HARRISVILLE CITY

363 West Independence • Harrisville, Utah 84404 • (801) 782-4100

PLANNING COMMISSION
Chad Holbrook
Brenda Nelson
Nathan Averill
Bill Smith
Kevin Shakespeare

Harrisville City Planning Commission

Harrisville City Offices
Wednesday, July 14, 2021 – 7:00 p.m.
AGENDA
Join Zoom Meeting
https://us02web.zoom.us/j/88233703345?pwd=L3Z4RmtoY1dqUURrQ0EvRklIblhCQT09
Meeting ID: 882 3370 3345
Passcode: 825258

1. **WORK SESSION. –** Presentation on Copperwoods Development located at approximately 1956 North Highway 89.

2. **CALL TO ORDER.**

3. **CONSENT APPROVAL –** of Planning Commission minutes from June 9, 2021.

4. **DISCUSSION/ACTION/RECOMMEND** – to grant Preliminary/Final approval for Berrett Subdivision, a 2-lot subdivision located at approximately 350 West 2000 North.

5. **DISCUSSION/ACTION/RECOMMEND** – to recommend Preliminary approval of Montgomery Farms Subdivision located at approximately 100 E 2200 N.

6. **DISCUSSION/ACTION/RECOMMEND** – to recommend adoption of Harrisville Ordinance 522; Zoning Map Amendment Copperwoods Zone.

7. **COMMISSION/STAFF FOLLOW-UP.**

8. **ADJOURN.**

Certificate of Posting and Notice

I, Jennie Knight, certify that I am the City Recorder of Harrisville City, Utah, and that the foregoing Planning Commission agenda was posted and can be found at City Hall, on the City's website www.cityofharrisville.com, and at the Utah Public Meeting Notice Website at http://pmn.utah.gov. Notice of this meeting has also been duly provided as required by law. In accordance with the Americans with Disabilities Act (ADA), the Harrisville City will make reasonable accommodations for participation in the meeting. Please make a request for accommodation with the City Recorder at 801-782-4100, x1000, at least three (3) business days prior to any meeting.

HARRISVILLE CITY

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MEMORANDUM

TO: Harrisville Planning Commission

FROM: Jennie Knight, City Recorder

RE: Ordinance 524; Zoning Map Amendment Copperwoods Zone and Master Development Agreement for Copperwoods

Date: July 9, 2021

Direct Homes submitted an application on March, 23, 2021 to rezone approximately 6.28 acres (Parcels #: 17-120-0017, 17-064-0033, 17-064-0012) located at approximately 1956 North Highway 89, from CP-2 (Commercial) and R-1-10 (Residential) to MU-C Copperwoods Zone (Mixed-Use Commercial).
A public hearing was held on April 14, 2021 to receive public comments and a series of work committee meetings consisting of one council member, one planning commissioner, city engineer, staff, and developers have been held over the last three (3) months to negotiate the proposed Ordinance and MDA with accompanying exhibits.

The complete application, including the MDA with accompanying exhibits, complies with:

- HCMC §11.11.060(2) for Mixed-Use Commercial (MU-C) Sub-zone eligibility requirements: a minimum of 51% of the total area shall include commercial elements, plan map, phasing plans, trails map, transportation plans and studies, sensitive lands map, geotechnical and wetland reports, conservation plan, proposed land uses, proposed site standards, architectural renderings of commercial and residential buildings, landscaping designs, homeowner's association, covenants (CC&Rs), historical resources and preservation, and maintenance plans.
- HCMC §11.11.060(3) required elements for a master development plan which includes intended use and intensity of residential, commercial, office, or retail. Location of infrastructure such as roads, parking, storm water facilities, flood control, utilities, and other infrastructure. Size and type of support uses, open space, recreational amenities, pathways or trails, and related amenities. Designation of present or proposed FEMA floodplain and wetland area. Development standards for residential, commercial, retail office, or other proposed uses including parking areas, dimensions and setbacks. Proposed design standards addressing building height, massing and orientation, open

space, natural resource protection, architectural design and materials, landscaping and buffering standards, parking, and signage. Proposed plan for maintenance of the project, plan for implementing, administering, and enforcing the proposed project. A hold harmless provision ensuring the City, and other public entities servicing the project, cannot be held liable for damages arising out of the MDA.

- HCMC §11.06.030(3) conformance to the 2019 General Plan, relation to surrounding land uses, and development impact on the surrounding area.

SUMMARY

1. The development includes 51.27% commercial elements covering 3.22 acres which are split between 24 live/here work/here units and one commercial pad for retail, office, or service space.
2. There are 2.61 acres of open space which includes two (2) playgrounds and concrete pathways/trails throughout the development.
3. The complete development is included in one (1) phase and will be developed as such.
4. There are no identified wetlands on the site.
5. Design and site standards are included for the live/here work/here units and residential units and are outlined in exhibit “E”
6. The development has two access points: one northern access onto 2150 North and a southern access onto 2000 North. A traffic study was conducted to identify impact on surrounding roads and is included as exhibit “D”. A median has been included on the plan to control ingress/egress traffic at the 2000 North access.
7. HOA and CC&Rs include regulations/restrictions on business and residential use and is included as exhibit “F”.
8. Live/here work/here and commercial pad are included on the western portion of the development and buffered by open space and parking to lessen the impact to surrounding properties. Units bordering the east side are turned to present the least amount of obstructing impact towards existing properties.

Staff Findings: Staff brings forward a positive recommendation to recommend adoption of Harrisville Ordinance 524; Zoning Map Amendment Copperwoods Zone and Master Development Agreement for Copperwoods.

SAMPLE MOTION: “I motion to recommend adoption of Harrisville Ordinance 524; Zoning Map Amendment Copperwoods Zone and Master Development Agreement for Copperwoods.”

HARRISVILLE CITY
ORDINANCE 522

ZONING MAP AMENDMENT COPPERWOOD ZONE

AN ORDINANCE OF HARRISVILLE CITY, UTAH, AMENDING THE OFFICIAL ZONING MAP FOR CERTAIN PARCELS LOCATED AT APPROXIMATELY 1956 NORTH HIGHWAY 89 BASED UPON AN APPLICATION FILED WITH THE CITY; SEVERABILITY; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, Harrisville City is a municipal corporation, duly organized and existing under the laws of the State of Utah;

WHEREAS, *Utah Code Annotated* §10-8-84 and §10-8-60 allow municipalities in the State of Utah to exercise certain police powers and nuisance abatement powers, including but not limited to providing for safety and preservation of health, promotion of prosperity, improve community well-being, peace and good order for the inhabitants of the City;

WHEREAS, Title 10, Chapter 9a of the *Utah Code Annotated* enables municipalities to regulate land use and development;

WHEREAS, the City has adopted an Official General Plan and Zoning Map to govern land use within the City;

WHEREAS, the City received an Application to amend the Official Zoning Map of Harrisville City filed by the putative property owner, DIRECT HOMES, INC, and desires to act upon the same;

WHEREAS, the attached Exhibits "A" through "I" contain the required Plan Maps and Master Development Plans for the area of the proposed amendment to the Zoning Map;

WHEREAS, after publication of the required notice the Planning Commission held its public hearing on April 14, 2021, to take public comment on this proposed Ordinance, and gave its recommendation on _____, 2021 to _____ this Ordinance;

WHEREAS, the City Council received the recommendation from the Planning Commission and held its public meeting on _____, to act upon this Ordinance;

NOW, THEREFORE, be it ordained by the City Council of Harrisville as follows:

Section 1: **Zoning Map Amendment.** That the Zoning Map for certain real property identified as Weber County Parcel Numbers 17-120-0019, 17-064-0033, 17-064-0012 and as set forth in the attached Exhibits "A" through "I" which is hereby adopted and incorporated herein by this reference, is hereby changed from Commercial (CP-2) and Residential (R-1-10) Zone to the MU-C Copperwood Subzone.

Section 2: **Plan Map, Master Development Plan, and Reversion.** The Plan Maps and Master Development Plans attached in as Exhibits "A" and "I" which are hereby adopted and incorporated herein by this reference are adopted as the required Plan Map and Master Development Plan for this Zoning Map Amendment. Any development must substantially conform to this Plan Map and Master Development Plan. In the event that

any development fails to substantially conform to the Plan Map and Master Development Plan, or in the event that the final plat is not recorded with Weber County within eighteen (18) months of the effective date of this Ordinance, then the property is automatically reverted to its prior zoning of Commercial (CP-2) and Residential (R-1-10) Zone.

