDGE X
WHEREIN LOT 1, BLOCK 2, NORTHRIDGE X IS SUBDIVIDED
LOCATED WITHIN SECTION 4, T.S. N., R.18 E., B.M., CITY OF HAILEY, BLAINE COUNTY, IDAHO
AUGUST 2021

SCALE 1" = 30'

SURVEY NARRATIVE & NOTES

1. The purpose of this survey is to show the monuments found and set during the boundary description of Lot 1, Block 2, Nortridge X Subdivision as an addition to the City of Hailey, Blaine County, Idaho. All monuments have been reoccupied. The revised property corners were set by proportioning record distances between found monuments. Additional documents used in the course of completing this exhibit include:
   - Washington, Blaine County, Number 2497
   - A Plat showing Nortridge X Subdivision, Instrument Number 167045
   - A Plat showing Nortridge X Subdivision, Instrument Number 305989
   - Nortridge X Subdivision, A Resubdivision & Reapportioning of a Portion of Lot 1, Block 1, Nortridge X Subdivision and Tax Lot (553), Instrument Number 487370

2. This survey does not purport to reflect any of the following which may be applicable to subject real property, natural hazards, encumbrances, restrictions, easements, building setbacks, rights-of-way, subdivision restrictions, zoning or any land-use regulations.

3. A Title Commitment has been issued by Premier Title Company, File Number 155375, with a commitment date of April 22, 2021. Certain information contained in said title policy may not appear on this map or may be shown therein. It is the responsibility of the owner or user to review said title policy. Some of the encumbrances and easements listed in the title report are NOT depicted herein. Review of specific documents is required if further information is desired.

4. The distances shown are measured. Refer to the above referenced survey for previous record data.

LEGEND

Property Line
Highway/County Line
Tape, Chain or Other Method
Blaze, Post, or Other Mark
Building Exemption
Vacated Easement, Type I, Width as Shown
Vacated Easement, Type II, Width as Shown
GSI Tax Line
USPS Parcel
Federal 727 Parcel
Fenced/Roofed/Covered on 60'-0" Parcel
S41'N 65°W Parcel, P.L.S. 16670

CURVE TABLE

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<td>21.41</td>
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HEALTH CERTIFICATE: Sundry restrictions as required by Health Code Title 20, Ch. 13, Subsection 330 (a). See the local health department for details.

HAILEY PLAT APPROVED: 1945-02-20 by Inmate of a Certificate of Disappearance.
NOTES:
UNIT COUNT
14
X
UNIT A2 (STUDIO W/ DECK & SKYLIGHT)
4
X
UNIT B2 (1 BEDROOM W/ SKYLIGHT)
4
X
UNIT C [C2+C3] (2 BEDROOM W/ DECK & SKYLIGHT)
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<tr>
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<td>LANDSCAPE ARCHITECT</td>
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<tr>
<td>8800 Venice Blvd. #303</td>
</tr>
<tr>
<td>Los Angeles, CA 90034</td>
</tr>
<tr>
<td>678.478.7529</td>
</tr>
<tr>
<td><a href="mailto:eric@hawkinsmarshall.com">eric@hawkinsmarshall.com</a></td>
</tr>
<tr>
<td>License No. C36205</td>
</tr>
</tbody>
</table>
GENERAL CONSTRUCTIONS NOTES

1. SUBBASE CAN BE 2" TYPE II OR 3" TYPE I CRUSHED AGGREGATE BASE COURSE.

2. MATERIALS SHALL CONFORM WITH CURRENT ISPWC STANDARDS, DIVISION 800 AGGREGATES AND ASPHALT.

3. PAVEMENT SECTION MAY BE MODIFIED IF A PROJECT SPECIFIC GEOTECHNICAL REPORT, STAMPED BY A LICENSED ENGINEER, IS PROVIDED.

4. 1/2-INCH PREFORMED EXPANSION JOINT MATERIAL (AASHTO M 213) AT TERMINAL POINTS OF RADII.

5. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF UNSUITABLE SUBGRADE MATERIAL AREAS, AND/OR AREAS NOT CAPABLE OF COMPACTION ACCORDING TO THESE SPECIFICATIONS. UNSUITABLE OR DAMAGED SUBGRADE IS WHEN THE SOIL MOVES, PUMPS AND/OR DAMPENS, AND EXHIBITS VISUAL SIGNS OF PLASTICITY OR DENSITY LESS THAN 85% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D-698.

6. ALL EXCAVATION & EMBANKMENT SHALL CONFORM TO ISPWC SECTION 202. SUBGRADE SHALL BE EXCAVATED AND SHAPED TO LINE, GRADE, AND CROSS-SECTION SHOWN ON THE PLANS. THE SUBGRADE SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D-698. THE CONTRACTOR SHALL WATER OR AERATE SUBGRADE AS NECESSARY TO OBTAIN OPTIMUM MOISTURE CONTENT. IN-LIEU OF DENSITY TESTING LOCATION AND THEIR LOSS OR DISTURBANCE AT THEIR ORIGINAL LOCATION OR BY SETTING OF A WITNESS CORNER OR REFERENCE POINT OR A REPLACEMENT BENCHMARK OR CONTROL POINT, BY OR UNDER THE DIRECTION OF A PROFESSIONAL LAND SURVEYOR.

7. ALL 3/4" MINUS CRUSHED GRAVEL SHALL CONFORM TO ISPWC 802, TYPE I (ITD STANDARD 703.04, 3/4" B), SHALL BE PLACED IN CONFORMANCE WITH THEIR LOSS OR DISTURBANCE AT THEIR ORIGINAL LOCATION OR BY SETTING OF A WITNESS CORNER OR REFERENCE POINT OR A REPLACEMENT BENCHMARK OR CONTROL POINT, BY OR UNDER THE DIRECTION OF A PROFESSIONAL LAND SURVEYOR.

8. ALL EXCAVATION AND EMBANKMENT SHALL CONFORM TO ISPWC SECTION 202. SUBGRADE SHALL BE 4" TYPE I CRUSHED AGGREGATE BASE COURSE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND KEEPING A COPY OF PERMITS AND NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CONSTRUCTION GENERAL PERMIT (CGP) PERMIT COVERAGE).

9. ALL ASPHALTIC CONCRETE PAVEMENT WORK SHALL CONFORM TO ISPWC SECTION(S) 805, 810, AND 811 FOR CLASS II PAVEMENT. ASPHALT AGGREGATE SHALL BE 1/2" (13MM) NOMINAL SIZE CONFORMING TO TABLE 803B IN ISPWC SECTION 803. ASPHALT BINDER SHALL BE PG 58-28 THERMOPLASTIC OR APPROVED EQUAL. THE CONTRACTOR SHALL PRESSURE TEST, DISINFECT, AND CONDUCT BIOLOGICAL TESTING IN ACCORDANCE WITH THE IDAHO STANDARDS FOR PUBLIC WATER SYSTEM. THE CONTRACTOR SHALL USE ANSI/NSF STANDARD 60 CHEMICALS AND COMPOUNDS DURING INSTALLATION & DISINFECTION OF POTABLE WATER SUPPLY FIXTURES, FITTINGS, PIPING, AND ALL RELATED APPURTENANCES SHALL COMPLY WITH THE LOW LEAD ACT REQUIRING ALL WATER SUPPLY FIXTURES, FITTINGS, PIPING, AND ALL RELATED APPURTENANCES SHALL BE ANSI/NSF STANDARD 61 COMPLIANT. THE CONTRACTOR SHALL USE ANSI/NSF STANDARD 60 CHEMICALS AND COMPOUNDS DURING INSTALLATION & DISINFECTION OF POTABLE WATER SUPPLY FIXTURES, FITTINGS, PIPING, AND ALL RELATED APPURTENANCES SHALL BE ANSI/NSF STANDARD 61 COMPLIANT.

10. ALL CONCRETE WORK SHALL CONFORM TO ISPWC SECTIONS 701, 703, AND 705. ALL CONCRETE SHALL BE 4,000 PSI MINIMUM, 28 DAY, AS DEFINED IN AASHTO T-99 OR ITD T-91.

11. ASPHALT SAWCUTS SHALL BE AS INDICATED ON THE DRAWINGS, OR 24" INCHES FROM EDGE OF EXISTING ASPHALT, IF NOT INDICATED OTHERWISE.


13. ALL CONSTRUCTION OF SITE IMPROVEMENTS AND UTILITIES SHALL OBSERVE LOCAL AND STATE ORDINANCES.

14. CONTRACTOR SHALL USE CONSTRUCTION METHODOLOGIES TO MINIMIZE TRAFFIC DISTURBANCE AND DISTURBANCE TO EXISTING UTILITIES AND INFRASTRUCTURE.

15. PER IDAHO CODE § 55-1613, THE CONTRACTOR SHALL RETAIN AND PROTECT ALL MONUMENTS, ACCESSORIES TO CORNERS, BENCHMARKS AND THEIR LOSS OR DISTURBANCE AT THEIR ORIGINAL LOCATION OR BY SETTING OF A WITNESS CORNER OR REFERENCE POINT OR A REPLACEMENT BENCHMARK OR CONTROL POINT, BY OR UNDER THE DIRECTION OF A PROFESSIONAL LAND SURVEYOR.

16. ALL WATER SUPPLY FIXTURES, FITTINGS, PIPING, AND ALL RELATED APPURTENANCES SHALL COMPLY WITH THE LOW LEAD ACT REQUIRING ALL WATER SUPPLY FIXTURES, FITTINGS, PIPING, AND ALL RELATED APPURTENANCES SHALL BE ANSI/NSF STANDARD 61 COMPLIANT.

17. ALL WATER SUPPLY FIXTURES, FITTINGS, PIPING, AND ALL RELATED APPURTENANCES SHALL COMPLy WITH THE LOW LEAD ACT REQUIRING ALL WATER SUPPLY FIXTURES, FITTINGS, PIPING, AND ALL RELATED APPURTENANCES SHALL BE ANSI/NSF STANDARD 61 COMPLIANT.
REQUIREMENTS FOR SEPARATION DISTANCES BETWEEN POTABLE WATER LINES (INCLUDING MAINS AND SERVICE

Existing Pavement

Pavement, Existing Surface Finish Grade

ADDITION, WATER SERVICES SHALL BE CONSTRUCTED WITH AT LEAST 25 FEET HORIZONTAL SEPARATION FROM INFILTRATION TRENCHES AND DRY WELLS.

95% Compaction

4" of Type I Crushed Base

Surface Repair

Aggr. per ISPWC

FAILURE TO ACCURATELY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

95% Compaction

Trench Backslope

TYPE A Aggregate

Per ASTM D-698

SURFACE REPAIR AND BASE

Per O.S.H.A.

NOTES

1. Type I Pipe Bedding material shall meet the requirements of the current edition of the ISPWC Standards-Section 305-Pipe Bedding.

2. Type II Pipe Bedding material shall meet the requirements of the current edition of the ISPWC Standards-Section 305-Pipe Bedding.

3. ISPWC Section 8" Max Backfill

O.S.H.A.

Backfill

Vertical Trench

be removed and replaced.

Aggregate or crushed aggregate, which meets the requirements of the current edition of the ISPWC Standards-Section 802-Crushed Aggregate

Varies Per

Native materials may be used for backfill unless, in the sole opinion of the City Engineer, the native material is found to be unstable.

4" 12" 2"

Where Suitable Subgrade Exists

Depth Determined by

ISPWC Section

305-Pipe Bedding

4" 5" 6"

Depth Determined by

Scenario

Type II Bedding per ISPWC

5. The completed patch shall not deviate from existing surface more than .02 ft/10 ft in any direction.

12" 12" 12"

9. All utility crossings, including but not limited to power, telephone, cable TV, gas, and water services, which cross existing paved roads

10. THE CONTRACTOR SHALL PRESSURE TEST ALL SEWER SERVICE CONNECTIONS IN ACCORDANCE WITH THE IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION.

11. Concrete Slurry Mix Design

1. TRENCH AND SURFACE REPAIR DETAIL (18.14.010.A.1)

2. Type II Pipe Bedding material shall meet the requirements of the current edition of the ISPWC Standards-Section 305-Pipe Bedding.

7. Rock shall be excavated to at least standard trench width per the current edition of the ISPWC Standards-Section 302-Rock Excavation.

5. ALL TEES, PLUGS, CAPS AND BENDS SHALL BE SECURED AND ANCHORED BY SUITABLE THRUST BLOCKING

MECHANICAL RESTRAINTS ARE NOT ALLOWED). THRUST BLOCKS SHALL CONFORM TO ISPWC SD-403 AND THE CITY OF HAILEY STANDARDS.

MEETING AWWA STANDARDS PER ISPWC SECTION 402. ALL GATE VALVES LOCATED IN PAVEMENT SHALL BE FITTED WITH CAST IRON VALVE BOXES WITH CONCRETE COLLARS PER ISPWC SD-406 AND THE CITY OF HAILEY STANDARDS.

250 PSI WORKING PRESSURE. JOINTS ON BURIED VALVES SHALL BE MECHANICAL JOINTS UNLESS OTHERWISE

11. ALL WATER MAINS SHALL COMPLY WITH IDAPA 58.01.08.542.07.a AND IDAPA 58.01.08.542.07.b WHICH ADDRESS THE SYSTEM USERS. THE NEW WATER MAIN AND SERVICES SHALL BE INSTALLED, BACKFILLED, PRESSURE TESTED SEPARATE LINES BY 6".

PRELIMINARY

NOT FOR

REUSE OF DRAWINGS: These drawings, or any portion thereof, shall not be used on any Project or extensions of this Project except by agreement in writing with Opal Engineering, PLLC.
See Sheet C0.1 for General Construction Notes.

NORTHTRIDGE IX SUBDIVISION

1.6% TYP.

Dry Well

Catch Basin

Sewer Cleanout

Asphalt

Snow Removal Area

Approximate Snow Storage Area

EAST LANDSCAPE SCREENING AND SNOW STORAGE PLAN

22002

REUSE OF DRAWINGS: These drawings, or any portion thereof, shall not be used on any Project or extensions of this Project except by agreement in writing with Opal Engineering, PLLC.
1.0 INTRODUCTION AND BACKGROUND

West of First LLC is planning to construct a 44-unit apartment complex project in Hailey, Idaho (City). The project is located at 40 McKercher Blvd. as shown in Figure 1 as Lot 1B. The project will connect to the City’s water system upper pressure zone for domestic water supply. This technical memorandum presents the results of hydraulic modeling that was completed to evaluate the potential impact of the project on the water system.

Figure 1
Project Location and Vicinity
2.0 WATER DEMAND PROJECTIONS

Water demand projections have been prepared based on the type of development proposed, maximum occupancy at full project buildout, estimated water usage by type, and information provided by the design team regarding irrigation demands. Demand calculations are based on an Average Day Demand (ADD) of 50 gallons per capita per day (gpcd). This typical value is recommended for apartment complexes by the American Water Works Association for planning purposes (AWWA 1999). Maximum Day Demand (MDD) is estimated to be 125 gpcd and Peak Hour Demand (PHD) is estimated to be 183 gpcd. Peaking factors are based on historical water production/consumption and were published in the City’s 2015 Water System Master Plan. Unit demands and peak factors are shown in Table 1.

<table>
<thead>
<tr>
<th>PARAMETER</th>
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<th>VALUE</th>
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<tbody>
<tr>
<td>Average Day Demand (ADD)</td>
<td>gpcd</td>
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<td>Maximum Day Demand (MDD)</td>
<td>gpcd</td>
<td>125</td>
</tr>
<tr>
<td>Peak Hour Demand (PHD)</td>
<td>gpcd</td>
<td>183</td>
</tr>
<tr>
<td>MDD Peaking Factor (MDD/ADD)</td>
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<td>2.5</td>
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<tr>
<td>PHD Peaking Factor (PHD/ADD)</td>
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<td>3.65</td>
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</table>

Notes:
2. Peaking factors are based on the City of Hailey’s 2015 Water System Master Plan.

The project will include 44 units including 22 studio apartments, 14 one-bedroom apartments, and 8 two-bedroom apartments. A conservative estimate of two people per studio/bedroom was used to estimate the demand of the full build of the complex. A maximum irrigation demand of 30 gpm was provided by the design team and added to the user demands. Table 3 presents the projected total average day demand, maximum day demand, peak hour demand, and required fire flow for full buildout of the project.

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>DEMAND PER CAPITA GPD</th>
<th>TOTAL OCCUPANCY</th>
<th>USER DEMAND GPD</th>
<th>USER DEMAND GPM</th>
<th>IRRIGATION DEMAND GPM</th>
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<td>50</td>
<td>104</td>
<td>5,200</td>
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<td>13,000</td>
<td>9.0</td>
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<td>39.0</td>
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<td>104</td>
<td>19,030</td>
<td>13.2</td>
<td>30</td>
<td>43.2</td>
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<td>Required Fire Flow (1)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>1,500</td>
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</table>

Notes:
1. Fire flow requirement per City of Hailey’s 2015 Water System Master Plan.
3.0 HYDRAULIC MODELING RESULTS

The City of Hailey maintains a hydraulic model of their water system, which was created using Bentley WaterCAD software. The model was last calibrated in 2020 and is regularly used to evaluate the potential impacts proposed projects will have on water system performance. A copy of the hydraulic model calibration report is included in Appendix A. Three criteria were used to evaluate the 40 McKercher project:

- Changes in available fire flow at maximum day demand. The State of Idaho requires public water system to provide sufficient fire flow during maximum day demands with any pump out of service while maintaining a 20 psi residual pressure in the distribution system (IDAPA 58.01.08.552.01.b.i & IDAPA 58.01.08.501.18.a). A minimum fire flow requirement of 1,500 gpm was established in the City’s 2015 Water Master Plan and approved by the City.

- Changes in system pressures at peak hour demand. The State of Idaho requires public water systems to maintain a minimum pressure of 40 psi throughout the distribution system during peak hour demands (IDAPA 58.01.08.552.01.b.v).

- Changes in pipe velocities at peak hour demand. Although the State does not regulate pipe velocities in water distribution systems, pipe velocities that exceed 6-8 fps result in greater headlosses (decreased system performance) and may result in excessive water hammer. For planning purposes, maintaining pipe velocities below 6 fps is recommended.

The demands presented in Table 2 were added to the City hydraulic model at the node nearest where the project is expected connect. Modeling results were compared to existing conditions for each of the criteria established above.

3.1 AVAILABLE FIRE FLOW AT MAXIMUM DAY DEMANDS

Existing available fire flow at maximum day demands in the project area was established by running the hydraulic model with the Quigley and Turbine tanks at their lowest operating levels and the largest pump out of service, the River Street pump. Existing available fire flow at the project location is 1,869 gpm and is shown in Figure 2 in red. After demands were added to the model for the project, available fire flow dropped to 1,828 gpm and is shown in Figure 3 in red. Available fire flow in the project area is not expected to be affected substantially by the added demands of the project and simulated modeling results show available fire flow remains above the 1,500 gpm minimum requirement in the project area.
**Figure 2**
Available Fire Flow at Maximum Day Demands (Existing Conditions)

**Figure 3**
Available Fire Flow and Maximum Day Demands (Simulated Conditions)
3.2 SYSTEM PRESSURES AT PEAK HOUR DEMANDS

Existing system pressures at peak hour demands in the project area were established by running the hydraulic model with the Quigley and Turbine tanks at their maximum operating levels and the largest pump out of service, the River Street pump. Existing system pressure at the project location is 71 psi and is shown in Figure 4 in red. After demands were added to the model for the project, system pressure remained the same and is shown in Figure 5 in red. System pressure in the project area is not expected to be affected noticeably by the added demands of the project and simulated modeling results show system pressures remain above the 40 psi minimum requirement in the project area.

Figure 4
System Pressures At Peak Hour Demands (Existing Conditions)
Existing system pressures at peak hour demands were also checked in the area to the north of the project area, which has historically experienced periods of low system pressures. Hydraulic modeling results indicate pressures in this area range from 42–62 psi during peak hour demands. After demands were added to the model for the project, system pressure in this area dropped slightly with pressures remaining the same in most areas and dropping by 1 psi in one area. Hydraulic modeling results for system pressure at peak hour demands for existing and proposed conditions are shown in Figures 6 and 7, respectively.
Figure 6
System Pressures at Peak Hour Demands (Existing Conditions)
3.3  WATER VELOCITIES AT PEAK HOUR DEMANDS

Existing water velocities at peak hour demands in the project area were established by running the hydraulic model with the Quigley and Turbine tanks at their maximum operating levels and all pumps operating. Existing water velocity at the project location is 0.10 fps and is shown in Figure 8 in red. After demands were added to the model for the project, water velocity increased to 0.38 fps and is shown in Figure 9 in red. Water velocity in the project area is not expected to be affected substantially by the added demands of the project and simulated modeling results show water velocities remain below the recommended 6 fps in the project area.
Figure 8
Water Velocities at Peak Hour Demands (Existing Conditions)

Figure 9
Water Velocities at Peak Hour Demands (Simulated Conditions)
4.0 SUMMARY

Hydraulic modeling results indicate the proposed 40 McKercher project is expected to have a negligible impact on the available fire flow, system pressure, and water velocity in the project area, see Table 3.

Table 3
Summary of Hydraulic Modeling Results

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>CURRENT CONDITIONS</th>
<th>AFTER PROJECT</th>
<th>STANDARD</th>
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<tbody>
<tr>
<td>Fire Flow Availability</td>
<td>1,869 gpm</td>
<td>1,830 gpm</td>
<td>1,500 gpm minimum</td>
</tr>
<tr>
<td>Pressure at Peak Hour Demand</td>
<td>71 psi</td>
<td>71 psi</td>
<td>40 psi minimum</td>
</tr>
<tr>
<td>Water Velocity at Peak Hour Demand</td>
<td>0.10 fps</td>
<td>0.38 fps</td>
<td>&lt;6 fps for planning</td>
</tr>
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</table>

For each of the criteria established in Section 3, the system exceeds state regulatory requirements as well as recommended engineering standards for water system performance.

5.0 REFERENCES


EXECUTIVE SUMMARY

In January 2019, the City of Hailey, Idaho (the City) retained SPF Water Engineering (SPF) to conduct a study of water pressures in the City’s water distribution system, with a specific geographic focus on the Northridge and Old Cutters areas (the Study Area). The overall goals of the study were to: 1) gain a better understanding of how the existing water system operates and what range of pressures customers are likely to experience, 2) identify system deficiencies that result in low pressures within the Study Area, and 3) develop solutions for improving pressures in the Study Area. The results of the study are presented in four parts, as follows:

1. **Part 1 – Field Data Collection and Review** The study first gathered field data from the water system including service line pressure and water meter data from residential locations, and other system data on the City’s water system equipment such as tank levels and pump operating criteria. Water system data were evaluated for completeness, and sufficiency in performing hydraulic analysis. The data were determined to be complete and sufficient for use in hydraulic modeling. See SPF, 2019a (enclosed).

2. **Part 2 – Hydraulic Model Calibration** The hydraulic model was calibrated using water system data gathered during Part 1. The goals of the hydraulic model were to assure reasonably accurate representation of the City’s water system, and to identify the “worst case” scenario for low pressures within the study area. The hydraulic model was calibrated to a high degree of accuracy (as measured by several metrics) through simulating eight scenarios observed in the field data. A worst-case scenario was also identified and simulated. See SPF, 2019b (enclosed). The worst-case scenario identified in Part 2 was subsequently revised during Part 4 to reflect slightly different conditions with the potential to result in even lower pressures.

3. **Part 3 – Conceptual Improvement Alternatives** The calibrated model from Part 2 was used to simulate over two dozen potential system improvements and the anticipated impacts to minimum pressures within the Study Area. A wide range of improvements were considered including a variety of piping and valve modifications,
additional pumps, and additional supply well at various locations throughout the City. Part 3 also presented a cost versus performance analysis for the alternatives. See SPF, 2019c (enclosed).

4. **Part 4 – Recommended Improvements** Part 4 consists of further discussion of three selected alternatives, and evaluation of these alternatives against a revised version of the worst-case scenario identified in Part 2. Part 4 provides recommendations for implementing three alternatives; construction of a new 16-inch pipeline, modification of pump controls, and a new supply well. See SPF, 2020a (enclosed).

Enclosed (4):


MEMORANDUM

DATE: October 23, 2019
TO: Brian Yeager, P.E., P.L.S., City of Hailey
FROM: Scott McGourty, P.E., SPF; Eric Landsberg, P.E., SPF
PROJECT NO: 330.0350
RE: Part 1: Northridge Area Pressure Study – Field Data Review

1.0 Introduction

The City of Hailey, Idaho (the City) has commissioned a study of water pressures in the City’s public drinking water distribution system, with a specific geographic focus on the Northridge Area. The Study Area is bounded by West Meadow Drive to the north, by Kintail Lane and Heroic Road to the east, by McKercher Boulevard to the south, and by North 2nd Avenue to the west.

The purpose of the study is to identify portions of the City’s water distribution system within the study area that may experience low water pressure and to quantify the intensity, frequency, potential causes, and possible options to increase pressures. This memorandum has been prepared by SPF Water Engineering (SPF) to summarize the results the City’s water system performance based on field measurements conducted by City staff from August to September 2019.

Pressure is both a regulatory and aesthetic criterion for public drinking water distribution systems. In terms of regulatory requirements, the Idaho Department of Environmental Quality (IDEQ) specifies minimum pressures which must be met during specific conditions (Idaho Administrative Procedure Act [IDAPA] 58.01.08.552.01.b.i-v). Regulatory requirements for pressure include a minimum of 40 pounds per square inch (psi) during peak hour demand (PHD) conditions, and 20 psi during fire flow events plus maximum day demand (FF+MDD). Public drinking water systems may provide higher pressure subject to a maximum of 80 psi per IDAPA.

Beyond regulatory requirements, water pressure as experienced by customers is also an aesthetic matter with preferences varying by community. IDEQ required minimum pressures are specified at the point of connection to the distribution system (typically on the municipal side of the service line, or at the water meter), however several factors influence the actual pressure experience at the point of use on private property.

The goal of this memorandum is to establish a baseline understanding of current system performance to provide stakeholders including water customers, City Staff, and local public
officials with additional data to determine appropriate system performance goals and potential solutions for increasing pressure where desired. The final engineering deliverable as part of the study will incorporate the field measurements into a hydraulic model of the City’s water distribution system, and will be submitted to the City under separate cover.

2.0 Method

SPF Water Engineering and the City of Hailey Public Works Department have targeted a geographic area of the City of Hailey for detailed engineering analysis based on reports of low pressure by water customers. The scope of this study included a limited field effort (the field study) to record water system performance parameters at selected locations throughout the study area. The residential monitoring locations were selected based on a review of the City’s infrastructure layout with the goal of obtaining optimal coverage of the geographic area and water system infrastructure within the study area. The field data were gathered by City staff and reviewed by SPF. SPF also reviewed additional system monitoring data provided by the City from the water system supervisory control and data acquisition (SCADA) system which included parameter such as storage tank levels, supply flow rates, and booster pump operating logs (pressure and flow rates), and recent water demand data in the form of water meter billing data dating from June 27, 2019 to October 1, 2019.

The field study involved the following:

1. temporary installation of pressure data loggers at eight locations (residential monitoring locations) within the study area:
   1. 440 W Meadow Drive
   2. 710 Kintail Drive
   3. 1710 Northridge Drive
   4. 1740 2nd Avenue North
   5. 1320 Heroic Drive
   6. 1420 2nd Avenue North
   7. 154 South Hiawatha Drive
   8. 158 South Hiawatha Drive

2. flow testing of service lines at the residential monitoring locations

The residential monitoring locations are shown on Figure 1.

Residential monitoring locations were monitored in pairs of two (locations 1&2, 3&4, 5&6, 7&8) for approximately one week for each pair. Pressure data loggers were installed in the service line at each residential monitoring location, which required temporary removal of the water meter. At the end of each monitoring period (approximately one week), the pressure data loggers were removed from the water service line, the water meter reinstalled, and the pressure data loggers were installed in the service lines of the next residential monitoring location pair.
Flow testing involved full flow test of the service line capacity at each residential monitoring location, and recording of the flow rate, residual pressure, estimated pipe length from the distribution main to meter vault, and service line size. The full flow test involved opening a temporary valve installed on the service line to full throttle.

The field study data as well as the SCADA data from July 1, 2016 to October 2, 2019 were transmitted electronically by the City to SPF.

### 3.0 Data Analysis

The data reviewed as part of this study are grouped into the following categories:

1. Field study data (eight residential monitoring locations)
   - Pressure at point of delivery to service lines
   - Service line flow test data
2. Water meter billing data (eight residential monitoring locations)
3. SCADA data
   - Pump station flow and pressure data
     - Northridge, 3rd Avenue, Woodside, River Street
   - Storage tank level data
     - Turbine and Quigley tanks
       - Tank levels, inflow, outflow
   - Sources
     - Indian Springs

The review of the data followed the following general process:

1. Quality control review
2. Statistical summary
3. Analysis of cyclic and temporal trends
4. Correlation evaluation
5. Data interpretation

**Quality Control Review**

The first step of the data review involved identifying an appropriate quality control rubric. The goal of the quality control review is to identify whether the data gathered are adequate in both quantity and quality to support stakeholders involved in decision making processes during the next steps of the pressure evaluation study.

The following five metrics are proposed for evaluating the overall quality of the data; data quality, data sufficiency, comparability, consistency, and completeness. The criteria of the data evaluation rubric for each metric are discussed below.
### Table 1
**Data Quality Control Rubric**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description and Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Quality</td>
<td>Determine whether data were collected at the proper times/interval and whether appropriate procedures were employed.</td>
</tr>
<tr>
<td>2. Sufficiency</td>
<td>Determine if the minimum number of data/measurements (electronic equipment).</td>
</tr>
<tr>
<td>3. Comparability</td>
<td>Evaluate the degree to which data recorded at the field appear to be consistent with the magnitude and range of similar SCADA measurements. Include any system outages or events in this comparison.</td>
</tr>
<tr>
<td>4. Consistency</td>
<td>Evaluate the continuity, standard deviation, and range of data measurements for individual data collection sources.</td>
</tr>
<tr>
<td>5. Completeness</td>
<td>Evaluate whether a sufficient number of data points exist to make a valid decision for compliance determination.</td>
</tr>
</tbody>
</table>

### Data Quality

Field data were logged by the dynamic pressure recorder at a time interval of 2 minutes. A 2-minute resolution is more than adequate to evaluate temporal trends at a wide range of scales including, hourly, daily, and monthly. The SCADA data are logged at a time interval of 15 minutes. A 15-minute resolution is adequate to support evaluation at a wide range of scales ranging from hourly to monthly. Based on information regarding the routine maintenance and calibration practices employed by the City in the general upkeep and operation of the water system data recording equipment (including flow meters, transducers, and electronic logging devices), and the high resolution of the data points, the overall quality of the data for this study appears to be adequate to support the anticipated use of the study results (use in infrastructure planning and policy decisions by the City of Hailey and public stakeholders).

### Data Sufficiency

A total of sixteen parameters were recorded by the SCADA system for use in the Northridge pressure study:

- Time and date
- River Street pump station flow
- Quigley Tank level
- 3rd Avenue pump station flow
- 3rd Avenue pump station discharge pressure
- Northridge pump station discharge pressure
- Northridge pump station flow
- Northridge Well 1 flow
- Northridge Well 2 flow
- Northridge Well 3 flow
- Woodside pump station discharge pressure
- Woodside pump station flow
- Indian Springs Flow
- Turbine Tank level
- Turbine Tank outflow rate
- Turbine Tank Inflow rate

Residential monitoring location data included the following eight parameters:

- Location
- Time and date
- Residual pressure
- Flow rate
- Distance from distribution main to meter vault
- Service line size
- Dynamic pressure
- Meter totalizing data

These parameters were selected based on general engineering principals and their applicability to hydraulic modeling. The residential monitoring data were gathered from eight locations as discussed in Section 2 based on spatial and infrastructure coverage. These parameters are sufficient to complete an evaluation of the observed behavior of the hydraulic system in the Northridge area.

Data Comparability

Figures 2-17 (enclosed with this memo) present pressures recorded by the dynamic pressure loggers at each residential monitoring location compared to the pressures recorded by the City’s SCADA system. All pressures are presented on a scale from 40-80 psi over the course of the study period. The graphs for both the SCADA equipment and the field monitoring equipment display a high degree of correlation, the same general magnitudes, and similar ranges. Collectively, and in each two-variable comparison, the data show a high degree of comparability which also suggests that the data validity is high.

Data Consistency

The consistency metric evaluates whether the recorded data values fall within ranges that would reasonably be expected from the performance of typical water distribution equipment (pressures between 0 to 100 psi, flow rates from 0 to 3,000 gpm). As noted in the comparability metric, Figures 2-17 present data that do not reveal anomalous readings that would indicate equipment malfunction or other data validity problems. The data shown in
Figures 2-17 also show a high degree of continuity, with no or small data gaps which indicate little to no equipment offline during the study period.

**Data Completeness**

The target study period for each residential monitoring pair was approximately one week. This period was selected to capture a typical full weekly irrigation cycle. The mean data log for each residential location was approximately 5 days, with a standard deviation of 2 days. In general, the range of the study length (mean data length plus standard deviation) is within the targeted length for the study period. The SCADA data were provided for a period of approximately 1,187 days (July 1, 2016 - October 1, 2019). The general quantity of data appears to be adequate to evaluate a wide range of trends including diurnal, weekly, monthly, seasonal, and annual cycles, and to identify reasonable estimates for average day, maximum day, and peak hour factors. The exception to this general observation is the water meter data, where limited records yielded flow from late August to September 2019 only. However, since the limited data generally spans the field effort study period, the data appear to be adequate.

**Statistical Summary**

Tables 2 through 5 present summary statistics for residential pressure data, water meter totalizer flow data (water demand, during the study period), and key SCADA equipment data (Northridge pump station pressure data and Turbine tank levels). Additional summary data are included as Figures 18-21 as an enclosure to this memo. Water meter data are not available for the days when the dynamic pressure loggers were installed, as the loggers were temporarily installed in place of the water meters at residential monitoring locations.

**Residential Field Location Pressure Measurements**

Summary statistics for field measurement location pressure data are presented in Table 3. Additional summary data are presented in the form of “box and whisker” plots in Figure 18.
Table 2
Residential Monitoring Locations

<table>
<thead>
<tr>
<th>ID</th>
<th>Location</th>
<th>Start Day/Time</th>
<th>End Day/Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>440 W Meadow Dr</td>
<td>8/13/2019 11:06</td>
<td>8/19/2019 9:56</td>
</tr>
<tr>
<td>2</td>
<td>710 Kintail Dr</td>
<td>8/13/2019 10:24</td>
<td>8/15/2019 12:54</td>
</tr>
<tr>
<td>3</td>
<td>1710 Northridge Dr</td>
<td>8/19/2019 13:22</td>
<td>8/22/2019 11:22</td>
</tr>
<tr>
<td>4</td>
<td>1740 2nd Ave N</td>
<td>8/19/2019 13:10</td>
<td>8/22/2019 10:28</td>
</tr>
<tr>
<td>5</td>
<td>1320 Heroic Dr</td>
<td>8/22/2019 13:34</td>
<td>8/27/2019 13:24</td>
</tr>
</tbody>
</table>

Key observations for the field measurement pressure data include the following:

- The lowest recorded pressures were observed at 710 Kintail Drive (41.0 psi) and 154 S Hiawatha Dr (41.1 psi).
- The lowest mean pressure was observed at 710 Kintail Drive (52 psi).
- The largest pressure range was observed at 1420 2nd Ave North (34 psi change)
- The highest pressure observed was 78 psi at 1420 2nd Ave North
- The average pressure range was 22 psi
### Table 3

Field Measurement Pressure Statistics (psi)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>440 W Meadow Dr</th>
<th>710 Kintail Dr</th>
<th>1710 Northridge Dr</th>
<th>1740 2nd Ave N</th>
<th>1320 Heroic Dr</th>
<th>1420 2nd Ave N</th>
<th>154 S Hiawatha Dr</th>
<th>158 S Hiawatha Dr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>61</td>
<td>52</td>
<td>56</td>
<td>64</td>
<td>59</td>
<td>66</td>
<td>58</td>
<td>58</td>
</tr>
<tr>
<td>Standard Error</td>
<td>0.08</td>
<td>0.07</td>
<td>0.07</td>
<td>0.12</td>
<td>0.06</td>
<td>0.13</td>
<td>0.05</td>
<td>0.05</td>
</tr>
<tr>
<td>Median</td>
<td>63</td>
<td>53</td>
<td>57</td>
<td>66</td>
<td>60</td>
<td>70</td>
<td>59</td>
<td>59</td>
</tr>
<tr>
<td>Mode</td>
<td>65</td>
<td>54</td>
<td>58</td>
<td>68</td>
<td>62</td>
<td>72</td>
<td>62</td>
<td>61</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>5.2</td>
<td>2.8</td>
<td>3.2</td>
<td>5.4</td>
<td>3.7</td>
<td>7.8</td>
<td>3.8</td>
<td>3.8</td>
</tr>
<tr>
<td>Sample Variance</td>
<td>27.0</td>
<td>7.6</td>
<td>10.2</td>
<td>29.0</td>
<td>13.5</td>
<td>60.5</td>
<td>14.8</td>
<td>14.3</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>2.1</td>
<td>1.7</td>
<td>0.8</td>
<td>1.9</td>
<td>0.6</td>
<td>-0.6</td>
<td>3.3</td>
<td>-0.6</td>
</tr>
<tr>
<td>Skewness</td>
<td>-1.7</td>
<td>-1.3</td>
<td>-1.2</td>
<td>-1.6</td>
<td>-1.1</td>
<td>-0.9</td>
<td>-1.7</td>
<td>-0.7</td>
</tr>
<tr>
<td>Range</td>
<td>26</td>
<td>15</td>
<td>16</td>
<td>26</td>
<td>19</td>
<td>34</td>
<td>23</td>
<td>19</td>
</tr>
<tr>
<td>Minimum</td>
<td>42</td>
<td>41</td>
<td>45</td>
<td>45</td>
<td>46</td>
<td>44</td>
<td>41</td>
<td>45</td>
</tr>
<tr>
<td>Maximum</td>
<td>68</td>
<td>56</td>
<td>61</td>
<td>71</td>
<td>65</td>
<td>78</td>
<td>64</td>
<td>64</td>
</tr>
<tr>
<td>Count</td>
<td>4286</td>
<td>1516</td>
<td>2101</td>
<td>2080</td>
<td>3490</td>
<td>3509</td>
<td>5638</td>
<td>5612</td>
</tr>
</tbody>
</table>
Residential Field Location Water Meter Data

Summary statistics for field measurement location water meter data are presented in Table 4. Additional summary data are presented in the form of “box and whisker” plots in Figure 19.

Table 4
Residential Water Meter Data Summary

<table>
<thead>
<tr>
<th>Location Address</th>
<th>Mean (gpd)</th>
<th>Min (gpd)</th>
<th>Max (gpd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>440 w Meadow Drive</td>
<td>1,163</td>
<td>10</td>
<td>3,461</td>
</tr>
<tr>
<td>710 Kintail Drive</td>
<td>1,013</td>
<td>0</td>
<td>3,136</td>
</tr>
<tr>
<td>1710 Northridge Drive</td>
<td>1,041</td>
<td>56</td>
<td>1,481</td>
</tr>
<tr>
<td>1740 2nd Ave North</td>
<td>2,025</td>
<td>122</td>
<td>5,927</td>
</tr>
<tr>
<td>1320 Heroic Drive</td>
<td>1,686</td>
<td>233</td>
<td>3,103</td>
</tr>
<tr>
<td>1420 2nd Ave N</td>
<td>2,060</td>
<td>12</td>
<td>5,329</td>
</tr>
<tr>
<td>154 S Hiawatha</td>
<td>1,380</td>
<td>0</td>
<td>5,020</td>
</tr>
<tr>
<td>158/7 S Hiawatha</td>
<td>1,061</td>
<td>36</td>
<td>4,745</td>
</tr>
<tr>
<td>Average</td>
<td>1,429</td>
<td>58</td>
<td>4,025</td>
</tr>
</tbody>
</table>

Key observations for the field measurement pressure data include the following:

- The highest daily water demand was observed at 1420 2nd Ave N at 5,927 gallons per day (gpd)
- Water meter data were provided for the period of June 27, 2019 to October 1, 2019, however the data were often reported as zero until late August, when typical flow rates are generally reported.
Table 2
Residential Water Meter Summary Statistics

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Mean</th>
<th>Standard Error</th>
<th>Median</th>
<th>Mode</th>
<th>Standard Deviation</th>
<th>Range</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Sum</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Meter Data (8/13/19 to 9/4/19)</td>
<td>1,450</td>
<td>74</td>
<td>1,154</td>
<td>0.30</td>
<td>1,275</td>
<td>5,927</td>
<td>0</td>
<td>5,927</td>
<td>426,336</td>
<td>294</td>
</tr>
</tbody>
</table>

City of Hailey Water System SCADA Data

Summary statistics for field measurement location water meter data are presented in Table 6. Additional summary data are presented in the form of “box and whisker” plots in Figures 20-21.

Table 3
SCADA Data Summary Statistics

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Quigley Tank (ft)</th>
<th>Northridge Pressure (psi)</th>
<th>Turbine Tank (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>17</td>
<td>72</td>
<td>11</td>
</tr>
<tr>
<td>Median</td>
<td>18</td>
<td>73</td>
<td>11</td>
</tr>
<tr>
<td>Mode</td>
<td>14</td>
<td>73</td>
<td>10</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Sample Variance</td>
<td>12</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Range</td>
<td>11</td>
<td>28</td>
<td>4</td>
</tr>
<tr>
<td>Minimum</td>
<td>11</td>
<td>55</td>
<td>8</td>
</tr>
<tr>
<td>Maximum</td>
<td>23</td>
<td>83</td>
<td>13</td>
</tr>
</tbody>
</table>

Field Flow Tests

City staff conducted flow tests at each field monitoring location (see Table 8). Calculated flow velocities ranged from 8.6 to 20.2 ft/s. The flow rates correspond to the lowest velocities, and lowest residual pressures. The lowest flow/pressure location at the time of flow testing was 1710 Northridge Dr, which was tested at 1:18 pm and yielded a pressure
reading of 45 psi at 11.8 gpm. The highest flow test results was produced at 710 Kintail Drive (the field monitoring point with the highest topographic elevation), which yielded 27.9 gpm at 53 psi at 10:17 am. Estimated headlosses from the distribution main to the meter vault indicated high pressure loss as a result of the service line size (reported to be ¾-inch at all residential monitoring locations) at the flow rates measured during the pressure tests.