Section 3: Severability. If a court of competent jurisdiction determines that any part of this ordinance is unconstitutional or invalid, then such portion of the ordinance, or specific application of the ordinance, shall be severed from the remainder, which shall continue in full force and effect.

Section 4: Effective date. This Ordinance shall be effective immediately upon posting after final passage, approval, and posting.

PASSED AND ADOPTED by the City Council on this _____ day of _____, 2021.

_____
MICHELLE TAIT, Mayor
Harrisville City

ATTEST:

_____
JENNIE KNIGHT, City Recorder

Roll Call Vote Tally:

Council Member Wilhelmsen	Yes	No
Council Member Weiss	Yes	No
Council Member Christensen	Yes	No
Council Member Jackson	Yes	No
Council Member Loveland	Yes	No

RECORDED this _____ day of _____, 2021.
PUBLISHED OR POSTED this _____ day of _____, 2021.

CERTIFICATE OF PASSAGE AND PUBLICATION OR POSTING

According to the provision of U.C.A. §10-3-713, 1953 as amended, I, the municipal recorder of Harrisville City, hereby certify that foregoing ordinance was duly passed and published, or posted at 1) City Hall 2) Harrisville Cabin and 3) 2150 North on the above referenced dates.

_____ DATE:_____
City Recorder

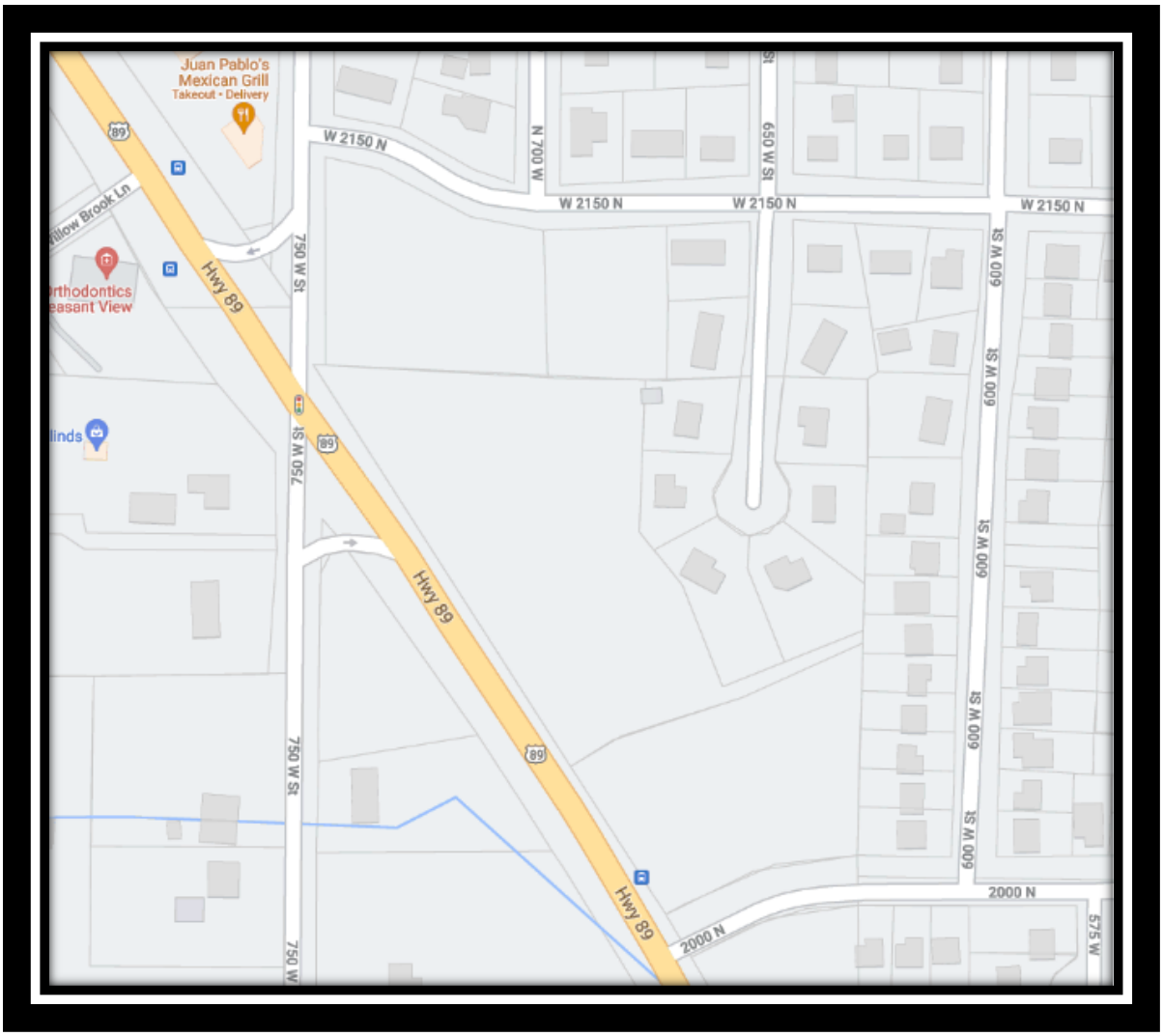
Master Development Agreement

For

Copperwoods

Mixed Use Development

Mixed-Use Commercial (MU-C)



Master Development Agreement

for development of a

Mixed-use Commercial (MU-C) Sub-zone

Between Harrisville City, Inc. and Direct Homes, Inc

on this ____ of _____ of 2021

MASTER DEVELOPMENT AGREEMENT FOR

THE COPPERWOODS

THIS MASTER DEVELOPMENT AGREEMENT is made and entered as of this _____ of _____ , 2021 by and between HARRISVILLE CITY and Direct Homes, Inc.

RECITALS

A. The capitalized terms used in this MDA are defined in Section 1.2, below.

B. Master Developer is under a contract to purchase and will own as of the Effective Date the Property and is developing the Project on the Property.

C. Contemporaneously with the approval of this MDA the City has approved the Master Plan.

D. Contemporaneously with the approval of this MDA the City has zoned the property MU-C Copperwoods Zone.

E. The City finds that this MDA and the Master Plan conform with the intent of the City's General Plan.

F. The City has processed this MDA, the Zoning, and the Master Plan pursuant to the applicable provisions of Section 10-9a-501, *et seq.*, of the Act as a land use regulation including holding hearings on the MDA, the Zoning and the Master Plan before the Planning Commission and the City Council.

G. Master Developer and the City desire that the Property be developed in a unified and consistent fashion pursuant to the Master Plan.

H. The Parties acknowledge that development of the Property pursuant to this MDA

will result in significant planning and economic benefits to the City, and its residents by, among other things requiring orderly development of the Property as a master planned development and increasing property tax and other revenues to the community based on improvements to be constructed on the Property.

I. The Parties desire to enter into this MDA to specify the rights and responsibilities of Master Developer to develop the Property as expressed in this MDA and the rights and responsibilities of the City to allow and regulate such development pursuant to the requirements of this MDA.

J. The Parties understand and intend that this MDA is a "development agreement" within the meaning of the Act and entered into pursuant to the terms of the Act.

NOW, THEREFORE, in consideration of the foregoing Recitals, the mutual covenants contained herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby conclusively acknowledged, the City and Master Developer hereby agree to the following:

TERMS

1. Incorporation of Recitals and Exhibits/Definitions.

1.1. **Incorporation.** The foregoing Recitals and Exhibits "A" – "I", whether or not specifically referenced herein are hereby incorporated into this MDA.

1.2. **Definitions.** As used in this MDA, the words and phrases specified below shall have the following meanings:

1.2.1. **Act** means the Land Use, Development, and Management Act, Utah Code Ann. § 10-9a-101 (2020), *et seq.*

1.2.2. **Administrator** means the person designated by the City as the Administrator of this MDA.

1.2.3. **Applicant** means a person or entity submitting a Development Application.

1.2.4. **Buildout** means the completion of all the development on the entire Copperwoods Project in accordance with the approved plans.

1.2.5. **City** means Harrisville City, a Utah municipality.

1.2.6. **City Consultants** means those outside consultants employed by the City in various specialized disciplines such as engineering, planning, traffic, hydrology, or drainage for reviewing certain aspects of the development of the Project.

1.2.7. **City's Future Laws** means the ordinances, policies, standards, and procedures which may be in effect as of a particular time in the future when a Development Application is submitted for a part of the Project and which may or may not be applicable to the Development Application depending upon the provisions of this MDA.

1.2.8. **City's Vested Laws** means the ordinances, policies, standards, zoning, and procedures of the City in effect as of the date the City approves this MDA.

1.2.9. **Commercial Site Plan** means an application for Intended Uses other than those for purely Residential Dwelling Units.

1.2.10. **Council** means the elected City Council of the City.

1.2.11. **Default** means a material breach of this MDA as specified herein.

1.2.12. **Denial** means a formal denial issued by the final administrative decision-making body of the City for a Development Application but does not include review comments or "redlines" by City staff.

1.2.13. **Design and Site Standards** means those standards for the design, look, and feel of the Project more fully specified in Exhibit "B".

1.2.14. **Development** means the development of a portion of the Property pursuant to an approved Development Application.

1.2.15. **Development Area** means one of the areas that are a part of the Project as conceptually illustrated in the Master Plan.

1.2.16. **Development Application** means an application to the City for development of a portion of the Project including a Subdivision or any other permit, certificate or other authorization from the City required for development of the Project.

1.2.17. **Development Report** means a report containing the information specified in Sections 2.6.9 – 2.6.11.

1.2.18. **Effective Date** means the date that this MDA becomes effective as specified in Section 27, below.

1.2.19. **Final Plat** means the recordable map or other graphical representation of land prepared in accordance with the Act or any successor provision, and approved by the City, effectuating a Subdivision of any portion of the Project.

1.2.20. **Four Mile SSD** means a special service district of the City to provide approved public services to the Project, including but not limited to secondary water (pressurized irrigation), if Developer is unable to arrange for such water through Pineview Water District.

1.2.21. **Intended Uses** means the use of all or portions of the Project for single-family and multi-family residential units, restaurants, public facilities, businesses, commercial areas, professional and other offices, services, open spaces, parks, trails, and other

uses as more fully specified in Exhibit "B".

1.2.22. **Master Developer** means Direct Homes, Inc.

1.2.23. **Master Plan** means the conceptual layout for Commercial Development, Residential Dwelling Units, Open Space, and Public Infrastructure for the Project.

1.2.24. **Maximum Residential Units** means the maximum number of Residential Dwelling Units that may be developed on the Property, as detailed in Section 2.2 below, consistent with the Property zoning and as generally depicted in the Master Plan.

1.2.25. **MDA** means this Master Development Agreement including all the Exhibits.

1.2.26. **Multi-Family Site Plan** means a site plan for a multi-family Development where no Subdivision is required.

1.2.27. **Notice** means any notice to or from any Party to this MDA that is either required or permitted to be given to another party.

1.2.28. **Open Space** shall have the meaning specified in Section 11.01.060 of the City's Municipal Code.

1.2.29. **Outsourcing** means the process of the City contracting with City Consultants or paying overtime to City employees to provide technical support in the review and approval of the various aspects of a Development Application as is more fully set out in this MDA.

1.2.30. **Party/Parties** means, in the singular, Master Developer or the City; in the plural Master Developer and the City.

1.2.31. **Planning Commission** means the City's Planning Commission.

1.2.32. **Project** means the total development to be constructed on the Property pursuant to this MDA with the associated public and private facilities, and all the other aspects approved as part of this MDA.

1.2.33. **Property** means the real property owned by and to be developed by Master Developer more fully described in Exhibit "A".

1.2.34. **PTOS Plan** means the plan for developing, managing, preserving improving the neighborhood parks, trails, and open space in the Project as more fully specified in Exhibit "B".

1.2.35. **Residential Dwelling Unit** means a structure or portion thereof designed and intended for use as a single-family residence, an attached residence, including a condominium and town house, as illustrated on the Master Plan.

1.2.36. **Standards Deviations** means those deviations from existing City development, design, engineering, and other standards, including but not limited to those standards that are included in the City's Vested Laws, which are subject to the provisions of Sections 2.1 and 5.1, below.

1.2.37. **Sub-developer** means a person or an entity not "related" (as defined by Section 165 of the Internal Revenue Code) to Master Developer which purchases a Development Area for development.

1.2.38. **Subdivision** means the division of any portion of the Project into developable lots pursuant to the Act and/or the Zoning Ordinance.

1.2.39. **Subdivision Application** means the application to create a Subdivision.

1.2.40. **Zoning** means the MU-C Copperwoods zoning for the Property adopted by the City on contemporaneously with the approval of this MDA.

1.2.41. **Zoning Ordinance** means the City's Land Use and Development Ordinance adopted pursuant to the Act that was in effect as of the date of this MDA as a part of the City's Vested Laws.

2. Development of the Project.

2.1. Compliance with the Master Plan, Design Standards, and this MDA. Development of the Project shall be in accordance with the City's Vested Laws, the City's Future Laws (to the extent that these are applicable as otherwise specified in this MDA), the Master Plan, the Design Standards, and this MDA.

2.2. Maximum Residential Units/Intended Uses. At Buildout of the Project, Master Developer shall be entitled to have developed the Maximum Residential Units of 41 residential units and 24 Live Here/Work Here units, for 65-unit total.

2.3. Limitation and No Guarantee. Master Developer acknowledges that the development of the Maximum Residential Units and every other aspect of the Master Plan requires that each Development Application comply with the City's Vested Laws, the Master Plan, the Design Standards, and this MDA. The City's entry into this MDA does not guarantee that the Master Developer will be able to construct the Maximum Residential Units or any other aspect of the Project until and unless all the applicable requirements of the City's Vested Laws are complied with.

2.4. Design Standards for Commercial Development. The Parties acknowledge that the precise design standards for the commercial areas on the Master Plan are not yet completed. The Design and Site Standards, Exhibit "B", includes some renderings and

other details and design concepts. The Parties shall work cooperatively to amend this MDA within a period consistent with the sequencing outlined in Section 2.4.5, to include detailed and reasonable design standards for the commercial uses and to work toward final building exterior designs.

2.4.1. Sequencing and Relationship of Residential and Commercial Uses. General Statement. The Parties acknowledge that, separate from and related to the City's interest in the development of Residential Uses within the Development, the City has an interest in the development of areas designated on the Master Plan to include commercial ("Retail/Office") units, and recognizing that such development is subject to market/economic forces beyond the control of Master Developer, desires certain assurances that Master Developer is and will remain committed to develop the commercial area in a timely manner. To that specific end, the Parties agree to the following sequencing plan and related mutual goals:

2.4.2. Prompt Platting/Approval. Master Developer will use its best commercially reasonable efforts actively and promptly to pursue the platting and approval of all residential subdivisions within the Development, including the layout of roads and general infrastructure within those subdivisions, with the goal of satisfying all requirements for approvals within a period of not more than 12 months from the Effective Date of this Agreement. For its part, the City will actively and promptly engage in all reasonable and required review and analysis of Master Developer's subdivision applications with the goal of providing required approvals within the stated target period.

2.4.3. Infrastructure Development. This Agreement is for vesting zoning and is not for subdivision approval. A separate agreement will be required as part of subdivision approval that will more specifically govern aspects of the subdivision and its

improvements. Upon approval of all subdivisions by all governmental entities necessary to the approval process, and subject at all times to the requirements and reservations outlined below, Master Developer will promptly and actively, as commercially reasonable, pursue the development and installation of all infrastructure for the entire Development, beginning with the excavation and development of roadways and, conditional upon approval by the applicable utility, continuing with the installation of electric, sewer, water (including secondary water) and cable or fiber lines. Assuming necessary approvals from the City and all utilities by June 27, 2023, Master Developer projects, without guarantee, completion of residential infrastructure within twenty-four (24) months of approval, with appropriate and reasonable adjustments to that timeframe for any delays in approvals.

2.4.4. Commercial Buildings Design. Separately, Master Developer and the City, through its Planning Commission, will actively and in good faith engage in such charrettes as may be necessary to finalize acceptable architectural designs and drawings for commercial retail/office building, to be constructed in locations generally consistent with the conceptual site plan designs presented by Master Developer within the area of the Master Plan designated for that unit. The Parties will cooperate in that process with a mutual and agreed goal of final and approved design and drawings exclusive of tenant-related work in the commercial buildings, by not later than twenty-four (24) months after the Effective Date.

2.4.5. Commercial Building Sequencing. Master Developer shall commence development and construction of the commercial building not later than the date on which 85% of all residential units have been completed and receive certificates of occupancy. The Parties agree that City shall not issue any building permits for 15% of the residential units unless and until the Master Developer complies with this Paragraph.

3. Vested Rights.

3.1. Vested Rights Granted by Approval of this MDA. To the maximum extent permissible under the laws of Utah and the United States and at equity, the Parties intend that this MDA grants Master Developer all rights to develop the Project in fulfillment of this MDA, the City's Vested Laws, the Zoning, and the Master Plan, except as specifically provided herein. The Parties specifically intend that this MDA grant to Master Developer "vested rights" as that term is construed in Utah's common law and pursuant to Section 10-9a-509 of the Act.