Table 4
Field Flow Tests

<table>
<thead>
<tr>
<th>Location</th>
<th>Date</th>
<th>Time</th>
<th>Int. (psi)</th>
<th>Flow (gpm)</th>
<th>Dist. Main to vault (ft)</th>
<th>Dia. (in)</th>
<th>Vel. (ft/s)</th>
<th>Headloss (ft)</th>
<th>C (est)</th>
</tr>
</thead>
<tbody>
<tr>
<td>710 Kintail</td>
<td>8/13/2019</td>
<td>10:17 a.m.</td>
<td>53</td>
<td>27.9</td>
<td>26</td>
<td>0.75</td>
<td>20.2</td>
<td>73.94</td>
<td>32.01</td>
</tr>
<tr>
<td>440 W. Meadow Dr.</td>
<td>8/13/2019</td>
<td>10:50 a.m.</td>
<td>60</td>
<td>19.5</td>
<td>67</td>
<td>0.75</td>
<td>14.2</td>
<td>98.72</td>
<td>42.73</td>
</tr>
<tr>
<td>1740 2nd Ave. N.</td>
<td>8/19/2019</td>
<td>1:05 p.m.</td>
<td>68</td>
<td>20.4</td>
<td>55</td>
<td>0.75</td>
<td>14.8</td>
<td>87.44</td>
<td>37.85</td>
</tr>
<tr>
<td>1710 Northridge Dr.</td>
<td>8/19/2019</td>
<td>1:18 p.m.</td>
<td>45</td>
<td>11.8</td>
<td>10</td>
<td>0.75</td>
<td>8.6</td>
<td>5.80</td>
<td>2.51</td>
</tr>
<tr>
<td>1320 Heroic Dr.</td>
<td>8/22/2019</td>
<td>1:50 p.m.</td>
<td>50</td>
<td>25.6</td>
<td>15.8</td>
<td>0.75</td>
<td>18.6</td>
<td>38.40</td>
<td>16.62</td>
</tr>
<tr>
<td>1420 N. 2nd Ave.</td>
<td>8/22/2019</td>
<td>1:29 p.m.</td>
<td>60</td>
<td>21.4</td>
<td>50.4</td>
<td>0.75</td>
<td>15.5</td>
<td>87.74</td>
<td>37.98</td>
</tr>
<tr>
<td>154 S. Hiawatha Dr.</td>
<td>8/27/2019</td>
<td>2:30 p.m.</td>
<td>50</td>
<td>22.3</td>
<td>38</td>
<td>0.75</td>
<td>16.2</td>
<td>71.37</td>
<td>30.90</td>
</tr>
<tr>
<td>157 S. Hiawatha Dr.</td>
<td>8/27/2019</td>
<td>3:50 p.m.</td>
<td>48</td>
<td>19.6</td>
<td>5</td>
<td>0.75</td>
<td>14.2</td>
<td>7.38</td>
<td>3.20</td>
</tr>
</tbody>
</table>

Cyclical and Temporal Trends

Data from the field study and SCADA records were analyzed for a range of temporal trends including the following cycles: multi-year trends, seasonal, monthly, day of week, and daily/diurnal cycles.
Multi-Year Trends

SCADA data from July 1, 2016 to October 2, 2019 are summarized in Table 8 for the Northridge pump station (mean discharge pressure). Table 8 indicates that the mean daily discharge pressure for the Northridge pump station resides between 70-80 psi for approximately 90% of the year. However, since 2016 the share of annual time spent at lower pressures has been increasing. Data provided for 2019 show a continued decrease in mean daily discharge pressure for the Northridge booster pump station, however the 2019 data may not be weighted comparably to the data for past full years due to the irrigation season having comprised a larger proportion of the year without 4th quarter data. However, per Table 8, the distribution of the mean daily pressure at Northridge pump station in 2018 shifted lower by 5% compared to 2017 in terms of annual time spent within each pressure interval (90.2% down from 95.5%).

Table 5  
Northridge Pump Station: Percentage Annual at Time Pressure Intervals (Mean)

<table>
<thead>
<tr>
<th>Start</th>
<th>End</th>
<th>0-10 (psi)</th>
<th>10-50 (psi)</th>
<th>50-60 (psi)</th>
<th>60-70 (psi)</th>
<th>70-80 (psi)</th>
<th>80-90 (psi)</th>
<th>90-100 (psi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/1/2016</td>
<td>12/31/2016</td>
<td>0.01%</td>
<td>0.00%</td>
<td>0.01%</td>
<td>4.3%</td>
<td>95.6%</td>
<td>0.07%</td>
<td>0.00%</td>
</tr>
<tr>
<td>1/1/2017</td>
<td>12/31/2017</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.01%</td>
<td>4.5%</td>
<td>95.5%</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>1/1/2018</td>
<td>12/31/2018</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.01%</td>
<td>9.8%</td>
<td>90.2%</td>
<td>0.01%</td>
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Seasonal and Monthly Cycles

Seasonal and monthly cycles capture fluctuations in water system operating conditions due to factors such as seasonal irrigation practices and weather. Increased water demand due to seasonal fluctuations will impact pressures within the water distribution system. SCADA data from 2019 (through October) are summarized by month and day in Table 9 for the Northridge pump station (mean daily discharge pressure). Table 9 shows clear effects of seasonal impacts, with the lowest discharge pressures at the Northridge pump station occurring during the summer months. The lowest mean daily discharge pressure occurred on July 17 (68.8 psi). Figures 2, 4, 6, 8, 10, 12, 14, and 16 illustrate the pressure delta between the Northridge pump station discharge and the service connections at the eight residential monitoring locations, which range from a few psi to over 20 psi. Note, the pressures shown in Tables 9-10 are mean daily pressures and do not present intra-day fluctuations which can result in more shorter-term lower pressures.
### Table 6

2019 Mean Daily Discharge Pressure: Northridge Pump Station (psi)

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Similar data are provided in Table 9 for 2018. Similar seasonal trends are observable, with the lowest pressure at the Northridge pump station occurring on May 8th. In general, pressures appear to be lower in 2019 than in 2018.
Table 7
2018 Mean Daily Discharge Pressure: Northridge Pump Station (psi)

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<td>73.6</td>
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<td>73.6</td>
<td>73.4</td>
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</table>

**Weekly Cycles**

Irrigation practices and other factors can also impact water system pressures on a weekly cycle. Figures 18, 20, and 21 provide data sorted by day of the week for residential monitoring location pressures, 2019 Northridge pump station mean discharge pressures,
and mean minimum daily water level in Turbine tank respectively. Based on Figures 20-21, there do not appear to be pronounced weekly cycles on an annual basis in the mean daily Turbine tank level or the mean daily Northridge pump station discharge pressure. During the study period, pressure ranges for each field location appeared to be similar throughout the week.

**Daily/Diurnal Cycles**

The most pronounced fluctuation in system pressure occurs on an intra-day basis (diurnal cycles). Figures 24-25 provide a 3-dimensional surface presenting a view of daily, weekly, and monthly trends in the minimum daily discharge pressure at the Northridge pump station. Observations of Figures 24 include the following:

- Weekly trends consist of seven similarly shaped “saddles”, which illustrates how similar the days of the week are to each other, underscoring the fact that weekly cycles do not appear to represent the dominant influence for the subject parameter.
- In the “x-axis”, a relatively large influence on minimum pressure is represented by monthly cycles, which incorporate the effects of seasonality.
- Diurnal effects are captured along the “y-axis”, which is shown by the blue low points on either end of the y-axis of the surface. These low points correspond to early in the morning and late at night, which presumably correlate with cooler temperatures during the summer irrigation season when residential sprinkler systems characteristically reach peak water demand.

**Correlation Evaluation**

Several multivariable graphs are provided to for the purpose of evaluating which aspects of the City’s water distribution system appear to affect or mirror the pressures in the study area most strongly.

**SCADA Data**

Figures 26 presents the Turbine and Quigley tank levels and Northridge pump station discharge pressure by month for 2019. From Figure 26, the mean discharge pressure from the Northridge pump station appears to be more closely correlated to the Turbine tank level than the Quigley tank level, which is likely due to the closer physical proximity.

Figures 27 presents the Turbine and Quigley tank levels and Northridge pump station flow (total daily flow in 10,000-gal), ordered by minimum daily discharge pressure at the Northridge pump station. Figure 27 indicates a relatively flat weekly trend across both tank levels, and total daily flow and minimum pressure from the Northridge pump station, and a relatively weak correlation between pump station minimum daily pressure and total daily output.

Figures 28-29 present the Northridge pump station pressure versus the Turbine and Quigley tank levels respectively, with each dot representing a 2-minute spot reading. Figure 28 indicates that lowest discharge pressures at the Northridge pump station occur when
the water level in the Turbine tank is above 10-feet. Figure 29 indicates a similar relationship between Quigley tank and the discharge pressure at the Northridge pump station (the lowest pressures at the pump station occur when tank levels are high).

Figures 30-32 present the Northridge pump station pressure versus the discharge pressures of other pump stations; Woodside, 3rd Ave, and River Street respectively. These figures suggest a weak correlation between the pressure observed at the Northridge pump station and the 3rd Ave and River St pump stations, and no apparent correlation to pressures at the Woodside pump station.

Figures 33-35 present the Northridge pump station pressure versus the inflow and outflow rates of Turbine tank, and the discharge flow rate from Indian Springs respectively. Figure 33 indicates that the lowest pressures at the Northridge pump station occur when outflow from the Turbine tank is high. However, the reverse is not true; high outflows are occasionally observed at Turbine tank when pressures are high at the Northridge pump station. Low outflows from Turbine tank and low pressures at Northridge pump station do not co-occur. In general, as outflow from Turbine tank decreases, the pressure at the Northridge pump station increases, suggesting both variables are a function of system demand.

Similar to Figure 33, Figure 34 indicates that the lowest pressures observed at the Northridge pump station occur when inflows into Turbine tank are high. Two inflow regimes into Turbine tank are observable; 800-gpm and 1,100-1,400 gpm. The lower inflow regime does not co-occur with low pressures at the Northridge pump station.

Figure 35 offers similar insight with respect to flow rates at Indian Springs. The higher flow range at Indian Springs (1,600 gpm) does not co-occur with low pressures at the Northridge pump station, again suggesting a common factor such as system demand influencing both variables.

Figures 36-39 present the Northridge pump station pressure versus the discharge flow rates of pump stations, including the Northridge pump station itself, River Street, 3rd Ave., and Woodside respectively. Figures 36-39 indicate that the lowest pressures at the Northridge pump station occur only when the Northridge, River Street and 3rd Avenue pump stations are off and the Woodside pump station is on.

Field Study Data
Figures 2-17 provide a graph of recorded pressure at each field study location versus the pressure at the Northridge pump station and the Turbine tank level. The following observations are suggested by the figures:

- The pressures at all of the residential field monitoring locations are highly correlated to both the pressure at the Northridge pump station and the Turbine tank levels.
- Turbine tank level appears to be a lagging indicator of pressures at residential delivery points (Figure 3, Figure 5).
• Pressure at the Northridge pump station appears to be very closely related in time to customer pressures in the field study area (Figures 2, 4, 6, 8), although customer pressures sometimes stay low after pressures at the pump station have recovered (Figures 8, 10).
• Customer pressures recover faster than levels rise in Turbine tank (Figure 3).
• Pressures at 1420 2nd Ave experience frequent sharp changes (Figures 12-13), mirror the changes at the Northridge pump station but appear to be amplified. This may be due to the location of 1420 2nd Ave closer to the interface between the Northridge service area and the Northridge pumps station.

Figures 40-43 depict the relationship between customer pressures and the Northridge pump station flow rate. In Figure 40, both high and low pressures are observed at 1420 N 2nd Ave while the pump station is on and while it is off. In Figures 40-42, the lowest pressures are observed at 1320 Heroic Ave when the pump station is on, while at 710 Kintail Drive and 440 W Meadow Drive the lowest pressures occur only when the pump station is off.

Figure 42 indicates that for the highest elevation customer (710 Kintail), the lowest pressures occur when the Northridge pump station is off, outflows from Turbine tank are relatively low (500-1,000 gpm), and Turbine tank levels are high.

4.0 Conclusions and Recommendations

Based on analysis of data from the City of Hailey water distribution system, SPF concludes the following:

• Seasonal and diurnal trends influence pressures in the Northridge area, with the strongest impacts observed from May-August during the irrigation season. SCADA data indicate the lowest pressures occur at the Northridge pump station from 9pm to 3am.
• Customer pressures in the Northridge Area are strongly correlated to pressures at the Northridge pump station and the Turbine tank levels. The Turbine tank levels appear to be a lagging indicator, while changes in the Northridge pump station pressure are nearly co-occurring with changes in customer pressure.
• Based on SCADA data from 2016-2019, the field effort likely did not take place during the period of the year when the lowest pressures in the system typically occur. SPF recommends that the City’s current hydraulic model be calibrated based on the pressures and operating conditions observed during the field effort, and that additional hydraulic modeling scenarios be conducted to match the lowest pressures in the SCADA data records to determine approximate lower bounds for pressures likely to occur in the Northridge Area during worst case conditions.
Figure 2. Min. 440 W Meadow vs Min. Northridge Pump Station Pressure

Figure 3. Min. 440 W Meadow vs Min. Turbine Tank Level
Figure 4. Min. 710 Kintail Drive vs Min. Northridge Pump Station Pressure

Figure 5. Min. 710 Kintail Drive vs Min. Turbine Tank Level
Figure 6. Min. 1710 Northridge Drive vs Min. Northridge Pump Station Pressure

Figure 7. Min. 1710 Northridge Drive Meadow vs Min. Turbine Tank Level
Figure 8. Min. 1740 2nd Ave North vs Min. Northridge Pump Station Pressure

Figure 9. Min. 1740 2nd Ave North Meadow vs Min. Turbine Tank Level
Figure 10. Min. 1320 Heroic Drive vs Min. Northridge Pump Station Pressure

Figure 11. Min. 1320 Heroic Drive vs Min. Turbine Tank Level
Figure 12. Min. 1420 2nd Ave North vs Min. Northridge Pump Station Pressure

Figure 13. Min. 1420 2nd Ave North vs Min. Turbine Tank Level
Figure 14. Min. 154 S Hiawatha Drive vs Min. Northridge Pump Station Pressure

Figure 15. Min. 154 S Hiawatha Drive vs Min. Turbine Tank Level
Figure 16. Min. 157 Hiawatha Drive vs Min. Northridge Pump Station Pressure

Figure 17. Min. 157 Hiawatha Drive vs Min. Turbine Tank Level
Figure 18. Mean Pressure at Residential Monitoring Locations by Day of Week
Figure 19. Water Meter Data Box & Whisker Statistics

Water Meter Data

Total Gallons per Day

440 W Meadow Drive
710 Kintail Drive
7740 2nd Ave North
1330 Heroic Drive
1420 2nd Ave N
154 S Hiawatha
158/7 S Hiawatha
Figure 20. SCADA Box & Whisker Statistics: Northridge Pump Station

Figure 21. SCADA Box & Whisker Statistics: Turbine Tank Level
Figure 22. Multi-Year Mean Pressure Distribution: Northridge Pump Station

Figure 23. Multi-Year Mean Tank Levels: Turbine Tank
Figure 24. 2019 Summary of Temporal Cycles: Northridge Pump Station Discharge Pressure
Figure 26. 2019 Min. 440 W Meadow vs Min. Northridge Pump Station Pressure

Figure 27. 2019 Min. 440 W Meadow vs Min. Northridge Pump Station Pressure
Figure 28. 2019 Northridge Pump Station Discharge Pressure vs Turbine Tank Level

Figure 29. 2019 Northridge Pump Station Discharge Pressure vs Quigley Tank Level
**Figure 30. 2019 Northridge Pump Station Discharge Pressure vs Woodside Pump Station Discharge Pressure**

![Graph showing 2019 Northridge Pump Station Pressure vs Woodside Pump Station Pressure](image)

**Figure 31. 2019 Northridge Pump Station Discharge Pressure vs 3rd Ave Pump Station Discharge Pressure**

![Graph showing 2019 Northridge Pump Station Pressure vs 3rd Ave Pump Station Pressure](image)
Figure 32. 2019 Northridge Pump Station Discharge Pressure vs River Street Pump Station Discharge Pressure

Figure 33. 2019 Northridge Pump Station Discharge Pressure vs Turbine Tank Outflow
Figure 34. 2019 Northridge Pump Station Discharge Pressure vs Turbine Tank Inflow

Figure 35. 2019 Northridge Pump Station Discharge Pressure vs Indian Springs Flow
Figure 36. 2019 Northridge Pump Station Discharge Pressure vs Northridge Pump Station Flow

Figure 37. 2019 Northridge Pump Station Discharge Pressure vs River Street Pump Station Flow
Figure 38. 2019 Northridge Pump Station Discharge Pressure vs 3rd Ave Pump Station Flow

Figure 39. 2019 Northridge Pump Station Discharge Pressure vs Woodside Pump Station Flow
Figure 40. 2019 Northridge Pump Station Flow vs 1420 N 2nd Ave Pressure

Figure 41. 2019 Northridge Pump Station Flow vs 1320 Heroic Ave Pressure
Figure 42. 2019 Northridge Pump Station Flow vs 710 Kintail Dr Pressure

Figure 43. 2019 Northridge Pump Station Flow vs 440 W Meadow Dr Pressure
MEMORANDUM

DATE: November 25, 2019
TO: Brian Yeager, P.E., P.L.S., City of Hailey
FROM: Scott McGourty, P.E., SPF; Eric Landsberg, P.E., SPF
PROJECT NO: 330.0350
RE: Part 2: Northridge Area Pressure Study – Hydraulic Model Calibration

1.0 Introduction

The City of Hailey, Idaho (the City) has commissioned a study of water pressures in the City’s public drinking water distribution system, with a specific geographic focus on the Northridge and Old Cutters Areas. The Study Area is approximately bounded by Highway 75 to the west, CD Olena Drive to the east, McKercher Boulevard and Myrtle Street to the South, and West Meadow Drive to the north.

This memorandum extends previous work (SPF, 2019) by using data gathered as part of the fall 2019 field study to calibrate the existing hydraulic model of the City’s water distribution system (the calibrated model). The purpose of this memo is to; 1) document the results of the calibrated model (with focus on the Northridge area), specifically the accuracy of the model and the calibration effort, 2) project simulated worst-case conditions for water system pressure in the Northridge, and 3) provide preliminary alternatives for improving water system pressure in the Northridge Area.

This memorandum is the second of three anticipated parts of the overall study of water system pressure in the Northridge Area and is intended to support stakeholders, including water customers, City staff, and local public officials by providing data to determine appropriate performance goals for the Northridge Area water system, and identify preliminary options for increasing system pressure where desired.

The results of the calibration effort indicate that the City’s hydraulic model of the Northridge Area can match field measured pressures with approximately 99.1% accuracy, or ± 1 psi primarily via structured adjustment of system demand (see Section 3). The calibrated model was used to project estimated worst case conditions in Northridge (lowest pressures at residential locations) based on an observed pressure of 55 psi at the Northridge booster pump station (a 4-year low seen on July 19, 2019 at 10:45 PM). Based on the calibrated model, pressures could reasonably be expected to drop as low as 28 psi in the Northridge Area on a 15-minute instantaneous basis (see Section 4.0).
Projected water system performance calculated by the model is believed to be a reasonable estimate of potential field conditions, however the results of the model are approximate, and rely on many variables including approximate pipe invert elevations throughout the City’s water system which have the potential to introduce inaccuracy (likely to range from approximately 5-10 psi). Pipe inverts for the Northridge Area were checked versus approximates of ground surface elevation and updated in the hydraulic model, which is believed to have decreased inaccuracy related to pipe elevations within the Study Area. The success of the model in matching field measurement data at multiple locations simultaneously across several scenarios via adjustment of system demand generally indicates that the network components of the hydraulic model are accurate to a relatively high degree.

2.0 Method

The City of Hailey’s water system hydraulic model has undergone previous limited calibration efforts, most recently in November 2018. The hydraulic model calibrated in November 2018 was the starting point for the calibration effort documented in this memorandum.

The November 2018 calibration effort also focused on the Northridge Area and included the following calibration steps:

- Use of the Bentley® WaterCAD CONNECT Edition (Version 10.00.18) Darwin Calibrator™ to incorporate the results of fire hydrant flow test data from hydrants in the Northridge Area to calibrate the Hazen-Williams “C” pipe roughness coefficients for the pipe network in the Northridge Area. The Darwin Calibrator employs genetic fitness algorithms to recursively change model variables in parent-child iterations.
- Updated pipe diameters and topographic data for the existing distribution piping in the model within the Northridge Area based on as-built and design drawings provided by the City.