3.2. Exceptions. The restrictions on the applicability of the City's Future Laws to the Project as specified in Section 3.1 are subject to only the following exceptions:

3.3. Master Developer Agreement. City's Future Laws that Master Developer agrees in writing to the application thereof to the Project;

3.3.1. State and Federal Compliance. City's Future Laws which are generally applicable to all properties in the City, and which are required to comply with State and Federal laws and regulations affecting the Project;

3.3.2. Codes. Any City's Future Laws that are updates or amendments to existing building, plumbing, mechanical, electrical, dangerous buildings, drainage, flood plain or similar construction or safety related codes, such as the International Building Code, the APWA Specifications, AAHSTO Standards, the Manual on Uniform Traffic Control Devices, the International Residential Code or similar standards that are generated by a nationally or statewide recognized construction/safety organization, or by the State or Federal governments and are required to meet legitimate concerns related to public health, safety or welfare;

3.3.3. Regulations of other service providers. Any changes in laws, rules or regulations of any other entity that provides services to the Project.

3.3.4. Taxes. Taxes, or modifications thereto, so long as such taxes are lawfully imposed and charged uniformly by the City to all properties, applications, persons, and entities similarly situated;

3.3.5. Fees. Changes to the amounts of fees for the processing of Development Applications that are generally applicable to all development within the City (or a portion of the City as specified in the lawfully adopted fee schedule) and which are adopted pursuant to State law;

3.3.6. Impact Fees. Impact Fees or modifications thereto which are lawfully adopted, and imposed by the City and which meet all requirements of the U. S. Constitution, Utah Constitution, law, and applicable statutes, including but not limited to Utah Code Ann. § 11-36a-101 (2020), *et seq.*;

3.3.7. Planning and Zoning Modification. Changes by the City to its planning principles and design standards, provided that such changes do not work to reduce the Maximum Residential Units, are generally applicable across the entire City and do not materially and unreasonably increase the costs or net financial results of any Development Area; or

3.3.8. Compelling, Countervailing Interest. Laws, rules, or regulations that the City's land use authority finds on the record, are necessary to avoid jeopardizing a compelling, countervailing public interest pursuant to Utah Code Ann. § 10-9a-509(1)(a)(i) (2020).

4. **Term of Agreement** This MDA shall expire on December 31, 2031. If Master Developer has not been declared to be currently in Default as of December 31, 2031 (and if any such Default is not being cured), then this MDA shall be automatically extended until December 31, 2036. This MDA shall also terminate automatically at Buildout.

5. Public Infrastructure.

5.1. Construction by Master Developer. Master Developer shall have the right and the obligation to construct or cause to be constructed and installed all Public Infrastructure reasonably and lawfully required as a condition of approval of the Development Application. The Public Infrastructure shall be designed and constructed in Compliance with all applicable standards in the City's Vested Laws and, also, with any other Federal, State, or County laws, rules, or regulations. The Public Infrastructure shall be consistent with and fulfill the purposes of adopted plans for such infrastructure that are a part of the City's Vested Laws.

5.2. Security. If and to the extent required by the City's Vested Laws, unless otherwise provided by the Act, security for any required improvements shall be provided in a form acceptable to the City as specified in the City's Vested Laws. Partial releases of any such required security shall be made as work progresses based on the City's Vested Laws and conjunction with a subdivision improvement agreement.

6. **Parks, Trails and Open Space.** Master Developer shall be responsible for creating, dedicating, and improving the parks, trails and open space in the Project as specified in the PTOS Plan as Exhibit "B" attached hereto and incorporated herein by this reference. Said Exhibit and the PTOS Plan shall include the portion of Weber County Parcel Number 17-064-0012 that is south of 2000 North. The owners' association shall be responsible to maintain the open space area south of 2000 North, unless ownership is assumed by the Four Mile SSD.

7. **Application Under City's Future Laws.** Without waiving any rights granted by this MDA, Master Developer may at any time, choose to submit a Development Application for all or part of the Project under the City's Future Laws in effect at the time of the Development Application so long as Master Developer is not in current breach of this Agreement.

8. Default.

8.1. Notice. If Master Developer or a Sub-developer or the City fails to perform their respective obligations hereunder or to comply with the terms hereof, the Party believing that a Default has occurred shall provide Notice to the other Party. If the City believes that the Default has been committed by a Sub-developer, then the City shall also provide a courtesy copy of the Notice to Master Developer.

8.2. Contents of the Notice of Default. The Notice of Default shall:

8.2.1. Specific Claim. Specify the claimed event of Default;

8.2.2. Applicable Provisions. Identify with particularity the provisions of any applicable law, rule, regulation, or provision of this MDA that is claimed to be in Default;

8.2.3. Materiality. Identify why the Default is claimed to be material; and

8.2.4. Optional Cure. If the City chooses, in its discretion, it may propose a method and time for curing the Default which shall be of no less than thirty (30) calendar days duration.

8.3. Meet and Confer, Mediation, Arbitration. Upon the issuance of a Notice of Default the parties shall engage in the "Meet and Confer" and "Mediation" processes specified in Sections 7.6 and 7.8. If the claimed Default is subject to Arbitration as provided in Section 7.9, then the parties shall follow such processes.

8.4. Remedies. If the parties are not able to resolve the Default by "Meet and Confer" or by "Mediation", and if the Default is not subject to arbitration, then the parties may have the following remedies:

8.4.1. Law and Equity. All rights and remedies available at law and in equity, including, but not limited to, injunctive relief and/or specific performance.

8.4.2. Security. The right to draw on any security posted or provided in connection with the Project and relating to remedying of the Default.

8.4.3. Future Approvals. The right to withhold all further reviews, approvals, licenses, building permits and/or other permits for development of the Project in the case of a default by Master Developer, or in the case of a default by a Sub-developer, development of those Development Areas owned by the Sub-developer until the Default has been cured or a bond has been posted to secure satisfaction of the default. Building permits or Certificates of Occupancy may not be withheld from any Development Area sold to a Sub-developer based on any Default of the Master Developer unless that Default of the Master Developer is such that the Public Infrastructure required to service a Development Area owned by a Sub-Developer is not available to service the Development Area. Nor shall any Default by a Sub-developer permit the withholding of any Development Applications for Master Developer or any other Sub-developer that is not in Default. A subdivision improvement agreement is required as part of subdivision approval in a separate action and form from this Agreement. The rights and remedies in the subdivision improvements agreement govern over this Agreement, and in case of conflict the stricter applies as determined by the City.

8.5. Public Meeting. Before any remedy in Section 9.4 may be imposed by the City, the party allegedly in Default shall be afforded the right to attend a public meeting before the City Council and address the City Council regarding the claimed Default.

8.6. Emergency Defaults. Anything in this MDA notwithstanding, if the City Council finds on the record that a default materially impairs a compelling, countervailing interest

of the City and that any delays in imposing such a default would also impair a compelling, countervailing interest of the City, then the City shall give Notice to Master Developer and/or any applicable Sub-developer of any public meeting at which an emergency default is to be considered and the Master Developer and/or any applicable Sub-developer shall be allowed to address the City Council at that meeting regarding the claimed emergency Default.

8.7. Extended Cure Period. If any Default cannot be reasonably cured within thirty (30) calendar days, then such cure period shall be extended so long as the defaulting party is pursuing a cure with reasonable diligence.

8.8. Default of Assignee. A default of any obligations assumed by an assignee shall not be deemed a default of Master Developer.

8.9. Limitation on Recovery for Default – No Damages. Anything in this MDA notwithstanding, no Party shall be entitled to any claim for any monetary damages as a result of any breach of this MDA and each Party waives any claims thereto. The sole remedy available to Master Developer or any Sub-developer shall be that of specific performance.

9. **Notices.** All notices required or permitted under this MDA shall, in addition to any other means of transmission, be given in writing by certified mail and regular mail to the following address:

To the Master Developer:

Direct Homes
PO Box 6384
North Logan, UT 84341

With a Copy to:

Harrisville City
363 West Independence Blvd
Harrisville, UT 84404

With a Copy to:

Hancey Law Offices
Suite 110 595 S. Riverwoods Pkwy
Logan, UT 84321

10. **Effectiveness of Notice.** Except as otherwise provided in this MDA, each Notice shall be effective and shall be deemed delivered on the earlier of:

10.1. Hand Delivery. Its actual receipt, if delivered personally, by courier service, or by facsimile provided that a copy of the facsimile Notice is mailed or personally delivered as set forth herein on the same day and the sending party has confirmation of transmission receipt of the Notice. If the copy is not sent on the same day, then notice shall be deemed effective the date that the mailing or personal delivery occurs.

10.2. Electronic Delivery. Its actual receipt if delivered electronically by email provided that a copy of the email is printed out in physical form and mailed or personally delivered as set forth herein on the same day and the sending party has an electronic receipt of the delivery of the Notice. If the copy is not sent on the same day, then notice shall be deemed effective the date that the mailing or personal delivery occurs.

10.3. Mailing. On the day the Notice is postmarked for mailing, postage prepaid, by First Class or Certified United States Mail and actually deposited in or delivered to the United States Mail. Any party may change its address for Notice under this MDA by giving written Notice to the other party in accordance with the provisions of this Section.

11. **Secondary Water/Consent to Four Mile SSD**. Master Developer shall be responsible to furnish sufficient water rights to support secondary water service sufficient to satisfy requirements for the Project. If such service is not available from or through Pineview Water District, Master Developer agrees to coordinate such service from the Four Mile SSD, previously formed to provide authorized services to areas of the City including the Project, including any Project-specific services for which are required, but may be unable, to provide under applicable CC&Rs.

12. **Headings**. The captions used in this MDA are for convenience only and are not intended to be substantive provisions or evidence of intent.

13. **No Third-Party Rights/No Joint Venture.** This MDA does not create a joint venture relationship, partnership or agency relationship between the City or Master Developer. Further, the parties do not intend this MDA to create any third-party beneficiary rights. The Parties acknowledge that this MDA refers to a private development and that the City has no interest in, responsibility for or duty to any third parties concerning any improvements to the Property or unless the City has accepted the dedication of such improvements at which time all rights and responsibilities—except for warranty bond requirements under City's Vested Laws and as allowed by state law—for the dedicated public improvement shall be the City's.

14. **Hold Harmless.** Master Developer hereby covenants to indemnify, defend, and hold the City harmless from any claims made by any third parties regarding the City's entry into this MDA and the City's performance of any of its obligation under this MDA.

15. **Assignability.** The rights and responsibilities of Master Developer under this MDA may be assigned in whole or in part, respectively, by Master Developer with the consent of the City as provided herein, which consent may not unreasonably be withheld.

15.2. Sale of Lots. Master Developer's selling or conveying lots in any approved Subdivision or Development Areas to builders, users, or Sub-developers, shall not be deemed to be an "assignment" subject to the above-referenced approval by the City unless specifically designated as such an assignment by Master Developer.

15.3. Related Entity. Master Developer's transfer of all or any part of the Property to any entity "related" to Master Developer (as defined by regulations of the Internal Revenue Service in Section 165), Master Developer's entry into a joint venture for the development of the Project or Master Developer's pledging of part or all of the Project as security for financing shall also not be deemed to be an "assignment" subject to the above-referenced approval by the City unless specifically designated as such an assignment by the Master Developer. Master Developer shall give the City Notice of any event specified in this sub-section within fifteen (15) calendar days after the event has occurred. Such Notice shall include providing the City with all necessary contact information for the newly responsible party.

15.4. Notice. Master Developer shall give Notice to the City of any proposed assignment and provide such information regarding the proposed assignee that the City may reasonably request in making the evaluation permitted under this Section. Such Notice shall include providing the City with all necessary contact information for the proposed assignee.

15.5. Time for Objection. Unless the City objects in writing within fifteen (15) calendar days of notice, the City shall be deemed to have approved of and consented to the assignment.

15.6. Partial Assignment. If any proposed assignment is for less than all of Master Developer's rights and responsibilities, then the assignee shall be responsible for the performance of each of the obligations contained in this MDA to which the assignee succeeds.

Upon any such approved partial assignment Master Developer shall not be released from any future obligations as to those obligations which are assigned but shall remain responsible for the performance of any obligations herein.

15.7. Denial. The City may only withhold its consent to an assignment ofMaster Developer's rights hereunder if the City is not reasonably satisfied of the proposed assignee's financial ability to perform the obligations of Master Developer proposed to be assigned or there is an existing breach of a development obligation owed to the City by the assignee or related entity that has not either been cured or in the process of being cured in a manner acceptable to the City. Any refusal of the City to accept an assignment shall be subject to "Meet and Confer" and "Mediation" processes specified in Sections 7.6 and 7.8.1. If the denial arises in the context of any dispute that is subject to Arbitration, then the Parties shall follow such processes.

15.8. Assignees Bound by MDA. Any assignee shall consent in writing to be bound by the assigned terms and conditions of this MDA as a condition precedent to the effectiveness of the assignment. That consent shall specifically acknowledge the provisions of Section 2.

16. **Binding Effect.** If Master Developer sells or conveys Development Areas of lands to Sub-developers or related parties, the lands so sold and conveyed shall bear the same rights, privileges, configurations, and number of Residential Dwelling Units as applicable to such Development Area and be subject to the same limitations and rights of the City when owned by Master Developer and as set forth in this MDA without any required approval, review, or consent by the City except as otherwise provided herein.

17. **No Waiver.** Failure of any Party hereto to exercise any right hereunder shall not be deemed a waiver of any such right and shall not affect the right of such party to exercise at

some future date any such right or any other right it may have.

18. **Severability.** If any provision of this MDA is held by a court of competent jurisdiction to be invalid for any reason, the Parties consider and intend that this MDA shall be deemed amended to the extent necessary to make it consistent with such decision and the balance of this MDA shall remain in full force and affect.

19. **Force Majeure.** Any prevention, delay or stoppage of the performance of any obligation under this Agreement which is due to strikes, labor disputes, inability to obtain labor, materials, equipment or reasonable substitutes therefor; acts of nature, governmental restrictions, regulations or controls, judicial orders, enemy or hostile government actions, wars, civil commotions, fires or other casualties, governmental delays or restrictions resulting from COVID-19 or other declared pandemic, or other causes beyond the reasonable control of the Party obligated to perform hereunder shall excuse performance of the obligation by that Party for a period equal to the duration of that prevention, delay or stoppage.

20. **Time is of the Essence.** Time is of the essence to this MDA and every right or responsibility shall be performed within the times specified.

21. **Appointment of Representatives.** To further the commitment of the Parties to cooperate in the implementation of this MDA, the City and Master Developer each shall designate and appoint a representative to act as a liaison between the City and its various departments and the Master Developer. The initial representative for the City shall be the City Planner as the Administrator of the MDA as defined in Section 1.2.2. The initial representative for Master Developer shall be William Scott. The Parties may change their designated representatives by Notice. The representatives shall be available at all reasonable times to discuss and review the performance of the Parties to this MDA and the development of the Project.

22. **Entire Agreement.** This MDA, and all Exhibits thereto, is the entire agreement between the Parties and may not be amended or modified except either as provided herein or by a subsequent written amendment signed by all Parties.

23. **Estoppel Certificate.** Upon ten (10) calendar days' prior written request by Master Developer or a Sub-developer, the City will execute an estoppel certificate to any third party certifying that Master Developer or a Sub-developer, as the case may be, at that time is not in default of the terms of this Agreement.

24. **Mutual Drafting.** Each Party has participated in negotiating and drafting this MDA and therefore no provision of this MDA shall be construed for or against any Party based on which Party drafted any portion of this MDA.

25. **Effective Date.** This MDA shall become effective upon Master Developer giving Notice to the City that Master Developer or its Assigns has (have) acquired the Property. Barring a written agreement between the Parties otherwise, if Master Developer has not given the City such Notice on or before December 31, 2021, then this MDA shall become null, void and of no effect.

26. **Recordation and Running with the Land.** This MDA shall be recorded in the chain of title for the Project after the Effective Date. This MDA shall be deemed to run with the land.

27. **Authority.** The Parties to this MDA each warrant that they have all of the necessary authority to execute this MDA. Specifically, on behalf of the City, the signature of the Mayor of the City is affixed to this MDA lawfully binding the City pursuant to Resolution No. _____adopted by the City on _____, 2021.

* * * * * * SIGNATURE PAGE FOLLOWS * * * * * *

IN WITNESS WHEREOF, the parties hereto have executed this Agreement by and through their respective, duly authorized representatives as of the day and year first herein written.