Model Input

The calibration effort completed as part of this evaluation consisted of the use of field measurement data to reconstruct and simulate hydraulic conditions observed in the field. Input used as part of the calibration process were obtained for the locations presented in Table 1.
Table 1

Field Measurement Data Locations

<table>
<thead>
<tr>
<th>Residential Locations</th>
<th>Booster Pump Stations</th>
<th>Storage Tanks</th>
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<tbody>
<tr>
<td>440 W Meadow Drive</td>
<td>Northridge</td>
<td>Turbine</td>
</tr>
<tr>
<td>710 Kintail Drive</td>
<td>3rd Ave</td>
<td>Quigley</td>
</tr>
<tr>
<td>1710 Northridge Drive</td>
<td>River St</td>
<td></td>
</tr>
<tr>
<td>1740 2nd Ave North</td>
<td>Woodside</td>
<td></td>
</tr>
<tr>
<td>1320 Heroic Drive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1420 2nd Ave N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>154 S Hiawatha Dr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>158 S Hiawatha Dr</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The following data were used as input for modeling each scenario:

1. Pressure data from field measurements
   - Pressure at the Northridge Booster Pump Station (from SCADA data)
   - Field study data from eight residential monitoring locations (from temporary pressure recorders installed by the City)

2. Hydraulic equipment status
   - Pump station status (from SCADA data)
   - Tank Levels (from SCADA data)

3. Approximate topographic elevation data from USGS Digital Elevation Models derived from the National Elevation Dataset (NED) provided by Google Earth

4. System demand (based on water meter data provided by the City)

The initial conditions data used during model calibration are presented in Table 2. The topographic elevations of residential pads were found to be higher than the elevation of the nearest pipe junction in the hydraulic model for the following addresses:

- 440 W Meadow Dr (revised to 5,388-ft from 5,381-ft)
- 1740 2nd Ave N (revised to 5,384-ft from 5,370-ft)
- 1320 Heroic Dr (revised to 5,373-ft from 5,351-ft)
- 154 and 158 S Hiawatha Dr (revised to 5,394-ft from 5,385-ft).

As shown in Table 2, the minimum pressures observed during the field study at the residential monitoring locations ranged from 41-46 psi, while the corresponding pressures at the nearest booster pump station (Northridge [NR] booster pump station) ranged from 66-73 psi at the time that minimum pressures were observed at the residential locations.
Table 2  
Field Measurement & SCADA Data

<table>
<thead>
<tr>
<th>Location Address</th>
<th>Field Min (psi)</th>
<th>Date/Time of Min.</th>
<th>NR Pressure (psi)</th>
<th>NR Flow (psi)</th>
<th>Turbine Tank (ft)</th>
<th>Quigley Tank (ft)</th>
<th>River St Flow (gpm)</th>
<th>3rd Ave Flow (gpm)</th>
<th>Woodside Flow (gpm)</th>
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<tbody>
<tr>
<td>440 W Meadow Dr</td>
<td>42</td>
<td>8/19/2019 1:46</td>
<td>73</td>
<td>0</td>
<td>12.1</td>
<td>18.5</td>
<td>0</td>
<td>0</td>
<td>1,121</td>
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<tr>
<td>710 Kintail Dr</td>
<td>41</td>
<td>8/14/2019 20:58</td>
<td>65</td>
<td>0</td>
<td>11.3</td>
<td>19.6</td>
<td>0</td>
<td>0</td>
<td>1,132</td>
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<td>1710 Northridge Dr</td>
<td>45</td>
<td>8/21/2019 0:36</td>
<td>68</td>
<td>1,896</td>
<td>10.3</td>
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<td>1,187</td>
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<td>0</td>
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<td>17.9</td>
<td>1,167</td>
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<td>1,144</td>
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<tr>
<td>1320 Heroic Dr</td>
<td>46</td>
<td>8/23/2019 0:52</td>
<td>68</td>
<td>1,895</td>
<td>10.0</td>
<td>17.0</td>
<td>1,176</td>
<td>0</td>
<td>1,187</td>
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<td>8/25/2019 23:44</td>
<td>69</td>
<td>1,834</td>
<td>10.4</td>
<td>18.1</td>
<td>1,186</td>
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<td>1,166</td>
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<td>154 S Hiawatha Dr</td>
<td>41</td>
<td>8/28/2019 21:36</td>
<td>66</td>
<td>0</td>
<td>10.9</td>
<td>19.3</td>
<td>1,163</td>
<td>0</td>
<td>1,139</td>
</tr>
<tr>
<td>158 S Hiawatha Dr</td>
<td>45</td>
<td>9/3/2019 0:02</td>
<td>68</td>
<td>1,871</td>
<td>10.4</td>
<td>19.4</td>
<td>1,167</td>
<td>0</td>
<td>1,171</td>
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Calibration Process

The intent of the calibration process was to demonstrate the ability of the hydraulic model to reproduce conditions observed during the field study (conducted from August to September 2019 [SPF, 2019]) and to adjust model parameters where needed to increase the accuracy of the model. Eight scenarios were modeled as part of the calibration effort, each corresponding to one of the residential locations monitored during the field study. The purpose of each calibration scenario was to identify the adjustments to the model which were required to match; a) the hydraulic grade line at the Northridge booster pump station (as reported by SCADA data), and b) the hydraulic grade line at the residential location recorded at the same day and time. The initial conditions for each scenario were constructed by matching the conditions of various hydraulic elements including tank levels and pump status for all four of the City’s large booster pump stations.

The general process for conducting calibration of the model was as follows:

1. Input the status of pumps and tanks from SCADA data into the model for each scenario
2. Compare approximate residential lot elevations as reported by the NED to topographic elevation of the nearest hydraulic model pipe junction and update the model as required
3. Update model demand based on water meter data provided by the City
4. Perform initial model run
5. Perform structured demand adjustment on an iterative basis to converge model results to the field study data for each scenario. The demand adjustment process consisted of progressively more narrow geographic adjustments to demand, scaling successively beginning city wide, then area wide, and finally on a junction specific basis.

3.0 Hydraulic Model Calibration Results

The results of the calibrated model across all eight scenarios are presented in Figure 1. As shown in Figure 1, the calculated model results match pressures observed in the field, both at the Northridge booster pump station and the residential monitoring locations. Output from the calibrated model is presented in Appendix A.

Figure 1
Calibration Results
Model Accuracy

Model accuracy is a measure of how closely the calculated results of the model match actual conditions observed in the field. The accuracy of the calibrated hydraulic model is evaluated on the basis of five metrics discussed below (results are presented in Table 4).

1. **Standard Deviation**: A measure of the deviation of the results of the calibrated hydraulic model versus the field study pressure data. The standard deviation was computed using Equation 1:

   \[ \sigma = \frac{1}{N} \sum_{n=1}^{N} |x_n - y_n| \]  

   **(Equation 1)**

   Where:
   - \( x \) = the field study pressure measurement data
   - \( y \) = the calibrated hydraulic model pressure results
   - \( N \) = the total number of calibration points (eight residential locations and eight corresponding pressure readings from the SCADA data for the Northridge booster pump station)
   - \( n \) = an individual calibration point
   - \( \sigma \) = standard deviation

   In the context of this analysis, standard deviation represents the average discrepancy between the model output and the field study measurements across the eight calibration scenarios, which included 16 calibration data points (eight residential pressures and eight pressures for the Northridge booster pump station were matched).

2. **Maximum Cumulative Difference**: A measure of the sum of the largest deviation of the hydraulic model versus the field data (Northridge booster pump station plus the corresponding residential location). A combined absolute difference of 2 psi was seen at 710 Kintail Dr and 1420 2nd Ave N (Table 3).
Table 3

Field Measurement Data Locations

<table>
<thead>
<tr>
<th>Residential Location</th>
<th>Field Study (psi) Res.</th>
<th>NRBPS</th>
<th>Calibrated Model (psi) Res.</th>
<th>NRBPS</th>
<th>Difference (psi) Res.</th>
<th>NRBPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>440 W Meadow Drive</td>
<td>42</td>
<td>73</td>
<td>42</td>
<td>73</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>710 Kintail Drive</td>
<td>41</td>
<td>65</td>
<td>40</td>
<td>66</td>
<td>1</td>
<td>-1</td>
</tr>
<tr>
<td>1710 Northridge Drive</td>
<td>45</td>
<td>65</td>
<td>45</td>
<td>68</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1740 2nd Ave North</td>
<td>45</td>
<td>66</td>
<td>45</td>
<td>65</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>1320 Heroic Drive</td>
<td>46</td>
<td>68</td>
<td>46</td>
<td>68</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1420 2nd Ave N</td>
<td>44</td>
<td>69</td>
<td>45</td>
<td>68</td>
<td>-1</td>
<td>1</td>
</tr>
<tr>
<td>154 S Hiawatha Dr</td>
<td>41</td>
<td>66</td>
<td>41</td>
<td>65</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>158 S Hiawatha Dr</td>
<td>45</td>
<td>68</td>
<td>44</td>
<td>69</td>
<td>1</td>
<td>-1</td>
</tr>
</tbody>
</table>

3. **Percent Accurate**: A measure of the average relative percent difference between pressures calculated by the model and observed pressures in the field for each of the eight residential locations and the Northridge booster pumps station as reported by the SCADA system at the same time and day. The results of this calculation were computed using Equation 2, with results presented in Table 4.

\[ rpd = 1 - \left( \frac{1}{N} \sum \frac{x_n - y_n}{x_n} \right) \]  

(Equation 2)

Where:

- \( x \) = the field study pressure measurement data
- \( y \) = the calibrated hydraulic model pressure results
- \( N \) = the total number of calibration points (eight residential locations and eight corresponding pressure readings from the SCADA data for the Northridge booster pump station)
- \( n \) = an individual calibration point
- \( rpd \) = average relative percent difference

4. **Accuracy Range**: A measure of the largest range of the minimum and maximum difference between the pressures calculated by the calibrated model and pressures observed in the field. 710 Kintail Dr and 1420 2nd Ave N showed a range of -1 to +1 (Table 3).

5. **Pearson’s Correlation Coefficient**: A measure of the strength of the regression relationship between the pressures calculated by the calibrated model versus pressures observed in the field. The results of this calculation were computed using Equation 3, with results presented in Table 4.
\[ \rho_{xy} = \frac{\sigma_{xy}}{\sigma_x \sigma_y} \]  

(Equation 3)

Where:
- \( \rho_{xy} \) = Pearson’s “r” correlation coefficient
- \( \sigma_{xy} \) = covariance between the modeled pressures and field measured pressures
- \( \sigma_x \) = the standard deviation of modeled pressures
- \( \sigma_y \) = the standard deviation of field measured pressures

<table>
<thead>
<tr>
<th>Table 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model Accuracy Results</td>
</tr>
<tr>
<td>Standard Deviation: ( \sigma = 0.5 ) psi</td>
</tr>
<tr>
<td>Max. Abs. Diff.: 2 psi</td>
</tr>
<tr>
<td>% Accuracy: 99.1%</td>
</tr>
<tr>
<td>Accuracy Range: ( \pm 1 ) psi</td>
</tr>
<tr>
<td>Pearson's &quot;r&quot;: 0.9 psi/psi</td>
</tr>
</tbody>
</table>

### 4.0 Northridge Area Worst-Case Simulation

The calibrated model was used to project estimated worst case conditions in Northridge (lowest pressures at residential locations) based on an observed pressure of 55 psi at the Northridge booster pump station (a 4-year low seen on July 19, 2019 at 10:45 PM). The initial conditions for the “worst-case” scenario are presented in Table 5.

<table>
<thead>
<tr>
<th>Table 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worst-Case Model Initial Conditions</td>
</tr>
<tr>
<td>Location Address</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Worst Case</td>
</tr>
</tbody>
</table>

Based on the calibrated model, pressures could reasonably be expected to drop as low as 28 psi in the Northridge Area in the vicinity of 710 Kintail Drive. The 28-psi minimum is the
result of simulating a pressure of 55 psi at the Northridge booster pump station, which is an instantaneous value reported by the SCADA system on 15-minute intervals.

5.0 Preliminary Conceptual Improvement Alternatives

Typical pressure analysis of municipal water systems evaluates peak hour demand (PHD) as the worst-case scenario, which is less conservative than the instantaneous minimum pressure evaluated in the worst-case scenario. Regulatory requirements for pressure include a minimum of 40 psi during PHD conditions. Beyond regulatory requirements, water pressure as experienced by customers is also an aesthetic matter with preferences varying by community.

Four preliminary conceptual alternatives for increasing the pressure in the study area are provided below. The conceptual alternatives are provided as a starting point for further evaluation based on community and City goals for the water system performance. The results of modeling conceptual improvement scenarios are presented in Table 6 and Appendix B.

A. New water supply well in the North Ridge Area and creation of a new pressure zone. This scenario entailed the addition of a new well and pump near 710 Kintail Drive. For the purpose of this analysis, the pump was assumed to be similar to the existing Northridge #1 Pump (design point of 950 gpm controlled by VFD set to maintain 60 psi). The results of preliminary modeling of this scenario indicate that pressures in the Northridge Area could be increased to a minimum of 59 psi. During modeling, check valves were added to isolate the Northridge Area, including the existing Northridge booster pump station. Removal of the Northridge booster pump station from the rest of the City system caused minimum pressures near Lena Drive to drop from 49 to 42 psi. In this scenario, a maximum pressure of 85 psi was observed near the existing Northridge booster pump station.

B. New water supply well in the North Ridge Area with no new pressure zone. For this scenario, check valves simulated under Scenario A isolating the Northridge area were removed. With a set point of 60 psi at the new well pump, the minimum pressure during estimated worst-case conditions increases to 57 psi.

C. Modifications to the existing North Ridge Well Pump House and creation of a new pressure zone. This scenario entailed replacement of the Northridge #1 pump (50 HP) with a large 100 HP pump and VFD controlled discharge pressure of 85 psi (versus 75 psi under existing conditions). The results of preliminary modeling of this scenario indicate that pressures in the Northridge Area could be increased to a minimum of 58 psi. Removal of the Northridge booster pump station from the rest of the City system caused minimum pressures near Lena Drive to drop from 49 to 42 psi. In this scenario, a maximum pressure of 85 psi was observed near the existing Northridge booster pump station.
D. Modifications to the existing North Ridge Well Pump House with no new pressure zone. For this scenario, check valves simulated under Scenario C isolating the Northridge area were removed. With a set point of 85 psi at the new Northridge #1 pump, the minimum pressure during estimated worst-case conditions increases to 45 psi.

<table>
<thead>
<tr>
<th>Conceptual Improvement Scenario</th>
<th>Min. NR Pressure (psi)</th>
<th>Max. NR Pressure (psi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>New NR Well, New PZ</td>
<td>59</td>
<td>85</td>
</tr>
<tr>
<td>New NR Well, No PZ</td>
<td>57</td>
<td>77</td>
</tr>
<tr>
<td>NRBPS Upgrade, New PZ</td>
<td>58</td>
<td>85</td>
</tr>
<tr>
<td>NRBPS Upgrade, No PZ</td>
<td>45</td>
<td>73</td>
</tr>
</tbody>
</table>

### 6.0 Conclusions and Recommendations

Based on analysis of data from the City of Hailey hydraulic model, SPF concludes the following:

- The City’s hydraulic model is able to reproduce field conditions with a high degree of accuracy for the Northridge and Old Cutters Areas.
- Initial conditions for calibration scenarios for tank levels and pumps station operating status were taken from field logs and SCADA data recorded during the fall 2019 field study. Pipe junction elevations were updated at four locations as part of this calibration effort.
- Model results are highly sensitive to demand inputs, which were the primary parameter used to calibrate model results to field conditions.
- The field study was not conducted over the peak irrigation demand season, when pressures in the study area are typically the lowest. This modelling exercise included a simulated worst-case scenario intended to estimate the lowest pressures likely to occur within the study area during peak demand periods. Model results suggest that pressures may drop as low as 28 psi during peak irrigation periods.
- Four conceptual alternatives are presented for increasing pressure in the Northridge Area. The conceptual alternatives are provided as a starting point for further evaluation based on community and City goals for the water system performance.
- Fire flow analysis has not been assessed for the conceptual improvement scenarios, and should be evaluated before proceeding further with improvement planning.
7.0 References

Appendix A

Model Output
Baseline Peak Hour Demand (Pre-Field Study Calibration)
Scenario 1

440 W Meadow Drive Calibration Results

Color Coding Legend
Pipe Diameter (in)
- <= 6.0
- <= 8.0
- <= 10.0
- <= 12.0
- <= 14.0
- Other
Scenario 2

710 Kintail Drive Calibration Results
Scenario 3

1710 Northridge Drive Calibration Results
Scenario 4

1740 2nd Ave North Calibration Results
Scenario 5

1320 2nd Ave North Calibration Results
Scenario 6

1420 2nd Ave North Calibration Results

Color Coding Legend
Pipe Diameter (in)

- <= 6.0
- <= 8.0
- <= 10.0
- <= 12.0
- <= 14.0
- Other
Scenario 7

154 S Hiawatha Drive Calibration Results
Scenario 8

158 S Hiawatha Drive Calibration Results
Scenario 9

“Worst-Case” Simulated Pressures
Appendix B

Conceptual Northridge Improvement Alternatives
New Northridge Well with No New Pressure Zone
Northridge Booster Pump Station Upgrades with New Pressure Zone
TECHNICAL MEMORANDUM

DATE: December 30, 2019
TO: Brian Yeager, P.E., P.L.S., City of Hailey
FROM: Scott McGourty, P.E., SPF, Eric Landsberg, P.E., SPF
PROJECT NO: 330.0350
RE: Part 3: Northridge Area Pressure Study – Conceptual Improvement Alternatives

EXECUTIVE SUMMARY

The City of Hailey, Idaho (the City) has commissioned a study of water pressures in the City’s public drinking water distribution system, with a specific geographic focus on the Northridge and Old Cutters Areas. The Study Area is approximately bounded by Highway 75 to the west, CD Olena Drive to the east, McKercher Boulevard and Myrtle Street to the South, and West Meadow Drive to the north (see Figure 3).

This memorandum presents the evaluation of candidate alternatives to improve minimum pressures at residential service locations throughout the Northridge and Old Cutters area. Twenty-seven alternatives (grouped within five general categories) have been developed and screened for simulated effectiveness in increasing pressures within the Study Area. Sixteen of the alternatives were selected for further evaluation which included development of conceptual cost estimates. Each water supply alternative is outlined in Section 2.0 and Appendix A including a description of the simulated improvements.

Cost estimates have been developed at a conceptual level, or Class 5 as defined by the Association for the Advancement of Cost Engineering International (AACEI). The estimates are based on actual costs of recently completed similar projects and capacity factored parametric models. Cost estimates at this level have an expected accuracy range of -30% to +50%. The cost estimates were prepared following standard industry practice to provide a defensible basis for planning decisions. Capital cost estimates include permitting, design, and construction costs. Cost of land acquisition is not included in the estimates but may be required for some alternatives. Capital cost per pressure increase (psi) are presented in Figure 1 and Table 1. Total capital costs are presented in Figure 2 and Table 1.