MASTER DEVELOPER SIGNATURES

Master Developer Representative

_____

By: _____

Date: _____

MASTER DEVELOPER ACKNOWLEDGMENT

STATE OF UTAH)
:ss.
COUNTY OF WEBER)

On the____day of_____, 2021, personally appeared before me_____, who being by me duly sworn, did say that he is the Manager of _____, and that the foregoing instrument was duly authorized by the company at a lawful meeting held by authority of its operating agreement and signed in behalf of said company.

_____

NOTARY PUBLIC

My Commission Expires: _____ Residing at: _____

IN WITNESS WHEREOF, the parties hereto have executed this Agreement by and through their respective, duly authorized representatives as of the day and year first herein written.

CITY SIGNATURES

Harrisville City Representative

_____

By: Michelle Tait, City Mayor

Date: _____

Approved as to form and legality:

_____

City Attorney

CITY ACKNOWLEDGMENT

STATE OF UTAH)
:ss.
COUNTY OF WEBER)

On the____day of_____, 2021 personally appeared before me_____who being by me duly sworn, did say that she is the City Mayor of Harrisville City, a political subdivision of the State of Utah, and that said instrument was signed in behalf of the City by authority of its City Council and said City Mayor acknowledged to me that the City executed the same.

_____

NOTARY PUBLIC

My Commission Expires: _____ Residing at: _____

TABLE OF EXHIBITS

Exhibits:

Exhibit A
Legal Description

EXHIBIT “A”
Legal
Description

PARCEL # 17-064-0012: PART OF THE SOUTHEAST QUARTER OF SECTION 31, TOWNSHIP 7 NORTH, RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN, U.S. SURVEY: BEGINNING AT A POINT 1371.46 FEET SOUTH AND 706.06 FEET EAST OF THE NORTHWEST CORNER OF THE SOUTHEAST QUARTER OF SAID QUARTER SECTION, RUNNING THENCE SOUTH 2 30' WEST 485.44 FEET, THENCE SOUTH 6°42' EAST TO THE NORTH LINE OF STATE ROAD, THENCE NORTHWESTERLY ALONG STATE ROAD TO ITS INTERSECTION WITH FIVE MILE CREEK, THENCE NORTHEASTERLY ALONG SAID CREEK TO THE PLACE OF BEGINNING. LESS AND EXCEPTING THEREFROM THAT PORTION CONVEYED IN THAT CERTAIN QUIT CLAIM DEED RECORDED JULY 16, 2003 AS ENTRY NO. 1956961 IN BOOK 2405 AT PAGE 1470 OF OFFICIAL RECORDS, MORE PARTICULARLY DESCRIBED AS FOLLOWS: PART OF THE SOUTHEAST QUARTER OF SECTION 31, TOWNSHIP 7 NORTH RANGE 1 WEST, SALT LAKE BASE & MERIDIAN U. S. SURVEY, DESCRIBED AS FOLLOWS: BEGINNING AT THE INTERSECTION OF THE NORTH RIGHT-OF-WAY LINE OF 2000 NORTH STREET AND THE WEST BOUNDARY OF FAIRWAY PARK NO.2, SAID INTERSECTION BEING NORTH 00°46'49" EAST ALONG THE QUARTER SECTION LINE 1108.55 FEET AND SOUTH 89°13'11" EAST 739.58 FEET FROM THE SOUTH QUARTER OF SAID SECTION 31, THENCE SOUTH 01°39'42" WEST ALONG SAID WEST LINE 66.06 FEET, THENCE SOUTH 89°09'42" WEST 6.84 FEET TO A 320.11 FOOT RADIUS CURVE THE CENTER OF WHICH BEARS SOUTH 00°50'18" EAST, THENCE SOUTHWESTERLY ALONG SAID CURVE TO THE LEFT THROUGH A CENTRAL ANGLE OF 27°04'10" A DISTANCE OF 151.24 FEET THENCE
SOUTH 62°05'32" WEST 40.00 FEET TO THE NORTHEAST RIGHT-OF WAY FENCE OF U. S. HIGHWAY 89, THENCE NORTH 27°54'28" WEST ALONG SAID FENCE 66.00 FEET, THENCE NORTH 62°05'32" EAST 40.00 FEET TO A 386.11 FOOT RADIUS CURVE THE CENTER OF WHICH BEARS SOUTH 27°54'28" EAST, THENCE NORTHEASTERLY ALONG SAID CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 27°04'10" A DISTANCE OF 182.42 FEET, THENCE NORTH 89°09'42" EAST 9.52 FEET TO THE POINT OF BEGINNING.

PARCEL # 17-064-0033: PART OF THE SOUTHEAST QUARTER OF SECTION 31, TOWNSHIP 7 NORTH,RANGE 1 WEST, SALT LAKE BASE & MERIDIAN: BEGINNING AT APOINT WHICH IS SOUTH 1D37'08" WEST ALONG THE QUARTER SECTIONLINE 997.54 FEET AND SOUTH 87D30'17" EAST 52.16 FEET FROMTHE NORTHWEST CORNER OF SAID SOUTHEAST QUARTER SECTION,RUNNING THENCE SOUTH 87D30'17" EAST 392.82 FEET ALONG THEBOUNDARY LINE OF MISTY MEADOWS SUBDIVISION, THENCE SOUTH02D30'00" WEST 213.03 FEET, THENCE SOUTH 38D34'27" EAST 94.91FEET, THENCE SOUTH 21D26'03" EAST 152.00 FEET TO THE CENTER OFFIVE MILE CREEK, THENCE SOUTHWESTERLY ALONG SAID CENTERLINE TOTHE EASTERLY LINE OF U S HIGHWAY 91, THENCE IN A NORTHWESTERLYDIRECTION 643.54 FEET, MORE OR LESS, TO POINT OF BEGINNING.

PARCEL # 17-120-0019: ALL OF LOT 150, MISTY MEADOWS SUBDIVISION, HARRISVILLE CITY,WEBER COUNTY, UTAH EXCEPTING THEREFROM THE FOLLOWING: A PARCEL OF LAND INFEE FOR THE PURPOSE OF WIDENING STATE ROUTE 89, KNOWN ASPROJECT NO. 0089, BEING PART OF LOT 150 OF THE MISTY MEADOWSSUBDIVISION, A SUBDIVISION SITUATE IN THE NORTHWEST 1/4SOUTHEAST 1/4 OF SECTION 31, TOWNSHIP 7 NORTH, RANGE 1 WEST,SALT LAKE BASE AND MERIDIAN THE BOUNDARIES OF SAID PARCELOF LAND ARE DESCRIBED AS FOLLOWS: BEGINNING AT A POINT 232.30FEET SOUTH 1D37'08" WEST ALONG THE EASTERLY LINE OF 750WEST STREET, FROM THE NORTHWEST CORNER OF SAID LOT 150, MISTYMEADOWS SUBDIVISION, ACCORDING TO THE OFFICIAL PLAT THEREOF ASRECORDED IN THE OFFICE OF THE WEBER COUNTY RECORDER, STATE OFUTAH, AND RUNNING THENCE SOUTH 1D37'08" WEST 22.97 FEET ALONGSAID EASTERLY LINE OF 750 WEST STREET TO THE INTERSECTION WITHTHE NORTHEASTERLY RIGHT OF WAY LINE OF SAID STATE ROUTE 89 ATA POINT 62.00 FEET PER PENDICULARLY DISTANT NORTHEASTERLY FROMTHE CENTERLINE OF SAID STATE ROUTE 89, OPPOSITE ENGINEERSSTATION 228+43.88 THENCE SOUTH 33D02'08" EAST 23.27 FEET ALONGSAID NORTHEASTERLY RIGHT OF WAY LINE, THENCE NORTHWESTERLY44.79 FEET ALONG THE ARC OF A 74.00-FOOT RADIUS CURVE TO THERIGHT (CHORD TO SAID CURVE BEARS NORTH 15D41'44" WEST FOR ADISTANCE OF 44.11 FEET) THENCE NORTH 88D22'52" WEST 0.10 FEETTO THE POINT OF BEGINNING. (E#2021492)

Exhibit B
Master Plan Packet

THE COPPERWOODS AT HARRISVILLE

0 20 40
SCALE: 1"=40'

New 6' removable privacy fence along ditch

8' wide 8' thick concrete

New 3.5' perforated fence along street

PATTERN A
PATTERN B

LEGEND

- TRI COLOR BEECH TREE (8)
- MIMOSA TREE (12)
- NORTHERN RED OAK (5)
- JAPANESE MAPLE (8)
- TULIP TREE (5)
- CHITALPA (7)
- AMUR MAPLE (6)
- JAPANESE TREE LILAC (8)
- FEATHER REED GRASS 'EL DORADO'
- LARGE BLUE FESCUE
- DAYLILY 'ADVANCED PARTY'
- DAYLILY 'GOING BANANAS'
- HOLLYHOCKS ALCEA ROSEA 'HALO BLUSH'
- BURNING BUSH
- HYDRANGEA 'OAK LEAF'
- COREOPSIS GRANDIFLORA 'YELLOW'
- BUTTERFLY WEED 'ORANGE'
- BALLOON FLOWER 'BLUE'
- NEW GRASS (64,446 sf)
- NEW BARK/GRAVEL W/ WEED BARRIER

TYPICAL BUILDING SHRUBS
SCALE: 1"=20'

REGISTERED PROFESSIONAL ENGINEER
NO.366590
ADAM MACKELPRANG
6-29-2021
STATE OF UTAH

ALLIANCE CONSULTING ENGINEERS
150 EAST 200 NORTH SUITE P
LOGAN, UTAH 84321
(435)755-5121
allianceloganl@yahoo.com

No.	REVISIONS/ SUBMISSIONS	DATE
	REVIEWED :	DRAWN :
	CAD FILE :	PROJECT NO. :

PROJECT TITLE: THE COPPERWOODS AT HARRISVILLE

DRAWING TITLE: LANDSCAPE PLAN

DATE : JUNE,2021

DRAWING No. 3

THE COPPERWOODS AT HARRISVILLE

Overall Land Use Plan

0 20 40

SCALE: 1"=40'

LEGEND

- PROPERTY BOUNDARY
- EXISTING FENCE
- COMMERCIAL BOUNDARY
- EXISTING ASPHALT
- EXISTING CONCRETE
- PROPOSED ASPHALT
- PROPOSED CONCRETE

NOTES:
1. OWNER: DIRECT HOMES
2. TOTAL AREA: 6.28 ACRES
   AREA WITH COMMERCIAL: 3.22 ACRES (51.27%)
   OPEN SPACE: 2.61 ACRES
3. NUMBER OF PHASES: 1
5. PER THE FISH AND WILDLIFE WETLANDS MAPPER THERE ARE NO WETLANDS ON THE SITE.

TYPICAL LOT DIMENSION

REGISTERED PROFESSIONAL ENGINEER
NO.368590
Adam Mackelprang
ADAM MACKELPRANG
6-14-2021
STATE OF UTAH

ALLIANCE CONSULTING ENGINEERS
150 EAST 200 NORTH SUITE P
LOGAN, UTAH 84321
(435)755-5121
allianceLogan@yahoo.com

No.	REVISIONS/ SUBMISSIONS	DATE
	REVIEWED :	DRAWN :
	CAD FILE :	PROJECT NO. :

PROJECT TITLE: THE COPPERWOODS AT HARRISVILLE

DRAWING TITLE: Overall Land Use Plan

DATE : JUNE,2021

DRAWING No. 1

THE COPPERWOODS AT HARRISVILLE

SITE/TRAILS PLAN

0 20 40

SCALE: 1"=40'

LEGEND

- PROPERTY BOUNDARY
- EXISTING FENCE
- COMMERCIAL BOUNDARY
- EXISTING ASPHALT
- EXISTING CONCRETE
- PROPOSED ASPHALT
- PROPOSED CONCRETE

NOTES:
1. OWNER: DIRECT HOMES
2. TOTAL AREA: 6.28 ACRES
   AREA WITH COMMERCIAL: 3.22 ACRES (51.27%)
   OPEN SPACE: 2.61 ACRES
3. NUMBER OF PHASES: 1
5. PER THE FISH AND WILDLIFE WETLANDS MAPPER THERE ARE NO WETLANDS ON THE SITE.

TYPICAL LOT DIMENSION

REGISTERED PROFESSIONAL ENGINEER
NO.366590
Adam MacKelprang
MACKELPRANG
6-29-2021
STATE OF UTAH

ALLIANCE CONSULTING ENGINEERS
150 EAST 200 NORTH SUITE P
LOGAN, UTAH 84321
(435)755-5121
allianceLogan@yahoo.com

No.	REVISIONS/ SUBMISSIONS	DATE
	REVIEWED :	DRAWN :
	CAD FILE :	PROJECT NO. :

PROJECT TITLE: THE COPPERWOODS AT HARRISVILLE

DRAWING TITLE: SITE/TRAILS PLAN

DATE : JUNE,2021

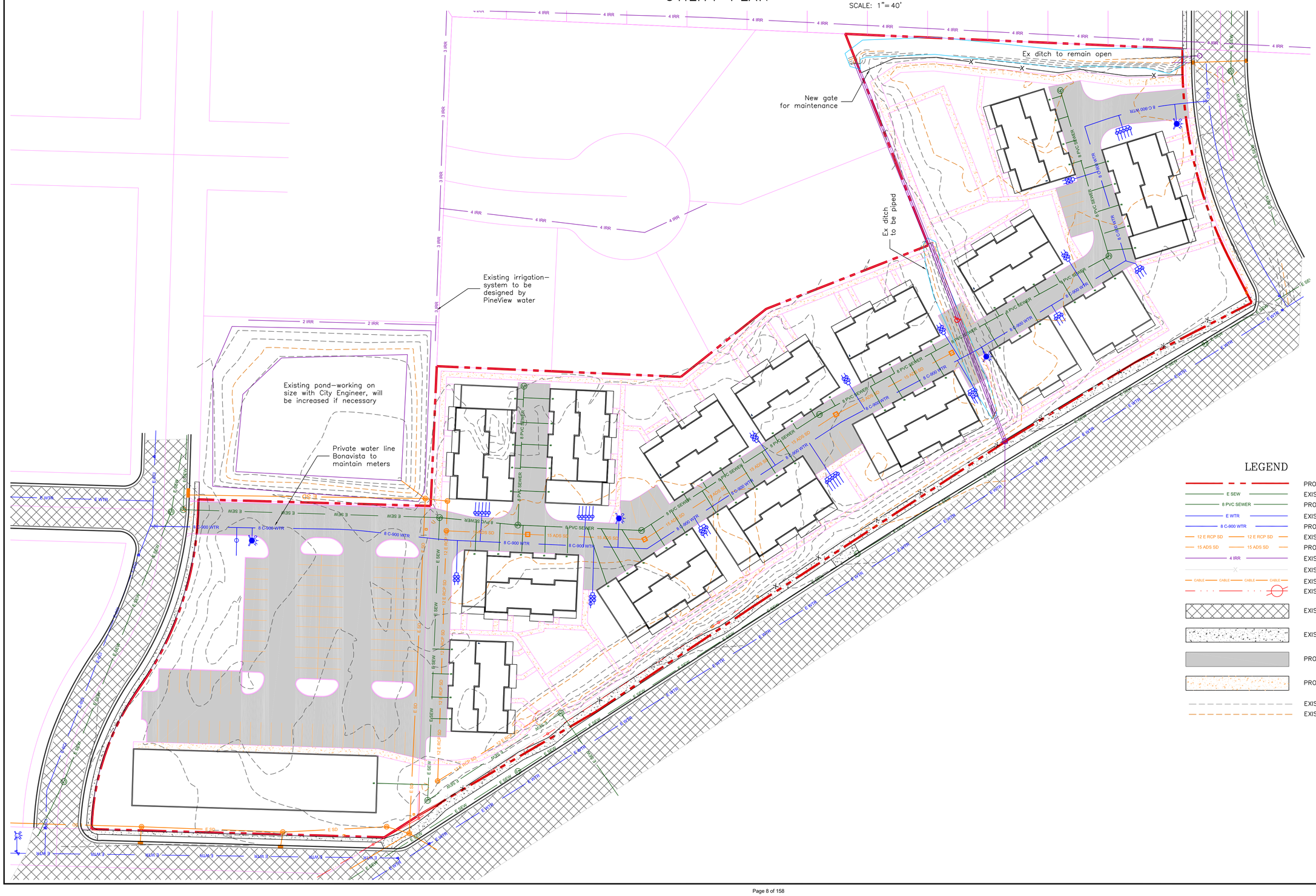
DRAWING No. 1

THE COPPERWOODS AT HARRISVILLE

UTILITY PLAN

0 20 40

SCALE: 1"=40'



LEGEND

- PROPERTY BOUNDARY
- EXISTING SEWER LINE
- PROPOSED SEWER LINE
- EXISTING WATER LINE
- PROPOSED WATER LINE
- EXISTING STORM LINE
- PROPOSED STORM LINE
- EXISTING IRRIGATION AS NOTED
- EXISTING FENCE
- EXISTING CABLE/COMMUNICATION
- EXISTING POWER
- EXISTING ASPHALT
- EXISTING CONCRETE
- PROPOSED ASPHALT
- PROPOSED CONCRETE
- EXISTING MINOR CONTOUR (1.0')
- EXISTING MAJOR CONTOUR (5.0')