In general, alternatives that rely primarily on modification of the operating criteria for existing pumping facilities are the lowest cost. The highest increases in system pressure were seen by combining modification of the Northridge pump station operating criteria with at least one other approach such as creation of a new pressure zone, changes to the River Street pump operating criteria, and/or construction a new water supply source. SPF recommends Alternative 2C – modification of Northridge and River Street pump controls as the safest and most effective alternative for increasing pressures in the Study Area (see Sections 2.0 and 3.0). Alternative 2C could be implemented quickly and with relatively low capital cost, and on a trial basis. Other effective alternatives such as 4K and 4M could be implemented in a phased approach with Alternative 2C as a first step for additional pressure gains within the Study Area. It should be noted that a new source of supply (new well) is recommended in the near future because maximum day demand is approaching firm capacity of the system.
Figure 1
Comparison of Unit Capital Costs for Alternatives Considered

Opinion of Probable Cost per PSI Gain vs New Min NR Pressure at Residences

Figure 2
Comparison of Total Capital Costs for Alternatives Considered

Opinion of Probable Cost per PSI Gain vs New Min NR Pressure at Residences
<table>
<thead>
<tr>
<th>Alternative No.</th>
<th>Description</th>
<th>Capital Cost</th>
<th>Increase in NR Pressure (psi)</th>
<th>$/psi</th>
<th>Min NR/OC Pressure (psi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A</td>
<td>NEW PRESSURE ZONE FOR NORTHRIDGE &amp; CUTTERS, PUMP CTRL MODS TO NRBPS &amp; RIVER ST</td>
<td>$394,000</td>
<td>2</td>
<td>$197,000</td>
<td>33</td>
</tr>
<tr>
<td>1E</td>
<td>PARTIAL HYDRAULIC ISOLATION OF THE NORTHRIDGE AREA</td>
<td>$41,000</td>
<td>18</td>
<td>$2,278</td>
<td>38</td>
</tr>
<tr>
<td>1F</td>
<td>PARTIAL HYDRAULIC ISOLATION OF NORTHRIDGE &amp; NRBPS PUMP CONTROL MODIFICATION</td>
<td>$50,000</td>
<td>26</td>
<td>$1,923</td>
<td>35</td>
</tr>
<tr>
<td>1G</td>
<td>NEW PRESSURE ZONE FOR NORTHRIDGE &amp; CUTTERS, PUMP CTRL MODS TO NRBPS &amp; RIVER ST</td>
<td>$394,000</td>
<td>26</td>
<td>$15,154</td>
<td>57</td>
</tr>
<tr>
<td>2A</td>
<td>NRBPS CONTROL MODIFICATION</td>
<td>$10,000</td>
<td>12</td>
<td>$833</td>
<td>43</td>
</tr>
<tr>
<td>2B</td>
<td>NRBPS CONTROL MODIFICATION</td>
<td>$10,000</td>
<td>17</td>
<td>$588</td>
<td>48</td>
</tr>
<tr>
<td>2C</td>
<td>NRBPS &amp; RIVER ST CONTROL MODIFICATION</td>
<td>$52,000</td>
<td>21</td>
<td>$2,476</td>
<td>52</td>
</tr>
<tr>
<td>4A</td>
<td>NEW WELL IN SUNBEAM DEVELOPMENT NEAR CARBONATE ST</td>
<td>$1,100,000</td>
<td>9</td>
<td>$122,222</td>
<td>40</td>
</tr>
<tr>
<td>4B</td>
<td>NEW WELL IN 2-IT RANCH DEVELOPMENT NEAR HIGHWAY 75</td>
<td>$1,100,000</td>
<td>15</td>
<td>$73,333</td>
<td>43</td>
</tr>
<tr>
<td>4C</td>
<td>NEW WELL IN NORTHRIDGE AREA NEAR W MEADOW DR.</td>
<td>$1,100,000</td>
<td>18</td>
<td>$61,111</td>
<td>44</td>
</tr>
<tr>
<td>4G</td>
<td>NEW PARTIAL PRESSURE ZONE &amp; NEW WELL IN NORTHRIDGE AREA NEAR W MEADOW DR.</td>
<td>$1,100,000</td>
<td>27</td>
<td>$40,741</td>
<td>41</td>
</tr>
<tr>
<td>4H</td>
<td>NEW PRESSURE ZONE &amp; NEW WELL IN NORTHRIDGE AREA NEAR W MEADOW DR.</td>
<td>$1,100,000</td>
<td>25</td>
<td>$44,000</td>
<td>43</td>
</tr>
<tr>
<td>4J</td>
<td>NEW PRESSURE ZONE &amp; NEW WELL IN SUNBEAM NEAR CARBONATE ST</td>
<td>$1,800,000</td>
<td>10</td>
<td>$180,000</td>
<td>41</td>
</tr>
<tr>
<td>4K</td>
<td>NEW PRESSURE ZONE &amp; NEW WELL IN 2-IT RANCH NEAR HIGHWAY 75</td>
<td>$1,800,000</td>
<td>38</td>
<td>$47,368</td>
<td>69</td>
</tr>
<tr>
<td>4L</td>
<td>NEW PRESSURE ZONE &amp; NEW WELL IN SUNBEAM NEAR CARBONATE ST &amp; NRBPS CTRL MOD</td>
<td>$1,800,000</td>
<td>26</td>
<td>$69,231</td>
<td>57</td>
</tr>
<tr>
<td>4M</td>
<td>NEW PRESSURE ZONE &amp; NEW WELL IN 2-IT RANCH NEAR HWY 75 &amp; NRBPS CTRL MOD</td>
<td>$1,800,000</td>
<td>43</td>
<td>$41,860</td>
<td>74</td>
</tr>
</tbody>
</table>
1.0 Existing Water System

The existing City system includes four well sites and one spring source (see Figure 3). The current operating conditions for booster pumps are controlled by tank level as shown in Table 2.

### Table 2
**Water Supply Facilities**

<table>
<thead>
<tr>
<th>Source</th>
<th>No. Wells</th>
<th>Capacity (^1) (gpm)</th>
<th>Chlorine Contact Tank</th>
<th>Pump &quot;On&quot; Control</th>
<th>Pump &quot;On&quot; Level (feet)</th>
<th>Pump &quot;Off&quot; Level (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indian Creek Springs</td>
<td>N/A</td>
<td>845</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>River St Well</td>
<td>1</td>
<td>1070</td>
<td>None</td>
<td>Turbine Tank</td>
<td>11.0</td>
<td>11.5</td>
</tr>
<tr>
<td>3rd Avenue Well</td>
<td>1</td>
<td>1730</td>
<td>None</td>
<td>Turbine Tank</td>
<td>10.0</td>
<td>11.5</td>
</tr>
<tr>
<td>Woodside Well</td>
<td>1</td>
<td>1270</td>
<td>30</td>
<td>Quigley Tank</td>
<td>Unk.</td>
<td>Unk.</td>
</tr>
<tr>
<td>Northridge Facility</td>
<td>3</td>
<td>1577 (^2)</td>
<td>30</td>
<td>Turbine Tank</td>
<td>10.5</td>
<td>11.5</td>
</tr>
</tbody>
</table>

Notes:
1. Estimated 90th percentile production per Master Plan, SPF 2015.

### Table 3
**Water Storage Facilities**

<table>
<thead>
<tr>
<th>Reservoir</th>
<th>Dimensions</th>
<th>Volume (MG)</th>
<th>Invert Elevation (^2) (ft)</th>
<th>Overflow Elevation (^3) (ft)</th>
<th>Maximum Water Height (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turbine Tank</td>
<td>120 ft dia.</td>
<td>0.98</td>
<td>5514.65</td>
<td>5526.25</td>
<td>11.6</td>
</tr>
<tr>
<td>Quigley Tank</td>
<td>116’ x 136’ (^1)</td>
<td>2.2</td>
<td>5507.9</td>
<td>5530.3</td>
<td>22.4</td>
</tr>
</tbody>
</table>

Notes:
1. Rectangular shape. There are columns, steps, an overflow box and other various obstructions located inside the Quigley Tank. The total available volume is approximately 2,2 million gallons.
2. Invert elevations estimated from surveyed overflow elevations and plan sets.

Per Section 13.08.010 of the City Hailey Municipal Code, municipal irrigation is prohibited between 10am and 6pm. In addition, irrigation is restricted to odd numbered street address on odd numbered calendar days, and even numbered street addresses on even numbered calendar days.
The City of Hailey collected field measurements of water system pressures in the Northridge Area from 8/13/19-9/4/19 (SPF, 2019a/b). Figure 4 presents typical system performance in the Northridge Area during the irrigation season (May through September).

Figure 4 depicts system pressure at two residential monitoring locations observed during the 2019 field study. Residential pressures drop daily around 6pm both at the Northridge Booster Pump Station (NRBPS) and at the residences. At the same time, outflow from Turbine tank increases from around 500 gpm to 1,500 gpm. Both booster pumps at the NRBPS are controlled by tank levels in Turbine Tank. As seen in Figure 4, the NRBPS pumps do not typically turn on until approximately 9:30pm each night, or about 3 hours after pressures in the system have begun to drop. Several alternatives are presented in Section 2 for modifying the operation of the NRBPS to compensate for the delayed reaction of the NRBPS pumps to decreased system pressures.

The existing baseline “worst-case” simulated conditions for the study area are shown in Figure 5 (based on work completed in SPF, 2019b).
Figure 5
Baseline “Worst-Case”
2.0 Alternatives Analysis

A total of twenty-seven alternatives have been developed and screened for simulated overall effectiveness in increasing pressures within the Study Area (see Appendix A).

Sixteen of the alternatives were selected for further evaluation which included development of conceptual cost estimates. Each group of water supply alternatives is outlined below including a description of the simulated changes to the City water system.

1. **Alternatives 1A-1H: Partial Hydraulic Isolation of Northridge and Old Cutters area**
   This alternative entails installation of 1-7 check valves, construction of approximately 900-LF of new 12-inch water main to connect existing mains in McKercher Blvd and S Hiawatha Dr, and reconfiguration of the operational settings at the Northridge and/or River Street pump stations to activate one booster pump based on pressures in the Northridge area.

2. **Alternative 2A-2C: Seasonal Operational Criteria for Northridge Pump Station**
   This alternative consists of changing the Northridge and/or River Street pump stations control scheme to operate the pumps based on pressure criteria (either at the booster pump discharge, or elsewhere in the Northridge area) during the irrigation season, and tank level criteria during the non-irrigation season, and partial isolation of the Northridge (NR) and/or Old Cutters (OC) areas by installation of check valves and additional transmission piping.

3. **Alternative 3A-3B: New Booster Pump Station in Northridge**
   This alternative entails the construction of a new booster pump station and associated yard piping in the Northridge area.

4. **Alternative 4A-4M: New Supply Source**
   This alternative evaluates the construction of a new supply source (new groundwater well) at three potential locations; 1) the Northridge Area, 2) along Highway 75, and 3) east of Carbonate St.

5. **Alternative 5: Improvements to the Turbine Tank supply**
   This alternative includes alterations to the operation of Indian Springs and/or construction of a new booster pump station on the discharge side of Turbine Tank.

The Alternative 1 and Alternative 2 groups of scenarios that involve simulated changes to the operating criteria of the Northridge and River Street pumps stations envision pump controls similar to the following:

- Pumps ON if *both* of the following conditions are met:
  - Pressure at the Northridge Booster Pump Station < 80 psi, and
  - Turbine Tank Level < 10.75-ft
- Pumps OFF if the Turbine Tank water level >11.5-ft

The alternatives analysis process consisted of the following steps:

1. Generation of a preliminary list of proposed system improvements based on evaluation of the pressure study data,
2. Simulating proposed improvements using Bentley WaterCAD Connect™ software to evaluate the City’s hydraulic model with the proposed changes,
3. Refinement of alternatives based on preliminary model results, and generation of new alternatives,
4. Re-running updated and new scenarios in the City’s hydraulic model.

Preliminary alternatives were screened versus the following criteria:

a) New simulated minimum pressure in the Northridge Area at residential locations
b) New simulated minimum pressure in the Old Cutters Area at residential locations
c) Simulated available fire flow in the Northridge and Old Cutters areas

Alternatives that performed relatively well versus the screening criteria were further evaluated based on opinions of probable construction cost developed by SPF (see Table 1 and the following discussion below).

**Alternative 1A – New Pressure Zone for Northridge & Old Cutters, and NRBPS & River St Pump Control Modifications**

Alternative 1A involves the construction of 7 new check valves at the following locations:

- 1\textsuperscript{st} Avenue between Cobblestone Lane Winterberry Loop
- 2\textsuperscript{nd} Avenue between Cobblestone Lane and Mckercher Boulevard
- Mckercher Boulevard near the intersection with Buttercup Road
- S Hiawatha Drive near the intersection with Buttercup Road
- W Meadows Drive near the intersection with Buttercup Road
- Myrtle Street between Mother Lode Drive and Buffalo Drive
- Hiawatha Drive between Buttercup Road and Buffalo Drive

This alternative also entails construction of approximately 900-linear feet (LF) of 12-inch PVC main in Buttercup Road from Mckercher Blvd to S Hiawatha Dr.

For this alternative, both of the existing NRBPS pumps and the River St pump were off.

The estimated capital cost for this alternative is $197,000 per psi increase in Northridge (the highest cost of all 16 alternatives), shown in Table 1. The total estimated capital cost for this alternative is $394,000 (see Figure 7).

The current “worst case” pressure condition for customers in the Study Area occurs when both of the NRBPS pumps and the River Street pump are off. This alternative illustrates the simulated performance of the City’s water system if the Northridge and Old Cutters Area are isolated without modifying the current pump operating criteria or adding a new water supply source.

Under this alternative, the hydraulic model provides the following results (see Figure 6):

- New minimum pressure for the Northridge Area: 33 psi (improvement of +2 psi)
- New minimum pressure for the Old Cutters Area: 33 psi (improvement of +2 psi)

Alternative 1A was the worst performing alternative of all 16 in terms of pressure increase and is not recommended for further consideration.
Figure 6
Alternative 1A – Hydraulic Model Results
CONCEPTUAL COST ESTIMATE

ALTERNATIVE 1A
NEW PRESSURE ZONE FOR NORTHRIDGE & CUTTERS

<table>
<thead>
<tr>
<th>NO.</th>
<th>DESCRIPTION</th>
<th>QTY</th>
<th>UNIT</th>
<th>UNIT PRICE</th>
<th>COST</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6-IN CHECK VALVES</td>
<td>6</td>
<td>EA</td>
<td>$3,310</td>
<td>$19,860</td>
</tr>
<tr>
<td>2</td>
<td>6-IN GATE VALVES</td>
<td>1</td>
<td>EA</td>
<td>$1,400</td>
<td>$1,400</td>
</tr>
<tr>
<td>3</td>
<td>8-IN CHECK VALVES</td>
<td>1</td>
<td>EA</td>
<td>$4,020</td>
<td>$4,020</td>
</tr>
<tr>
<td>4</td>
<td>10-IN CHECK VALVES</td>
<td>2</td>
<td>EA</td>
<td>$5,880</td>
<td>$11,760</td>
</tr>
<tr>
<td>5</td>
<td>12-IN CHECK VALVES</td>
<td>2</td>
<td>EA</td>
<td>$7,740</td>
<td>$15,480</td>
</tr>
<tr>
<td>6</td>
<td>12-IN GATE VALVES</td>
<td>4</td>
<td>EA</td>
<td>$1,800</td>
<td>$7,200</td>
</tr>
<tr>
<td>7</td>
<td>12-IN DIA C900 PVC PIPING</td>
<td>900</td>
<td>EA</td>
<td>$210</td>
<td>$189,000</td>
</tr>
<tr>
<td>8</td>
<td>CONTINGENCY</td>
<td>30%</td>
<td></td>
<td></td>
<td>$74,616</td>
</tr>
<tr>
<td>9</td>
<td>ENGINEERING</td>
<td>15%</td>
<td></td>
<td></td>
<td>$48,500</td>
</tr>
</tbody>
</table>

ESTIMATED PROJECT COST $372,000

This cost estimate reflects our professional opinion of accurate costs at this time based on current conditions at the project location. This estimate is subject to change through the project planning and design process. Actual construction cost will depend on the cost of labor, materials, equipment, and services provided by others, contractor’s methods of determining prices, competitive bidding and market conditions.
**Alternative 1E – Partial Hydraulic Isolation of the Northridge Area**

Alternative 1E involves the construction of 3 new check valves at the following locations:

- 1st Avenue between Cobblestone Lane Winterberry Loop
- 2nd Avenue between Cobblestone Lane and McKercher Boulevard
- McKercher Boulevard near the intersection with Buttercup Road

For this alternative, both of the existing NRBPS pumps were on while the River St pump was off.

The estimated capital cost for this alternative is $2,287 per psi increase in Northridge (the 12th highest cost of all 16 alternatives), shown in Table 1. The total estimated capital cost for this alternative is $41,000 (see Figure 9).

This alternative illustrates the simulated performance of the City’s water system if the Northridge area is isolated to the south and east, and if the current pump operating criteria at NRBPS are modified as discussed in Section 2.0, but without adding a new water supply source.

Under this alternative, the hydraulic model provides the following results (see Figure 8):

- New minimum pressure for the Northridge Area: 49 psi (improvement of +18 psi)
- New minimum pressure for the Old Cutters Area: 38 psi (improvement of +7 psi)

Alternative 1E was the 9th best performing alternative of all 16 in terms of pressure increase and is not recommended for further consideration.
Figure 8
Alternative 1E – Hydraulic Model Results
CONCEPTUAL COST ESTIMATE

ALTERNATIVE 1E
PARTIAL HYDRAULIC ISOLATION OF THE NORTH RIDGE AREA

PROJECT: Northridge Pressure Improvements
JOB #: 330.0100
LOCATION: Hailey, ID

ESTIMATE CLASS: 5
DATE: 12/30/2019
BY: SM
REVIEWED: EL

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ESTIMATED PROJECT COST $41,000

This cost estimate reflects our professional opinion of accurate costs at this time based on current conditions at the project location.
This estimate is subject to change through the project planning and design process. Actual construction cost will depend on the cost of labor, materials, equipment, and services provided by others, contractor’s methods of determining prices, competitive bidding and market conditions.
Alternative 1F – Partial Hydraulic Isolation of Northridge & NRBPS Pump Control Modification

Alternative 1F involves the construction of 4 new check valves at the following locations:

- 1st Avenue between Cobblestone Lane Winterberry Loop
- 2nd Avenue between Cobblestone Lane and McKercher Boulevard
- McKercher Boulevard near the intersection with Buttercup Road
- W Meadows Drive near the intersection with Buttercup Road

For this alternative, both of the existing NRBPS pumps were on while the River St pump was off. The estimated capital cost for this alternative is $1,923 per psi increase in Northridge (the 13th highest cost of all 16 alternatives), shown in Table 1. The total estimated capital cost for this alternative is $50,000 (see Figure 10).

This alternative illustrates the simulated performance of the City’s water system if the Northridge area is isolated to the north, south, and east, and if the current pump operating criteria at NRBPS is modified as discussed in Section 2.0, but without adding a new water supply source.

Under this alternative, the hydraulic model provides the following results (see Figure 11):

- New minimum pressure for the Northridge Area: 57 psi (improvement of +26 psi)
- New minimum pressure for the Old Cutters Area: 35 psi (improvement of +3 psi)

Alternative 1F was the 5th best performing alternative of all 16 in terms of pressure increase and is not recommended for further consideration.
Figure 10
Alternative 1F – Hydraulic Model Results

Color Coding Legend
Pipe: Has Check Valve?

- Red = True
- Black = False
CONCEPTUAL COST ESTIMATE

ALTERNATIVE 1F
PARTIAL HYDRAULIC ISOLATION OF NORTHRIDGE & NRBPS PUMP CONTROL MODIFICATION

PROJECT: Northridge Pressure Improvements
JOB #: 330.0100
LOCATION: Hailey, ID

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ESTIMATED PROJECT COST: $50,000

This cost estimate reflects our professional opinion of accurate costs at this time based on current conditions at the project location. This estimate is subject to change through the project planning and design process. Actual construction cost will depend on the cost of labor, materials, equipment, and services provided by others, contractor’s methods of determining prices, competitive bidding and market conditions.
Alternative 1G – New Pressure Zone for Northridge & Old Cutters, Pump Control Modifications to NRBPS and River Street

Alternative 1G involves the construction of 7 new check valves at the following locations:

- 1st Avenue between Cobblestone Lane Winterberry Loop
- 2nd Avenue between Cobblestone Lane and McKercher Boulevard
- McKercher Boulevard near the intersection with Buttercup Road
- S Hiawatha Drive near the intersection with Buttercup Road
- W Meadows Drive near the intersection with Buttercup Road
- Myrtle Street between Mother Lode Drive and Buffalo Drive
- Hiawatha Drive between Buttercup Road and Buffalo Drive

For this alternative, both of the existing NRBPS pumps and the River St pump were on.

This alternative also entails construction of approximately 900-linear feet (LF) of 12-inch PVC pipe in Buttercup Road from McKercher Blvd to S Hiawatha Dr.

The estimated capital cost for this alternative is $15,154 per psi increase in Northridge (the 11th highest cost of all 16 alternatives), shown in Table 1. The total estimated capital cost for this alternative is $394,000 (see Figure 13).

This alternative illustrates the simulated performance of the City’s water system if both the Northridge and Old Cutters areas are isolated, and if the current pump operating criteria at NRBPS is modified as discussed in Section 2.0, but without adding a new water supply source.

Under this alternative, the hydraulic model provides the following results (see Figure 12):

- New minimum pressure for the Northridge Area: 57 psi (improvement of +26 psi)
- New minimum pressure for the Old Cutters Area: 60 psi (improvement of +29 psi)

Alternative 1G was the 4th best performing alternative of all 16 in terms of pressure increase and is recommended for further consideration.
## CONCEPTUAL COST ESTIMATE

### ALTERNATIVE 1G

**NEW PRESSURE ZONE FOR NORTHRIDGE & CUTTERS, PUMP CTRL MODS TO NRBPS & RIVER ST**

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### ESTIMATED PROJECT COST

$394,000

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This cost estimate reflects our professional opinion of accurate costs at this time based on current conditions at the project location. This estimate is subject to change through the project planning and design process. Actual construction cost will depend on the cost of labor, materials, equipment, and services provided by others, contractor’s methods of determining prices, competitive bidding and market conditions.
Alternatives 2A/2B/2C – Northridge and River Street Pump Control Modification

The current “worst case” pressure condition for customers in the Study Area occurs when both of the NRBPS pumps and the River Street pump are off. The family of Alternative 2 scenarios evaluates hydraulic pressures in the City’s water system if pump controls for one or both facilities are modified to turn on based on pressure control rather than water level in Turbine Tank, and without adding a new supply source.

As discussed in Section 2.0, the new pump control criteria are envisioned to take into account both pressure in the Northridge area and the water level in Turbine Tank to minimize overflow occurrences at the tank.

Detailed cost estimates were not prepared for the Alternative 2 scenarios. The engineer’s opinion of probable cost for scenarios 2A and 2B is $10,000 to reprogram the NRBPS pump controls. For scenario 2C the engineer’s opinion of probable cost is $52,000 which includes a VFD and harmonic filter. These costs assume that the existing pumps are equipped with VFD compatible (inverter duty) motors. If a new pump motor is required at River Street, capital cost for Alternative 2C will increase.

The results of hydraulic modeling for scenarios 2A, 2B, and 2C are summarized in Table 1 and Appendix A.

The best performing of the three Alternative 2 scenarios was Alternative 2C, which yielded the following results (see Figure 14):

- New minimum pressure for the Northridge Area: 52 psi (improvement of +21 psi)
- New minimum pressure for the Old Cutters Area: 54 psi (improvement of +23 psi)

Alternative 2C was the 8th best performing alternative of all 16 in terms of pressure increase and is recommended for further consideration due to potentially very low relative capital cost (3rd lowest; only 2A and 2B were lower) as discussed in Section 3.0.
Figure 14
Alternative 2C – Hydraulic Model Results
Alternative 4A – New Well in Sunbeam Development near Carbonate Street

Alternative 4A involves the construction of a new municipal water supply well east of Carbonate Street. The well is assumed to be 18-inch diameter, 300-ft deep, capable of producing at least 800 gpm.

For this alternative both of the existing NRBPS pumps and the River St pump were off.

The estimated capital cost for this alternative is $122,222 per psi increase in Northridge (the 3rd highest cost of all 16 alternatives), shown in Table 1. The total estimated capital cost for this alternative is $1,100,000 (see Figure 16). These costs include construction of a new well house and associated mechanical equipment, installation of a well pump, and a placeholder for water rights permitting costs.

This alternative illustrates the simulated performance of the City’s water system with a new water supply source in the proposed Sunbeam development.

Under this alternative, the hydraulic model provides the following results, excluding demand from the proposed Sunbeam development (see Figure 15):

- New minimum pressure for the Northridge Area: 40 psi (improvement of +9 psi)
- New minimum pressure for the Old Cutters Area: 42 psi (improvement of +11 psi)

Alternative 4A was the 15th best performing alternative of all 16 in terms of pressure increase and is not recommended for further consideration as the primary solution to Northridge low pressure issue.
Figure 15
Alternative 4A – Hydraulic Model Results
CONCEPTUAL COST ESTIMATE

ALTERNATIVE 4A
NEW WELL IN SUNBEAM DEVELOPMENT NEAR CARBONATE ST

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**TOTAL ESTIMATED PROJECT COST**

$1,100,000

This cost estimate reflects our professional opinion of accurate costs at this time based on current conditions at the project location. This estimate is subject to change through the project planning and design process. Actual construction cost will depend on the cost of labor, materials, equipment, and services provided by others, contractor’s methods of determining prices, competitive bidding and market conditions.
**Alternative 4B – New Well in 2-IT Ranch Development near Highway 75**

Alternative 4B involves the construction of a new municipal water supply well east of Highway 75 in the proposed 2-IT Ranch development. The well is assumed to be 18-inch diameter, 300-ft deep, capable of producing at least 800 gpm.

For this alternative both of the existing NRBPS pumps and the River St pump were off.

The estimated capital cost for this alternative is $73,333 per psi increase in Northridge (the 4th highest cost of all 16 alternatives), shown in Table 1. The total estimated capital cost for this alternative is $1,100,000 (see Figure 18). These costs include construction of a new well house and associated mechanical equipment, installation of a well pump, and a placeholder for water rights permitting costs.

This alternative illustrates the simulated performance of the City’s water system with a new water supply source in the proposed 2-IT Ranch development.

Under this alternative, the hydraulic model provides the following results, excluding demand from the proposed 2-IT Ranch development (see Figure 17):

- New minimum pressure for the Northridge Area: 46 psi (improvement of +15 psi)
- New minimum pressure for the Old Cutters Area: 43 psi (improvement of +12 psi)

Alternative 4B was the 12th best performing alternative of all 16 in terms of pressure increase and is not recommended for further consideration as the primary solution to Northridge low pressure issue, but is an important option for developing adequate water supply to meet maximum day demand with continued population growth in the near term.
Figure 17
Alternative 4B – Hydraulic Model Results
This cost estimate reflects our professional opinion of accurate costs at this time based on current conditions at the project location. This estimate is subject to change through the project planning and design process. Actual construction cost will depend on the cost of labor, materials, equipment, and services provided by others, contractor’s methods of determining prices, competitive bidding and market conditions.
Alternative 4C – New Well in Northridge Area near W Meadows Dr.

Alternative 4C involves the construction of a new municipal water supply well in the northeast corner of the Northridge Area on W Meadows Dr. The well is assumed to be 18-inch diameter, 300-ft deep, capable of producing at least 800 gpm.

For this alternative both of the existing NRBPS pumps and the River St pump were off.

The estimated capital cost for this alternative is $61,111 per psi increase in Northridge (the 6th highest cost of all 16 alternatives), shown in Table 1. The total estimated capital cost for this alternative is $1,100,000 (see Figure 20). These costs include construction of a new well house and associated mechanical equipment, installation of a well pump, and a placeholder for water rights permitting costs.

This alternative illustrates the simulated performance of the City’s water system with a new water supply source in the Northwest Area.

Under this alternative, the hydraulic model provides the following results, excluding demand from the proposed Sunbeam or 2-IT Ranch developments (see Figure 19):

- New minimum pressure for the Northridge Area: 49 psi (improvement of +18 psi)
- New minimum pressure for the Old Cutters Area: 44 psi (improvement of +13 psi)

Alternative 4C was the 9th best performing alternative of all 16 in terms of pressure increase and is not recommended for further consideration as the primary solution to Northridge low pressure issue, but is an important option for developing adequate water supply to meet maximum day demand with continued population growth in the near term.
Figure 19
Alternative 4C – Hydraulic Model Results
CONCEPTUAL COST ESTIMATE

ALTERNATIVE 4C
NEW WELL IN NORTHRIDGE AREA NEAR W MEADOW DR.

PROJECT : Northridge Pressure Improvements
JOB # : 330.0100
LOCATION : Hailey, ID

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TOTAL ESTIMATED PROJECT COST $1,100,000

This cost estimate reflects our professional opinion of accurate costs at this time based on current conditions at the project location. This estimate is subject to change through the project planning and design process. Actual construction cost will depend on the cost of labor, materials, equipment, and services provided by others, contractor’s methods of determining prices, competitive bidding and market conditions.
**Alternative 4G – New Partial Pressure Zone & New Well in Northridge Area near W Meadows Dr.**

Alternative 4G involves the construction of a new municipal water supply well in the northeast corner of the Northridge Area on W Meadows Dr. The well is assumed to be 18-inch diameter, 300-ft deep, capable of producing at least 800 gpm.

Alternative 4G involves the construction of 4 new check valves at the following locations:

- 1st Avenue between Cobblestone Lane Winterberry Loop
- 2nd Avenue between Cobblestone Lane and McKercher Boulevard
- McKercher Boulevard near the intersection with Buttercup Road
- W Meadows Drive near the intersection with Buttercup Road

For this alternative both of the existing NRBPS pumps and the River St pump were off.

The estimated capital cost for this alternative is $40,741 per psi increase in Northridge (the 10th highest cost of all 16 alternatives), shown in Table 1. The total estimated capital cost for this alternative is $1,100,000 (see Figure 22). These costs include construction of a new well house and associated mechanical equipment, installation of a well pump, and a placeholder for water rights permitting costs.

This alternative illustrates the simulated performance of the City’s water system with a new water supply source in the Northwest Area and if the Northridge Area is hydraulically isolated.

Under this alternative, the hydraulic model provides the following results, excluding demand from the proposed Sunbeam development (see Figure 21):

- New minimum pressure for the Northridge Area: 58 psi (improvement of +27 psi)
- New minimum pressure for the Northridge Area: 41 psi (improvement of +10 psi)

Alternative 4G was the 3rd best performing alternative of all 16 in terms of pressure increase and is not recommended as the primary solution to Northridge pressure issues, but is an important option for developing adequate water supply to meet maximum day demand with continued population growth in the near term.
Figure 21
Alternative 4G – Hydraulic Model Results
CONCEPTUAL COST ESTIMATE

ALTERNATIVE 4G
NEW PARTIAL PRESSURE ZONE & NEW WELL IN NORTHRIDGE AREA NEAR W MEADOW DR.

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TOTAL ESTIMATED PROJECT COST: $1,100,000

This cost estimate reflects our professional opinion of accurate costs at this time based on current conditions at the project location. This estimate is subject to change through the project planning and design process. Actual construction cost will depend on the cost of labor, materials, equipment, and services provided by others, contractor's methods of determining prices, competitive bidding and market conditions.
Alternative 4H – New Pressure Zone & New Well in Northridge Area near W Meadow Dr

Alternative 4H involves the construction of a new municipal water supply well in the northeast corner of the Northridge Area on W Meadows Dr. The well is assumed to be 18-inch diameter, 300-ft deep, capable of producing at least 800 gpm.

Alternative 4H involves the construction of 1 new check valve at the following locations:

- W Meadows Drive near the intersection with Buttercup Road

For this alternative both of the existing NRBPS pumps and the River St pump were off.

The estimated capital cost for this alternative is $4,000 per psi increase in Northridge (the 8th highest cost of all 16 alternatives), shown in Table 1. The total estimated capital cost for this alternative is $1,100,000 (see Figure 24). These costs include construction of a new well house and associated mechanical equipment, installation of a well pump, and a placeholder for water rights permitting costs.

This alternative illustrates the simulated performance of the City’s water system with a new water supply source in the Northwest Area and if the Northridge Area is partially hydraulically isolated to the north.

Under this alternative, the hydraulic model provides the following results, excluding demand from the proposed Sunbeam development (see Figure 23):

- New minimum pressure for the Northridge Area: 56 psi (improvement of +25 psi)
- New minimum pressure for the Old Cutters Area: 42 psi (improvement of +11 psi)

Alternative 4H was the 7th best performing alternative of all 16 in terms of pressure increase and is not recommended for further consideration as the primary solution to Northridge pressure issues, but is an important option for developing adequate water supply to meet maximum day demand with continued population growth in the near term.
Figure 23
Alternative 4H – Hydraulic Model Results

Color Coding Legend
Pipe: Has Check Valve?

- Red = True
- Black = False
This cost estimate reflects our professional opinion of accurate costs at this time based on current conditions at the project location. This estimate is subject to change through the project planning and design process. Actual construction cost will depend on the cost of labor, materials, equipment, and services provided by others, contractor's methods of determining prices, competitive bidding and market conditions.

---

### CONCEPTUAL COST ESTIMATE

#### ALTERNATIVE 4H

**NEW PRESSURE ZONE & NEW WELL IN NORTHRIDGE AREA NEAR W MEADOW DR.**

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<td>3</td>
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<td>FT</td>
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<td>$135,000</td>
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**TOTAL ESTIMATED PROJECT COST**  

$1,100,000
**Alternative 4J – New Pressure Zone & New Well in Sunbeam Development near Carbonate St**

Alternative 4J involves the construction of a new municipal water supply well east of Carbonate Street. The well is assumed to be 18-inch diameter, 300-ft deep, capable of producing at least 800 gpm.

Alternative 4J involves the construction of 7 new check valves at the following locations:

- 1st Avenue between Cobblestone Lane Winterberry Loop
- 2nd Avenue between Cobblestone Lane and McKercher Boulevard
- McKercher Boulevard near the intersection with Buttercup Road
- S Hiawatha Drive near the intersection with Buttercup Road
- W Meadows Drive near the intersection with Buttercup Road
- Myrtle Street between Mother Lode Drive and Buffalo Drive
- Hiawatha Drive between Buttercup Road and Buffalo Drive

This alternative also entails construction of approximately 900-linear feet (LF) of 12-inch PVC pipe in Buttercup Road from McKercher Blvd to S Hiawatha Dr.

For this alternative both of the existing NRBPS pumps and the River St pump were off.

The estimated capital cost for this alternative is $180,000 per psi increase in Northridge (the 2nd highest cost of all 16 alternatives), shown in Table 1. The total estimated capital cost for this alternative is $1,800,000 (see Figure 26). These costs include construction of a new well house and associated mechanical equipment, installation of a well pump, and a placeholder for water rights permitting costs.

This alternative illustrates the simulated performance of the City’s water system with a new water supply source in the proposed Sunbeam development and if the Northridge Area and Old Cutters Area are a separate pressure zone.

Under this alternative, the hydraulic model provides the following results, excluding demand from the proposed Sunbeam development (see Figure 25):

- New minimum pressure for the Northridge Area: 41 psi (improvement of +10 psi)  
- New minimum pressure for the Northridge Area: 43 psi (improvement of +12 psi)  

Alternative 4J was the 14th best performing alternative of all 16 in terms of pressure increase and is not recommended for further consideration.
Figure 25
Alternative 4J – Hydraulic Model Results

Color Coding Legend
Pipe: Has Check Valve?

- Red = True
- Black = False
This cost estimate reflects our professional opinion of accurate costs at this time based on current conditions at the project location. This estimate is subject to change through the project planning and design process. Actual construction cost will depend on the cost of labor, materials, equipment, and services provided by others, contractor’s methods of determining prices, competitive bidding and market conditions.

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<th>UNIT</th>
<th>UNIT PRICE</th>
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**TOTAL ESTIMATED PROJECT COST**

$1,800,000
**Alternative 4K – New Pressure Zone & New Well in 2-IT Ranch near Highway 75**

Alternative 4K involves the construction of a new municipal water supply well east of Highway 75 in the proposed 2-IT Ranch development. The well is assumed to be 18-inch diameter, 300-ft deep, capable of producing at least 800 gpm.

Alternative 4K involves the construction of 7 new check valves at the following locations:

- 1st Avenue between Cobblestone Lane Winterberry Loop
- 2nd Avenue between Cobblestone Lane and McKercher Boulevard
- McKercher Boulevard near the intersection with Buttercup Road
- S Hiawatha Drive near the intersection with Buttercup Road
- W Meadows Drive near the intersection with Buttercup Road
- Myrtle Street between Mother Lode Drive and Buffalo Drive
- Hiawatha Drive between Buttercup Road and Buffalo Drive

This alternative also entails construction of approximately 900-linear feet (LF) of 12-inch PVC pipe in Buttercup Road from McKercher Blvd to S Hiawatha Dr.

For this alternative both of the existing NRBPS pumps and the River St pump were off.

The estimated capital cost for this alternative is $47,368 per psi increase in Northridge (the 7th highest cost of all 16 alternatives), shown in Table 1. The total estimated capital cost for this alternative is $1,800,000 (see Figure 28). These costs include construction of a new well house and associated mechanical equipment, installation of a well pump, and a placeholder for water rights permitting costs.

This alternative illustrates the simulated performance of the City’s water system with a new water supply source in the proposed 2-IT Ranch development and if the Northridge Area and Old Cutters Area are a separate pressure zone.

Under this alternative, the hydraulic model provides the following results, excluding demand from the proposed Sunbeam development (see Figure 27):

- New minimum pressure for the Northridge Area: 69 psi (improvement of +38 psi)
- New minimum pressure for the Old Cutters Area: 71 psi (improvement of +40 psi)

Alternative 4K was the 2nd best performing alternative of all 16 in terms of pressure increase and is recommended for further consideration as discussed in Section 3.0.
CONCEPTUAL COST ESTIMATE

ALTERNATIVE 4K
NEW PRESSURE ZONE & NEW WELL IN 2-IT RANCH NEAR HIGHWAY 75

PROJECT: Northridge Pressure Improvements
JOB #: 330.0100
LOCATION: Hailey, ID

ESTIMATE CLASS: 5
DATE: 12/30/2019
BY: SM
REVIEWED: EL

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<tr>
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<td></td>
<td></td>
<td>$232,000</td>
</tr>
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</table>

TOTAL ESTIMATED PROJECT COST $1,800,000

This cost estimate reflects our professional opinion of accurate costs at this time based on current conditions at the project location. This estimate is subject to change through the project planning and design process. Actual construction cost will depend on the cost of labor, materials, equipment, and services provided by others, contractor’s methods of determining prices, competitive bidding and market conditions.
**Alternative 4L – New Pressure Zone & New Well in Sunbeam near Carbonate St, and NRBPS Pump Control Modifications**

Alternative 4L involves the construction of a new municipal water supply well east of Carbonate Street in the proposed Sunbeam development. The well is assumed to be 18-inch diameter, 300-ft deep, capable of producing at least 800 gpm.

Alternative 4L involves the construction of 7 new check valves at the following locations:

- 1st Avenue between Cobblestone Lane Winterberry Loop
- 2nd Avenue between Cobblestone Lane and McKercher Boulevard
- McKercher Boulevard near the intersection with Buttercup Road
- S Hiawatha Boulevard near the intersection with Buttercup Road
- W Meadows Drive near the intersection with Buttercup Road
- Myrtle Street between Mother Lode Drive and Buffalo Drive
- Hiawatha Drive between Buttercup Road and Buffalo Drive

This alternative also entails construction of approximately 900-linear feet (LF) of 12-inch PVC pipe in Buttercup Road from McKercher Blvd to S Hiawatha Dr.

For this alternative both of the existing NRBPS pumps and the River St pump were on.

The estimated capital cost for this alternative is $69,231 per psi increase in Northridge (the 5th highest cost of all 16 alternatives), shown in Table 1. The total estimated capital cost for this alternative is $1,800,000 (see Figure 30). These costs include construction of a new well house and associated mechanical equipment, installation of a well pump, and a placeholder for water rights permitting costs.

This alternative illustrates the simulated performance of the City’s water system with a new water supply source in the proposed Sunbeam development, control modifications are made to NRBPS and River Street pumps, and if the Northridge Area and Old Cutters Area are a separate pressure zone.

Under this alternative, the hydraulic model provides the following results, excluding demand from the proposed Sunbeam development (see Figure 29):

- New minimum pressure for the Northridge Area: 57 psi (improvement of +26 psi)
- New minimum pressure for the Old Cutters Area: 60 psi (improvement of +29 psi)

Alternative 4L was the 4th best performing alternative of all 16 in terms of pressure increase and is recommended for further consideration as discussed in Section 3.0.
Figure 29
Alternative 4L – Hydraulic Model Results
This cost estimate reflects our professional opinion of accurate costs at this time based on current conditions at the project location. This estimate is subject to change through the project planning and design process. Actual construction cost will depend on the cost of labor, materials, equipment, and services provided by others, contractor’s methods of determining prices, competitive bidding and market conditions.

CONCEPTUAL COST ESTIMATE

ALTERNATIVE 4L
NEW PRESSURE ZONE & NEW WELL IN SUNBEAM NEAR CARBONATE ST & NRBPS CTRL MOD

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TOTAL ESTIMATED PROJECT COST $1,800,000
**Alternative 4M – New Pressure Zone & New Well in 2-IT Ranch Development near Highway 75, and NRBPS Pump Control Modifications**

Alternative 4M involves the construction of a new municipal water supply well east of Highway 75 in the proposed 2-IT Ranch development. The well is assumed to be 18-inch diameter, 300-ft deep, capable of producing at least 800 gpm.

Alternative 4M involves the construction of 7 new check valves at the following locations:

- 1st Avenue between Cobblestone Lane Winterberry Loop
- 2nd Avenue between Cobblestone Lane and McKercher Boulevard
- McKercher Boulevard near the intersection with Buttercup Road
- S Hiawatha Boulevard near the intersection with Buttercup Road
- W Meadows Drive near the intersection with Buttercup Road
- Myrtle Street between Mother Lode Drive and Buffalo Drive
- Hiawatha Drive between Buttercup Road and Buffalo Drive

This alternative also entails construction of approximately 900-linear feet (LF) of 12-inch PVC pipe in Buttercup Road from McKercher Blvd to S Hiawatha Dr.

For this alternative both of the existing NRBPS pumps and the River St pump were on.

The estimated capital cost for this alternative is $41,860 per psi increase in Northridge (the 9th highest cost of all 16 alternatives), shown in Table 1. The total estimated capital cost for this alternative is $1,800,000 (see Figure 32). These costs include construction of a new well house and associated mechanical equipment, installation of a well pump, and a placeholder for water rights permitting costs.

This alternative illustrates the simulated performance of the City’s water system with a new water supply source in the proposed 2-IT Ranch development, control modifications are made to NRBPS and River Street pumps, and if the Northridge Area and Old Cutters Area are a separate pressure zone.

Under this alternative, the hydraulic model provides the following results, excluding demand from the proposed Sunbeam development (see Figure 31):

- New minimum pressure for the Northridge Area: 74 psi (improvement of +43 psi)
- New minimum pressure for the Old Cutters Area: 74 psi (improvement of +43 psi)

Alternative 4M was the best performing alternative of all 16 in terms of pressure increase and is recommended for further consideration as discussed in Section 3.0.
CONCEPTUAL COST ESTIMATE

ALTERNATIVE 4M
NEW PRESSURE ZONE & NEW WELL IN 2-IT RANCH NEAR HWY 75 & NRBPS CTRL MOD

PROJECT: Northridge Pressure Improvements
JOB #: 330.0100
LOCATION: Hailey, ID

ESTIMATE CLASS: 5
DATE: 12/30/2019
BY: SM
REVIEWED: EL

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TOTAL ESTIMATED PROJECT COST: $1,800,000

This cost estimate reflects our professional opinion of accurate costs at this time based on current conditions at the project location. This estimate is subject to change through the project planning and design process. Actual construction cost will depend on the cost of labor, materials, equipment, and services provided by others, contractor’s methods of determining prices, competitive bidding and market conditions.
Alternatives that Failed Preliminary Screening

As discussed in Section 2.0, a total of 25 preliminary alternatives were recommended, while only 16 were advanced for further evaluation. The following is a brief commentary on the reasons the remaining 9 alternatives were not evaluated further:

- Alternatives 1B-1D: these alternatives were rejected for further analysis due to decreases in simulated minimum available fire flow to Old Cutters (1B/1C), or for relatively lower pressure gains in the Northridge Area (1D: new minimum pressure = 48 psi).
- Alternatives 3A-3B: these alternatives were rejected for further analysis due to decreases in simulated minimum available fire flow to the Northridge and Old Cutters areas below 1,000 gpm and relatively low pressure gains in Northridge and Old Cutters.
- Alternatives 4D-4F, 4I: these alternatives were rejected for further analysis due to relatively low pressure gains in Northridge and Old Cutters.
- Alternative 5: this alternative was rejected for further analysis due to relatively low pressure gains in Northridge and Old Cutters.

3.0 CONCLUSIONS AND RECOMMENDATIONS

Twenty-seven preliminary alternatives were developed for increasing pressure in the Northridge and Old Cutters areas. Sixteen alternatives were advanced for further analysis including development of engineer’s opinion of probable cost. Of the sixteen alternatives, the following five alternatives offer an effective improvement in minimum pressures in both the Northridge and Old Cutters areas:

- Alternative 1G: New Northridge & Old Cutters Pressure Zone created with installation of check valves, and control modifications to NRBPS and River Street pumps
- Alternative 2C: Control modifications to NRBPS and River Street pumps to turn on based on both; a) Turbine Tank level, and b) pressure at NRBPS as discussed in Section 2.0.
- Alternative 4L: New groundwater well in 2-IT Ranch and new pressure zone for Northridge and Old Cutters areas
- Alternative 4K: New groundwater well in Sunbeam, a new pressure zone for Northridge and Old Cutters areas, and control modifications to NRBPS pumps
- Alternative 4M: New groundwater well in 2-IT Ranch, a new pressure zone for Northridge and Old Cutters areas, and control modifications to NRBPS pumps

Additional alternatives were not analyzed but may also offer significant improvements include a new groundwater well in the northern portion of the Northridge Area near W Meadows Dr and Buttercup Road in conjunction with control modifications to NRBPS pumps.

Of the five alternatives recommended for additional consideration by the City, SPF recommends Alternative 2C for implementation due to the following reasons:

1) Alternative 2C offers the lowest impacts to available fire flow (see Appendices A and B). All alternatives that involve the creation of a new pressure zone or partial pressure zone negatively impact available fire flow. The simulated impacts to available fire flow are quantified in Appendix B for each alternative.
2) Alternative 2C is the lowest cost alternative of the five recommended alternatives.

Currently, all pumps in the hydraulic model except the Woodside pump station are off during fire flow analysis. The decreases to available fire flow due to alternatives that include the creation of a new pressure zone or partial pressure zone could potentially be mitigated if standby power were provided at additional well facilities. For example, if standby power is provided to other pump stations, fire flow fire flow is anticipated to improve for all alternatives. The results of simulated fire flow analysis are included in Appendix B.

SPF further recommends that the City evaluate implementing one of either Alternatives 4K or Alternative 4M (or similar); construction of a new groundwater supply well. Based on the maximum day demand data shown below in Table 4, the City is likely approaching the firm system-wide water supply capacity of 7.3 million gallons per day (MGD) (SPF, 2015). Given the anticipated long lead time in developing a new groundwater supply (potentially 2 years or more including water rights permitting), SPF recommends that the City consider beginning the process of siting and designing a new future source of supply.

### Table 4
**Maximum Day Demand 2013-2017**

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### 4.0 REFERENCES


APPENDIX A

SUMMARY OF SCENARIOS
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- **NRBPS East Pmp**: Off Off Off Off Off Off Off Off Off Off Off On On Off
- **NRBPS West Pump**: Off Off Off Off Off Off Off Off Off Off Off On Off Off
- **New Pmp?**: 1 1 1 1 1 1 1 1 1 1 1 2
- **New Source?**: Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes No No
- **Check Valves in NR/OC?**: No No No 3 3 3 4 1 1 1 1 1 1
- **NRBPS Pressure (psi)**: 65 67 67 65 66 67 65 68 65 66 95 85 100 53
- **Min NR Res Pressure (psi)**: 40 46 49 40 47 50 58 56 40 41 69 57 74 32
- **Min Old Cutters Pressure (psi)**: 42 43 44 42 41 42 41 43 42 43 71 60 74 33
- **Change vs Baseline (Min NR psi)**: 9 15 18 9 16 19 27 25 9 10 38 26 43 1
- **Cost Estimate?**: Y Y Y N N N N N Y Y Y Y Y N
- **Min NR Fire Flow (gpm)**: 1052 1052 1052 1080 1080 1080 1083 1052 1052 1083 1083 1083 1083 1052
- **Min Old Cutters Fire Flow (gpm)**: 1040 1040 1040 980 980 980 995 1040 1040 995 995 995 995 995 1040
- **No. >2000 gpm to <2000 gpm**: 0 0 0 16 16 16 16 0 0 17 17 17 17 17 0
- **No. >1500 gpm to <1500 gpm**: 0 0 0 5 5 5 5 0 0 5 5 5 5 5 0
- **No. >1000 gpm to <1000 gpm**: 0 0 0 4 4 4 4 0 0 3 3 3 3 3 0
- **No. >500 gpm to <1000 gpm**: 0 0 0 0 0 0 0 0 0 0 0 0 0 0
- **Average gpm Change**: 0 0 0 -63 -63 -63 -63 0 0 -61 -61 -61 -61 -61 0
- **Total FF Junctions Decreased**: 0 0 0 217 217 217 217 0 0 217 217 217 217 217 0
- **Max Decrease**: 0 0 0 -633 -633 -633 -633 0 0 -622 -622 -622 -622 -622 0
- **No. Decreased >500 gpm**: 0 0 0 10 10 10 10 0 0 11 11 11 11 11 0
- **No. Decreased 250-499 gpm**: 0 0 0 54 54 54 54 0 0 51 51 51 51 51 0
- **No. Decreased 100-249 gpm**: 0 0 0 53 53 53 53 0 0 40 40 40 40 40 0
- **No. Decreased 0-99 gpm**: 0 0 0 70 70 70 70 0 0 75 75 75 75 75 0

- **Turbine Pump 5**: New BPS new Indian Creek & Buttercup
1 CHECK VALVE
SIMULATED AVAILABLE FIRE FLOW

Color Coding Legend
Junction, Fire Flow (Available) (gpm)

- Red = 1,000
- Orange = 1,500
- Light Blue = 2,000
- Dark Blue = 2,500
- Other

Color Coding Legend
Pipe, Has Check Valve?

- Red = True
- Black = False
3 CHECK VALVES
SIMULATED AVIALABLE FIRE FLOW

Color Coding Legend

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<tr>
<th>Legend</th>
<th>GPM Range</th>
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<tr>
<td>Red</td>
<td>&lt;= 1,000</td>
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<tr>
<td>Orange</td>
<td>&lt;= 1,500</td>
</tr>
<tr>
<td>Blue</td>
<td>&lt;= 2,000</td>
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<tr>
<td>Dark Blue</td>
<td>&lt;= 2,500</td>
</tr>
<tr>
<td>Other</td>
<td></td>
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</tbody>
</table>

Pipe: Has Check Valve?

Red = True
Black = False
4 CHECK VALVES

SIMULATED AVAILALBE FIRE FLOW

Color Coding Legend

Junction: Fire Flow (Available) (gpm)

- Red = True
- Blue = False
- Other

Pipe: Has Check Valve?
The City of Hailey, Idaho (the City) has commissioned a study of water pressures in the City’s water distribution system, with a specific geographic focus on the Northridge and Old Cutters areas (the Study Area). The study process is summarized in Figure 1.

SPF Water Engineering (SPF) has identified three recommended modifications to the City’s water system, which are designed to increase minimum water pressure in the Northridge and Old Cutters area. This memo presents four key findings resulting from the pressure study (SPF, 2019 a/b/c), which form the basis for recommended solutions. This memo summarizes the extent and causes of low pressure in the subject area, and provides recommendations for implementing solutions.

Figure 1
Summary of Northridge Area Water Pressure Study

Problem
• Northridge and Old Cutters residents periodically experience low water pressure.

Analysis
• The extent of low water pressure in the Northridge Area has been identified through a field study combined with hydraulic modeling.
• Over two dozen potential fixes were simulated using state of the practice hydraulic modeling of the City’s water system.

Solution
• Three recommended improvements to the water system are identified.
• These fixes will increase the minimum pressure in Northridge and Old Cutters.
What is the extent of the low-pressure issue in the Northridge Area?

The first goal of the Northridge pressure study was to identify the lowest pressure that residential customers are likely to experience, and the geographic extent of low-pressure problems within the Study Area.

The pressure study identified two worst-case conditions that periodically arise in the Study Area (Table 1). Hydraulic modeling of worst-case conditions indicates that pressures can fall as low as 32 psi at service locations at the highest elevation in Northridge (near Kintail Lane and W Meadows Dr). According to historic water system data, these minimum pressures are seasonal, with the lowest pressures occurring in the evening sporadically between June and August when residential irrigation water demand is at its highest. The minimum pressure required for public drinking water systems is 40 psi. The lowest pressures occur in the northeast corner of the Study Area, although pressures likely also have the potential to fall below 40 psi on 2nd Ave, Northridge Dr., and Heroic Rd., north of Bluff Dr., as well as along S Hiawatha Dr., and Olena Ln.

The steps involved in the study are summarized as follows:

- **Review of Historic City Water System Data**: Review of the City’s water system performance from July 1, 2016 to October 2, 2019, including pressures at booster pumps near the Study Area, tank levels, and flow rates from production wells.
- **Field Monitoring of System Pressures**: Field monitoring at residential locations from August 13, 2019 to September 4, 2019 via pressure transducers temporarily installed in the water service lines at eight locations in the Study Area.
- **Hydraulic Model Calibration**: The City maintains a hydraulic model of the pipes, tanks, pumps, and other equipment that comprises the water distribution system. Updates were made to the computer model of the city-wide water system to match data from the field monitoring effort and historic water system data.
- **Simulation of “Worst-Case” Low Pressure**: The calibrated model was run to simulate the theoretical minimum pressure at residential locations. Two low-pressure scenarios were identified. These “worst-case” scenarios refer to minimum pressures that may occur during normal system operation. The worst-case pressure was estimated to be 55 psi at the Northridge Booster Pump Station (NRBPS) and 32 psi at the highest elevation locations in the Study Area.

Why has the Northridge Area experienced low water pressure?

The City’s water system was evaluated using hydraulic modeling software to identify which water system conditions result in the lowest system pressures in the Study Area. Two scenarios were identified that result in low pressures in the study area:

- **Condition #1– This occurs when both River St and Northridge Pump Stations are off, and the system demands are equal to 70-75% of peak hour demand (PHD). This condition was identified in the hydraulic model by reproducing the lowest pressure seen in the SCADA data at Northridge BPS as (55 psi on July 10th 2019) and observing how low the corresponding pressures at the service locations dropped (32 psi at the highest elevations in the Study Area). Condition #1 results from an increase in water demand**
from irrigation systems that occur before tank levels drop and Northridge and River Street pumps turn on. As a compounding factor, the Northridge booster pump station is controlled by the water level in Turbine Tank. As a result, quick changes in demand can drop pressures in the Study Area while the Northridge pump station is off due to high water levels in Turbine Tank (Table 1).

- Condition #2 – This occurs after water levels in Turbine Tank have dropped low enough to activate the Northridge and River Street pumps, but demand continues to increase. This situation occurs during the very highest demand days in the peak of the irrigation season (>80% PHD). During these periods, pressures at Northridge pump station are moderately high, but pressures at the service locations diverge more from pressures at Northridge pump station (some service locations drop to as low as 36 psi).

### Table 1

**Conditions Resulting in Low Water Pressure in Northridge & Old Cutters**

<table>
<thead>
<tr>
<th>Water System Status</th>
<th>Condition 1</th>
<th>Condition 2</th>
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<tbody>
<tr>
<td>Turbine Tank Level (ft)</td>
<td>&gt;11</td>
<td>&lt;10.5</td>
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<tr>
<td>Northridge Pump Station</td>
<td>OFF</td>
<td>ON</td>
</tr>
<tr>
<td>River St Pump Station</td>
<td>OFF</td>
<td>ON</td>
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<tr>
<td>3rd Ave Pump Station</td>
<td>OFF</td>
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<tr>
<td>Woodside Pump Station</td>
<td>ON</td>
<td>ON</td>
</tr>
<tr>
<td>Water Demand</td>
<td>&lt;75% PHD</td>
<td>&gt;80% PHD</td>
</tr>
<tr>
<td>Min. Pressure in Study Area</td>
<td>32 psi</td>
<td>36 psi</td>
</tr>
<tr>
<td>Min. NRBPS Pressure</td>
<td>55 psi</td>
<td>69 psi</td>
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The circumstances of Condition 2 are not directly visible in the system data due to two factors:

- During the field study period, the lowest pressures observed at the service locations occurred when the pumps were off (it may be the case that later in the irrigation season demands do not continue to extend higher after pumps are on).

- Historic system pressure data did not provide information on how pressures at the service locations behave when pressures at the pump station are high (they were recorded prior to installation of pressure loggers at the service locations); however, this is the only dataset gathered during the highest demand periods.

The lowest pressures that occur in the Study Area result from Condition 1, however Condition 2 occurs more frequently.

**Key Finding #1:** Under the current system configuration, high tank levels can occasionally prevent key pumps from turning on soon enough.

**Key Finding #2:** During the highest peak demand, pressures continue to drop in Northridge even with the Northridge and River Street pumps on.
What is the solution for increasing pressure in the Northridge Area?

SPF recommends three improvements; 1) change the pump controls at two nearby pump stations to activate sooner (Alternative 2C), 2) construct approximately 375-LF of new 16-inch pipeline in W Meadows Drive from Buttercup Road to Kintail Lane (Alternative 6A), and 3) construct a new water supply source (Alternative 4). SPF also understands that the City is currently upgrading the existing pump at the River Street wellhouse, which will improve pressures in the Study Area.

A total of twenty-eight potential alternatives were evaluated, broadly grouped into the following categories; creation of new pressure zones, changing pump operating criteria, new booster pump stations, new pipelines, and new water supply sources. Alternatives were evaluated based on effectiveness in increasing pressures in Northridge and Old Cutters, safety in providing fire flow, estimated capital cost, and estimated project timeline (SPF, 2019c).

Previous attempts to improve the controls at the Northridge pump station resulted in overflows at Turbine Tank, which is likely because the pump operating criterion was not able to account for whether system demand was high or low (see Key Findings 3 & 4). Additionally, previous system changes have not included changes to the River Street pump controls. SPF has identified a more complex controls adjustment (summarized below), which should significantly reduce overflow risk at Turbine Tank and includes two pump stations.

- **Alternative 2C** – Modify operating criteria of the Northridge and River Street booster pump stations to activate pumps based on two criteria:
  - i. Pumps ON if Northridge pump station pressure is low, even if Turbine Tank levels are relatively high (but less than overflow level)
  - ii. Pumps OFF if the Turbine Tank water level is near overflow level

The feasibility of using pressure criteria for the Northridge and River Street pump stations is explained by two factors:

- **Key Finding #3**: Pressure at the Northridge pump station is highly sensitive to system demand from the Northridge area due to its physical proximity, and thus a good proxy for when pumps should be turned on.

- **Key Finding #4**: The large topographic elevation difference between the Northridge and Old Cutters areas compared to the elevation of the Turbine Tank pad (50 psi of elevation head) means that pumps can be turned on during high demand conditions (low pressure in the Study Area) without overflowing Turbine Tank because the hydraulic grade line (HGL) in the Study Area with pumps on is still lower than the Turbine Tank overflow level. It is during low demand conditions (high HGL in the Study Area/high pressure at Northridge pump station) that turning pumps on can cause Turbine Tank to overflow.

In summary, the City can address low pressure Condition 1 by implementing new operating criteria that are more responsive to pressures at the residences in Northridge and Old Cutters without increasing the risk of overflow at Turbine Tank.
Hydraulic modeling indicates that a combination of the City’s new pump at River Street and construction of a new 16-inch pipeline in W Meadows Drive (Alternative 6A) can increase the minimum pressures that occur in the Study Area as a result of Condition 2 from 36 psi to 45 psi. The engineer’s opinion of probable cost for Alternative 6A is approximately $110,000.

As demands continue to increase due to future development, the City will also need a new water supply source to meet maximum day demands (Alternative 4).

Simulated results of changes to the Northridge and River Street pump controls, the upgrade to the River Street pump, and construction of the new pipeline are presented in Figure 2.

**Implementation Recommendations**

The pump control criteria (i) and (ii) may need to be fine-tuned based on observed results. Additionally, the lead-time for permitting and design of a new water supply well (Alternative 4) is approximately 2 years. SPF recommends the following schedule for implementing Alternatives 2C, 4, and 6A:

- Implement Alternative 2C during the winter or early spring 2020
- Construct the Alternative 6A pipeline during the summer 2020
- Monitor the results of Alternatives 2C and 6A during the 2020 irrigation season
- Evaluate the system data gathered over the 2020 irrigation season and update the Northridge Pressure Study Report in winter 2020
- Begin a siting study and permitting for the new Alternative 4 well in spring 2020 with a goal of completing construction by 2022. The Northridge Pressure Study evaluated several potential locations for a new supply well as iterations of Alternative 4, but does not make a final location recommendation. The location of the future well should be selected after consideration of which areas of the City are likely to experience greatest water supply and pressure deficits based on anticipated urban growth over the next several years, as well as the hydrogeologic areas indicative of acceptable quality groundwater.

**Other Considerations**

The water system improvements recommended as a result of this study if implemented by the City will increase pressures within the Study Area up to the point of service connection at the City’s public water system. However, other factors on the private side of the service connection will also impact pressures experienced by customers at the point of use. If higher pressures at the point of use are desired by customers after the recommendations of the study are implemented, exploration of other factors on the private side of the service connection may also be required. These factors include:

- Construction of larger diameter private water service lines
- Installation of larger water service meter or higher capacity type
- Evaluation of lower headlosses irrigation sprinkler heads or potable water fixtures
- Optimization of sprinkler zone size and/or irrigation watering schedule, for example: reconfigure with smaller zones, or scheduling sprinklers outside of peak domestic use windows on scheduled watering days (avoid 6am-10am, and 6pm-1am).
References


Figure 2
Alternatives 2C/6A & River Street Upgrades - Hydraulic Modeling Results

Note: Figure 2 presents the results of modeling 100% of Peak Hour Demand with both Northridge pumps on, the new River Street pump on, and a new 16-inch pipe in W Meadows Dr.
From: Linda Winnovich <LJWINNOVICH@cox.net>
Date: September 13, 2022 at 3:48:01 PM MDT
To: brian.yeager@haileycityhall.org
Subject: 40 McKeacher

Brian, I left you a telephone message about the development of a 44 unit apartment complex by Mark Caplow supported by Opal Engineering. I am a full time resident living at 1551 N 2nd Ave. At the last meeting of P&Z, the developer representative said a water pressure study was done but that they could not get a copy. I won’t go into where I suspect the truth lies, but I read your study of 2019 which appeared to be thoroughly done. My concern is this, we are dependent upon the water bypass agreement with Indian Creek, as you are aware, that regulates the water supply from the spring at Indian Creek. This source lies near my sister-in-law’s home on Paiute near the pond. There appears to be a prejudice for high density housing development in a “transition zone” between downtown Hailey and the Northridge area. I am concerned about water resources, not to mention traffic flow and safety near the middle school, and insufficient parking. I think this is not in our best interest as our natural resources are limited, drought conditions have dominated for the last ten years, and more (large) houses are being built in Indian Creek. Water supplies are under duress as evidenced by near 40 psi reading, with likely lower levels experienced as evidenced by near zero tank levels. Your report appeared to indicate the addition of an new well somewhere in Northridge might help. While that might be true, we may be facing a stopgap position. My belief is the contractors will continue to push towards drier and more dangerous fire conditions until money is used to the greatest extent, with little left for infrastructure. If you have a new study report could help direct me where to find a copy?

Regards and thanks for your support with our Public Works,

Keith Winnovich
1551 N 2nd Ave
Jessica Parker

From: Kim Richards <krichardsid@gmail.com>
Sent: Monday, September 5, 2022 8:17 PM
To: Robyn Davis; Lisa Horowitz
Subject: Proposed 44 unit-apartment building on 1st Avenue N

Hailey City Council and P&Z Committee
Re: 44 units on 1st Ave North behind AmericInn

There is no debate on whether or not more housing is needed in Blaine County and we are not rejecting the idea of multi-family housing at this location. It would be awesome if the development company would put in 18 cottages like they are doing in their Austin, Texas project. This would really create a sense of community.

What our neighborhood has an issue with is the density of the building in relation to parking and open space specifically. We have photographed and documented numerous single family homes and the one apartment building on 1st Ave North where there are an average of 3-4 cars per single family homes and 2+ cars per unit per the 8-unit apartment building. After changing the zoning, there was actually one auto repair business that is doing business at 701 1st Ave. N. If there is such a desperate need for housing, let’s just change the zoning and put in a trailer park and RV park

Facts:
• The Caplow company is in commercial and retail development for profit and prosperity
• This project and one other in Texas are the only residential projects they are attempting
• These proposed units are NOT affordable housing and will be priced by market values
• Each unit, in these high rent/low inventory times, will have more tenants than they are designed to support, and as previously stated, there will be no policing or enforcement of tenant numbers per unit
  o It is important the builder and city have the infrastructure and parking to cover this project
• A quote from Sam Stahlnecker, Opal Engineering, in the Mt. Express: “onsite parking is the governing factor in how dense a property can be developed” We agree with this
• The parking spot per unit is grossly underestimated, including inadequate 6 guest parking spaces One parking spot per unit is not acceptable
• People are parking in the city right of ways on 1st and 2nd every day and night of the week.
• The city has decided not to enforce any right of way parking which means that high density buildings will clog and clutter the streets
  o The reality is that there will be much more automobile traffic than has been presented and anticipated
• There are at least 50 people in the surrounding downtown Hailey area living on the streets in motor homes or trailers as per city ordinance in right of ways.
  o It would provide housing quicker if a trailer/RV park would be built

• One of our councilmen said residents in this project should use public transportation and not own a car at all–would that be a requirement on the rental application?
  o Will there be an on-site property manager for this large complex?
• Another quote from Opal Engineering: “this would be a great opportunity to provide high density housing in East Hailey”. Why do we need high density housing in East Hailey? Why was high density housing turned down in Croy Canyon, Quigley, SunBeam and Cutters developments?
• With the number of studio, 1 and 2 bedroom apartments planned for this project, the number of actual residents could feasibly be almost doubled due to our seeming lack of apartment housing, rental rates, and many people living in smaller quarters
  o This would increase the number of parking spaces needed
- Cars would be parked on city right of way in lieu of adequate parking
- With an increased number of residents in this project, a larger green space needs to be provided. Is this really enough outdoor community space for potentially 100 residents and guests?

Thank you,
Tim and Kim Richards
342 E Winterberry Loop
RE: The proposed 44-unit apartment building on 1st Avenue North @ McKercher

Dear Lisa and Robyn,

We are attaching photographs of parking realities for single family homes and an 8-unit apartment building on 1st Avenue North in Hailey to emphasize the reality of the number of vehicles associated with residential properties in our area.

There are a large number of single family dwellings on 1st Ave North that have 3-4+ cars and trailers parked in front of the houses. There is an 8-unit apartment building that has on average 19 cars parked in their parking lot and across the street on the city right-of-way. These are photographs of just a few of these properties.

We would like for these photographs to be available to be viewed by those in attendance of the P&Z Commission meeting September 6th.

Thank you,
Tim and Kim Richards
342 E Winterberry Loop
To the City of Hailey Planning and Zoning Committee:

I am a valley resident of almost 10 years. Watching our community struggle with workforce housing was painful before the pandemic but now it is devastated to see members of our community forced to leave. I work at the hospital and a large percentage of my coworkers travel from as far as Twin and Carey every day to serve a community they have largely been forced out of. There is a desperate need for workforce housing. The concern of residents around property values is both not supported by the research and fails to consider a valley where there is no workforce. Businesses have felt the strain of this, having to close their doors. Residents have felt the strain of this as their friends and family are forced out. I implore you to sincerely consider the 40 McKercher development. Wherever such housing will go there will be those shouting, “not there!” But if we fail to act it is our children’s teachers, nurses, young businessmen and women, and those in the service industry who keep our vibrant community that will not be here.

Your careful consideration is appreciated, Sarah Vukelich
Jessica- The Blaine County Housing Authority supports the inclusion of rent restricted workforce units in the 40 McKercher development if possible. I hope the Planning and Zoning Commission makes this a condition of approval. Thank you, Sarah

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http://www.bcoha.org/
Return to Agenda
To: Hailey Planning & Zoning Commission

From: Cece Osborn, Community Development City Planner

Overview: Consideration of a Text Amendment to Title 17: Zoning Regulations, Chapter 17.09: Parking and Loading Spaces, Section 17.09.040.02: Commercial, Professional, Service, Recreation, and Entertainment to change the parking requirement for theatres from one (1) parking stall per 4.5 persons to one (1) parking stall per one thousand (1,000) square feet of gross building area. The Applicant requests the text amendment to support the viability of a movie theatre business at 801 N. Main Street (Lots 2, Block 2) in the Business (B) and Downtown Residential Overlay (DRO) Zoning Districts.

Hearing: September 19, 2022

Applicant: Williams Family Trust, represented by Samantha Stahlnecker, PE, of Opal Engineering

Location: 105 Empty Saddle Trail & 801 N. Main Street (Lots 1-2, Block 2)

Zoning: Business (B) and Downtown Residential Overlay (DRO) Zoning Districts

Notice: Notice for the public hearing was published in the Idaho Mountain Express and mailed to public agencies on the same day, August 29, 2022.

Background: The Applicant owns Lots 1-2, Block 2 (105 Empty Saddle Trail & 801 North Main Street) in Hailey, as well as Lot 1, Block 1 (111 Empty Saddle Trail), of which, all three are a part of the Saddle River Subdivision and located within the Business (B) and Downtown Residential Overlay (DRO) Zoning Districts.

Lot 2, Block 2 of Saddle River Subdivision (801 North Main Street) has operated as a four-plex cinema with seating for a total of five hundred (500) persons. Under a Development Agreement and subsequent amendments (Instrument Numbers 507867 and 544996), the Applicant:

- dedicated a portion of the property to the City of Hailey as an extension of River Street,
- committed to and constructed curb, gutter, sidewalk, and utility improvements on the westside of Main Street, southside of Empty Saddle, and both sides of the River Street extension,
- monetary contributions of $6,000 for the installation of asphalt pavement along the River Street extension, and $25,000 for a credit of eight (8) parking spaces (the original Development Agreement stipulated a parking space credit of 29 spaces. The First Amended Development Agreement increased the parking credit to a new total of 37 spaces); and
developed a total of 136 parking spaces, within the subdivision and for the movie theatre building. The breakdown of parking within Phase I is as follows:

- 79 parking spaces onsite,
- 20 on-street parking spaces, and
- 37 parking spaces credit, as negotiated by the City Council in the First Amended Development Agreement.

Phase II of the project required a total of 172 parking spaces, or an additional 36 parking spaces onsite. Phase II, which included the construction of two (2) additional movie-plexes, was never constructed.

During the height of the COVID-19 pandemic, the movie theatre business was closed for an extended period, and upon reopening, experienced low attendance numbers. In hopes of attendance numbers increasing post-pandemic, the Applicant subsidized the movie theater business by renting the premises for less than market-rate. Unfortunately, the attendance numbers did not increase enough to support a return to market-rate rent, and the movie theatre business closed on August 31, 2022. As such, the building at 801 North Main Street is currently vacant.

Given the unique building layout and the shared value of the movie theatre as an important community amenity, the Applicant and City Staff would like to maintain the movie theatre use at 801 North Main Street. When assessing the viability of a movie theatre business in downtown Hailey, the Applicant finds the following conditions to be challenging:

1. The current economy of reduced box-office revenue,
2. High labor costs, and
3. The high cost of land in downtown Hailey.

The Applicant contends that a movie theatre business under the aforementioned conditions is only viable if the required parking area footprint is not only reduced but minimized. Therefore, the Applicant is proposing a Text Amendment to the required parking for theatres— stating, “...a reduction in required parking would allow the existing movie theatre to remain as an amenity for the City of Hailey and its residents.” In the Text Amendment Application, the Applicant elaborates on and justifies the proposed Text Amendment with the following considerations:

1. The previous movie theatre business found the parking lot to be underutilized;
2. The applicable Zoning Districts favor higher density, which could be achieved with in-fill development instead of parking; and
3. The City’s Comprehensive and Master Transportation Plans prefer enriching activity centers (like movie theatres) and b) non-motorized transportation modes in Downtown Hailey.

Specifically, the Applicant proposes to change parking requirements for theaters from one (1) parking stall per four-and-one-half (4.5) persons to one (1) parking stall per 1,000 square feet of gross building area by removing “theatres” from the exception laid out in the table under Section 17.09.040.02. Below is the proposed modification:

17.09.040.02: COMMERCIAL, PROFESSIONAL, SERVICE, RECREATION, AND ENTERTAINMENT:
All commercial, professional, service, recreation and entertainment uses shall provide improved parking in the amount of one (1) parking space for every one-thousand (1,000) square feet of gross building area, except as follows:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Athletic fields and other outdoor sports facilities</td>
<td>1 space per 5,000 square feet of gross land area.</td>
</tr>
<tr>
<td>Auditoriums, theatres, sports arenas, and other assembly areas not otherwise regulated herein</td>
<td>1 space for each 4.5 persons at the rated maximum occupancy of the building.</td>
</tr>
<tr>
<td>Golf course</td>
<td>2 spaces per hole, 2 spaces per driving range and 2 spaces per putting green, plus space as required for any clubhouse.</td>
</tr>
<tr>
<td>Tennis courts</td>
<td>1 space per court.</td>
</tr>
</tbody>
</table>

(Ord. 1191, 2015)

**Standards & Criteria for Review:**

*Section 17.14.060(A)* of the Hailey Municipal Code provides “[w]hen evaluating any proposed amendment under this chapter, the hearing examiner or commission and council shall make findings of fact on the following criteria:

1. The proposed amendment is in accordance with the comprehensive plan;

2. Essential public facilities and services are available to support the full range of proposed uses without creating excessive additional requirements at public cost for the public facilities and services;

3. The proposed uses are compatible with the surrounding area; and

4. The proposed amendment will promote the public health, safety, and general welfare.

1. **The proposed amendment is in accordance with the Comprehensive Plan.**

A Text Amendment to sustain and encourage the movie theatre use associated with the Applicant’s property at 801 North Main Street meets several of the goals of the Comprehensive Plan. Below are the goals that Staff finds most relevant to this project.

- **Section 5: Land Use, Population and Growth Management**
  - 5.2 Maintain Downtown as the area containing the greatest concentration of commercial, cultural, civic activity and the priority area for encouraging higher density commercial and mixed use (commercial and residential)
development.

The proposed Text Amendment supports maintaining an activity center—the movie theatre—in Downtown Hailey, adding to its concentration of commercial, cultural, and civic activity. The proposal may also encourage higher density. For example, if land is not required for parking it can be developed for high density commercial and mixed-use purposes.

5.5 Lessen dependency on the automobile.

The Applicant’s property is located on a public transit thoroughfare (Main Street) and adjacent to River Street, where walking and bicycling is the City’s preferred mode of transportation. In accordance with the existing public transit services on Main Street and in-progress walking and infrastructure on River Street, the Applicant’s request to lower the parking requirement for movie theatres aligns with the Comprehensive Plan’s goal to lessen dependency (and use) of single-occupancy vehicles.

- **Section 7: Demographics, Cultural Vitality, Social Diversity & Well-Being**
  - 7.2 Encourage projects and programs that seek to provide opportunities for cultural, cross-cultural, and educational enrichment.

The movie theatre use that the Applicant seeks to maintain and support, through this Text Amendment Application, may serve as an activity center that will provide cultural, cross-cultural, and educational enrichment.

- **Section 10: Transportation**
  - 10.1 Create and maintain a pedestrian and bicycle-friendly community that provides a safe, convenient and efficient multi-modal transportation system for all Hailey Residents.

By lessening dependency on automobiles and supporting non-motorized modes of transportation—for example, through the River Street Mobility Concept—the City of Hailey adheres to its goal of creating and maintaining a pedestrian and bicycle-friendly community with a safe, convenient, and efficient multi-modal transportation system. Shifting resources and land-use to favor walking and biking, rather than driving, will aid the City of Hailey in accomplishing the goals laid out in the Comprehensive Plan.

For additional examples of Comprehensive Plan goals that are relevant to this proposal, see the attached Test Amendment Application.

2. **Essential public facilities and services are available to support the full range of proposed uses without creating excessive additional requirements at public cost for the public facilities and services.**

While the Test Amendment Application does not impose additional costs for public facilities and services, it proposes to reduce the amount of parking that the Applicant will provide for a future movie theatre business. Currently, Staff believes the amount of parking available on River Street is adequate, if
not in excess. Furthermore, the proposed Text Amendment would allow for infill development that may create higher density uses, which overall would make more efficient use of public facilities and services.

3. **The proposed uses are compatible with the surrounding area.**
   The proposed Text Amendment seeks to sustain and encourage movie theatre use in the Business (B) and Downtown Residential Overlay (DRO) Zoning Districts, and would allow for a greater amount of high-density in-fill development. Both outcomes of the proposal—mixed-use and high-density infill development—are compatible with the existing uses and planning goals for the surrounding area.

4. **The proposed amendment will promote the public health, safety, and general welfare.**
   As explained above, the proposed Text Amendment adheres to the goals of the Hailey Comprehensive Plan. By supporting plans for high-density infill development, multi-modal transportation, and cinematic arts in Downtown Hailey, the proposed Text Amendment supports the public health, safety, and general welfare of the Hailey Community.

**MOTION LANGUAGE:**

**Approval:**
Motion to recommend approval to the City Council an Ordinance amending Hailey Municipal Code—Title 17: Zoning Regulations, Chapter 17.09: Parking and Loading Spaces, Section 17.09.040.02: Commercial, Professional, Service, Recreation, and Entertainment—to change the parking requirements for theaters from 1 parking stall per 4.5 persons to 1 parking stall per 1,000 square feet of gross building area, as shown in the attached ordinance.

**Denial:**
Motion to recommend denial of the revisions described herein to the Hailey Municipal Code—Title 17: Zoning Regulations, Chapter 17.09: Parking and Loading Spaces, Section 17.09.040.02: Commercial, Professional, Service, Recreation, and Entertainment—to change the parking requirements for theaters from 1 parking stall per 4.5 persons to 1 parking stall per 1,000 square feet of gross building area, finding that ________________ [the Commission should cite which standards are not met and provide the reason why each identified standard is not met].

**Continuation:**
Motion to continue the public hearing to ________________ [the Commission should specify a date].
From: Jessica Parker
Sent: Wednesday, September 14, 2022 10:59 AM
To: Jessica Parker
Subject: FW: 40 McKearcher

From: Linda Winnovich <ljwinnovich@cox.net>
Sent: Tuesday, September 13, 2022 4:50 PM
To: Nancy Arellano <nancy.arellano@haileycityhall.org>
Subject: Fwd: 40 McKearcher

Brian is out of the office until 9/19.
Can you help with who to direct this letter to.
The Planning and Zoning meeting is Monday night the 19th.
Sincerely,
Keith Winnovich

Sent from my iPhone

Begin forwarded message:

From: Linda Winnovich <LJWINNOVICH@cox.net>
Date: September 13, 2022 at 3:48:01 PM MDT
To: brian.yeager@haileycityhall.org
Subject: 40 McKearcher

Brian, I left you a telephone message about the development of a 44 unit apartment complex By Mark Caplow supported by Opal Engineering. I am a full time resident living at 1551 N 2nd Ave. At the last meeting of P&Z, the developer representative said a water pressure study was done but that they could not get a copy. I won’t go into where I suspect the truth lies, but I read your study of 2019 which appeared to be thoroughly done. My concern is this, we are dependent upon the water bypass agreement with Indian Creek, as you are aware, that regulates the water supply from the spring at Indian Creek. This source lies near my sister-in-law’s home on Paiute near the pond. There appears to be a prejudice for high density housing development in a “transition zone” between downtown Hailey and the Northridge area. I am concerned about water resources, not to mention traffic flow and safety near the middle school, and insufficient parking. I think this is not in our best interest as our natural resources are limited, drought conditions have dominated for the last ten years, and more (large) houses are being built in Indian Creek. Water supplies are under duress as evidenced by near 40 psi reading, with likely lower levels experienced as evidenced by near zero tank levels. Your report appeared to indicate the addition of an new well somewhere in Northridge might help. While that might be true, we may be facing a stopgap position. My belief is the contractors will continue to push towards drier and more dangerous fire conditions until money is used to the greatest extent, with little left for infrastructure.
If you have a new study report could help direct me where to find a copy?
Regards and thanks for your support with our Public Works,

Keith Winnovich
1551 N 2nd Ave
Hailey, ID 83333
(408)636-3378
Ljwinnovich@cox.net
Sent from my iPad
Hailey City Council and P&Z Committee

Re: 44 units on 1st Ave North behind AmericInn

There is no debate on whether or not more housing is needed in Blaine County and we are not rejecting the idea of multi-family housing at this location. It would be awesome if the development company would put in 18 cottages like they are doing in their Austin, Texas project. This would really create a sense of community.

What our neighborhood has an issue with is the density of the building in relation to parking and open space specifically. We have photographed and documented numerous single family homes and the one apartment building on 1st Ave North where there are an average of 3-4 cars per single family homes and 2+ cars per unit per the 8-unit apartment building. After changing the zoning, there was actually one auto repair business that is doing business at 701 1st Ave. N. If there is such a desperate need for housing, let’s just change the zoning and put in a trailer park and RV park

Facts:

- The Caplow company is in commercial and retail development for profit and prosperity
- This project and one other in Texas are the only residential projects they are attempting
- These proposed units are NOT affordable housing and will be priced by market values
- Each unit, in these high rent/low inventory times, will have more tenants than they are designed to support, and as previously stated, there will be no policing or enforcement of tenant numbers per unit
  - It is important the builder and city have the infrastructure and parking to cover this project
- A quote from Sam Stahlnecker, Opal Engineering, in the Mt. Express: “onsite parking is the governing factor in how dense a property can be developed” We agree with this
- The parking spot per unit is grossly underestimated, including inadequate 6 guest parking spaces One parking spot per unit is not acceptable
- People are parking in the city right of ways on 1st and 2nd every day and night of the week.
- The city has decided not to enforce any right of way parking which means that high density buildings will clog and clutter the streets
  - The reality is that there will be much more automobile traffic than has been presented and anticipated
- There are at least 50 people in the surrounding downtown Hailey area living on the streets in motor homes or trailers as per city ordinance in right of ways.
  - It would provide housing quicker if a trailer/RV park would be built

- One of our councilmen said residents in this project should use public transportation and not own a car at all—would that be a requirement on the rental application?
  - Will there be an on-site property manager for this large complex?
- Another quote from Opal Engineering: “this would be a great opportunity to provide high density housing in East Hailey”. Why do we need high density housing in East Hailey? Why was high density housing turned down in Croy Canyon, Quigley, SunBeam and Cutters developments?
- With the number of studio, 1 and 2 bedroom apartments planned for this project, the number of actual residents could feasibly be almost doubled due to our seemingly lack of apartment housing, rental rates, and many people living in smaller quarters
  - This would increase the number of parking spaces needed
Cars would be parked on city right of way in lieu of adequate parking.

- With an increased number of residents in this project, a larger green space needs to be provided. Is this really enough outdoor community space for potentially 100 residents and guests?

Thank you,
Tim and Kim Richards
342 E Winterberry Loop
RE: The proposed 44-unit apartment building on 1st Avenue North @ McKercher

Dear Lisa and Robyn,

We are attaching photographs of parking realities for single family homes and an 8-unit apartment building on 1st Avenue North in Hailey to emphasize the reality of the number of vehicles associated with residential properties in our area.

There are a large number of single family dwellings on 1st Ave North that have 3-4+ cars and trailers parked in front of the houses. There is an 8-unit apartment building that has on average 19 cars parked in their parking lot and across the street on the city right-of-way. These are photographs of just a few of these properties.

We would like for these photographs to be available to be viewed by those in attendance of the P&Z Commission meeting September 6th.

Thank you,
Tim and Kim Richards
342 E Winterberry Loop
To the City of Hailey Planning and Zoning Committee:

I am a valley resident of almost 10 years. Watching our community struggle with workforce housing was painful before the pandemic but now it is devastated to see members of our community forced to leave. I work at the hospital and a large percentage of my coworkers travel from as far as Twin and Carey every day to serve a community they have largely been forced out of. There is a desperate need for workforce housing. The concern of residents around property values is both not supported by the research and fails to consider a valley where there is no workforce. Businesses have felt the strain of this, having to close their doors. Residents have felt the strain of this as their friends and family are forced out. I implore you to sincerely consider the 40 McKercher development. Wherever such housing will go there will be those shouting, “not there!” But if we fail to act it is our children’s teachers, nurses, young businessmen and women, and those in the service industry who keep our vibrant community that will not be here.

Your careful consideration is appreciated, Sarah Vukelich
Jessica Parker

From: Sarah Michael <bchachair@bcoha.org>
Sent: Monday, August 1, 2022 3:10 PM
To: Jessica Parker
Subject: Support for 40 McKercher Project Rental Restricted Units

Jessica- The Blaine County Housing Authority supports the inclusion of rent restricted workforce units in the 40 McKercher development if possible. I hope the Planning and Zoning Commission makes this a condition of approval. Thank you, Sarah

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http://www.bcoha.org/

Blaine County Housing Authority
T: 208.721.1593
E: BCHACHair@bcoha.org

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