REGISTERED PROFESSIONAL ENGINEER
NO.366590
Adam MacKelprang
MACKELPRANG
6-29-2021
STATE OF UTAH

ALLIANCE CONSULTING ENGINEERS
150 EAST 200 NORTH SUITE P
LOGAN, UTAH 84321
(435)755-5121
alliancelogan@yahoo.com

No.	REVISIONS / SUBMISSIONS	DATE

REVIEWED :
DRAWN :
CAD FILE :
PROJECT NO. :

PROJECT TITLE: THE COPPERWOODS AT HARRISVILLE

DRAWING TITLE: UTILITY PLAN

DATE : JUNE,2021

DRAWING No. 2

Exhibit C
MU-C Sub Zone Land Use and Intended Use Description

11.11.030 Subzoning

Eligible parcels under this Chapter maybe zoned as a sub-zone as follows:

1. Mixed-use Large Project (MU-LP) Sub-zone. This Sub-zone is designed for a “Large Project Master Planned Community” as provided in this Chapter.
    a. Eligibility Requirement. The MU-LP Sub-zone only applies to development projects over one hundred (100) contiguous acres in size.
    b. Plan Map. A proposed plan map showing the area of the project, proposed lots, roadways, trails and proposed uses blended to adjoining areas, including adequate landscaping and open space is required as part of the application.
    c. Master Development Plan. A proposed Master Development Plan must be prepared and submitted with the application. The Plan shall include a proposed map with detailed phasing plans, trails map, transportation plans and studies, sensitive lands map, geotechnical and wetland reports, conservation plan, proposed land uses, proposed site standards, architectural renderings of commercial and residential buildings, landscaping designs, homeowners association, covenants (CC&Rs), historical resources and preservation, maintenance plans, and any other documents associated with the Plan.
    d. Fee. A fee equal to the costs incurred by the City for the processing the application shall be paid by the applicant. This fee is related to this Chapter only and does not include other fees imposed by the City during the totality of the development process.

2. Mixed-use Commercial (MU-C) Sub-zone.
    a. Eligibility Requirement. Any commercial zone or area planned for commercial as specified in the Mixed-use Map in the General Plan that is adjoining an eligible parcel as set forth in the Mixed-use Map in the General Plan for MU-LP Sub-zone, including City roads, but excluding Highway 89, may be considered as a MU-C Subzone subject to this part.
    b. Commercial Requirements. A minimum (fifty-one) 51% of the total area of the proposed MU-C shall include commercial elements. Commercial elements include any areas used for any commercial use as specified in this part, landscaping, open space, and commercial parking. No area used for residential landscaping or parking shall be considered a commercial element under this part. All frontage along state roads or highways must be commercial use or uses calculated at a average depth of one-hundred and fifty (150) feet along the length of the entire frontage, or such frontage area may be consolidated into one large parcel calculated to the minimum square footage equal to or exceed that area that the frontage would have been. Proposed commercial uses shall be specified in the Plan. Commercial uses are businesses that generate revenue and as further defined under this part to only include: retail, food and beverage service, personal service, professional and/or medical services, fitness and/or recreation, educational and/or institutional, and commercial office space. Conditional uses are permitted subject to conditions. Standards for conditions include those which mitigate noise, environmental, light, odor, dust, hours of operation, and mitigate other adverse impacts on residential uses. In order for consideration of an application, the commercial uses, as provided in this part, shall be the dominant and primary element of the proposed plan and map.
    c. Plan Map Requirements. A proposed Master Development Plan is required to show the area of the project, proposed lots, roadways, trails, and proposed uses blended to adjoining areas, including 20% landscaping and/or open space which is required as part of the application. Parking and residential areas are to be obscured by the commercial

uses on the first level for all frontage that is a commercial use as defined in this section, except where secondary residential levels are proposed. Height limits shall not exceed three (3) stories. Housing units shall be arranged in clusters not to exceed five (5) connected units. Plans shall follow all other requirements of the municipal code as possible, such as landscaping, architecture, and screening standards. A favorable Plan will incorporate architectural variation, exceptional design, quality construction, LEEDS standards, dark sky compliant lighting, pedestrian and accessibility concepts, and other unique trends that support the community.

d. Master Development Plan. A proposed Master Development Plan (Plan) must be prepared and submitted with the application. The Plan shall include a proposed map with detailed phasing plans, trails map, transportation plans and studies, sensitive lands map, geo-technical and wetland reports, conservation plan, proposed land uses, proposed site standards, architectural renderings of commercial and residential buildings and landscaping designs and owner association, covenants (CC&Rs), historical resources and preservation, maintenance plans, and any other documents associated with the Plan.

e. Fee. A fee equal to the costs incurred by the City for the processing the application shall be paid by the applicant. This fee is related to this Chapter only and does not include other fees imposed by the City during the totality of the development process.

3. Mixed-use Residential (MU-R) Sub-zone. This Sub-zone is designed for “Residential In-fill Planned Community” as designated in the City’s General Plan.

a. Eligibility Requirement. The MU-R Sub-zone only applies to development in areas designed for mixed-use or in-fill in the General Plan, and the proposed project shall include residential amenities that foster community, including but not limited to: clubhouse, recreation, pathways, personal services, café, and similar amenities as set forth in the Development Agreement.

b. Plan Map. A proposed plan map showing the area of the project, proposed lots, roadways, and proposed residential uses blended to adjoining areas, including adequate landscaping and open space, is required as part of the application.

c. Master Development Plan. A proposed Master Development Plan must be prepared and submitted with the application. The Plan shall include a proposed map with detailed phasing plans, trails map, transportation plans and studies, sensitive lands map, geotechnical and wetlands reports, conservation plan, proposed land uses, proposed site standards, architectural renderings of commercial and residential buildings, landscaping designs, homeowners association, covenants (CC&Rs), historical resources and preservation, maintenance plans, and any other documents associated with the Plan.

d. Fee. A fee equal to the costs incurred by the City for the processing the application shall be paid by the applicant. This fee is related to this Chapter only and does not include other fees imposed by the City during the totality of the development process.

HISTORY
Adopted by Ord. 503 on 1/14/2020
Amended by Ord. 508 on 5/12/2020
Amended by Ord. 510 on 10/13/2020
Amended by Ord. 518 on 3/9/2021

Exhibit D
Traffic Study

FEHR PEERS

Memorandum

Date: June 4, 2021

To: Jake Thompson, Direct Homes

From: Seishi Yamagata, Fehr & Peers
Preston Stinger, Fehr & Peers

Subject: The Copperwoods at Harrisville Traffic Impact Study

UT21-2282

Executive Summary

The purpose of this study is to determine the potential impacts to traffic conditions due to the proposed Copperwoods development located southeast of the 2150 North / 750 West intersection in Harrisville, Utah.

This study analyzes the 2021 conditions at key intersections and evaluated background, plus project, cumulative, and cumulative plus project conditions. The cumulative conditions included trips generated from the proposed Ben Lomond Views development, which will be located south of the Copperwoods development. Fehr & Peers performed the traffic impact study (TIS) for the Ben Lomond Views development in 2020.

The results of the study show that under current conditions, the study intersections operate at acceptable delays and Levels of Service (LOS). Furthermore, in the existing plus project conditions analysis, with the project-generated traffic from the proposed Copperwoods development, all study intersections continue to operate with similar LOS and minimal impacts. However, with the addition of the proposed Ben Lomond Views development, the 2000 North / US-89 intersection is expected to operate at unacceptable LOS. The proximity of the south access on 2000 North to the 2000 North / US-89 intersection may cause potential issues. Fehr & Peers recommends that left turns into the south access from 2000 North be restricted. This could be accomplished with roadway striping and signage, or a curbed median on 2000 North, if necessary.

A summary of the delay and LOS for each condition is shown in **Table 1**.

Table 1: Peak Hour Level of Service Summary

Intersection			2021 Background	2021 Plus Project	2021 Cumulative	2021 Cumulative Plus Project
ID	Location	Period	LOS & Sec/Veh	LOS & Sec/Veh	LOS & Sec/Veh	LOS & Sec/Veh
1	2150 North / 700 West – North Access[2]	AM	A / 9	A / 9	A / 9	A / 9
		PM	A / 9	A / 9	A / 9	A / 9
2	2150 North / 750 West[2]	AM	B / 11	B / 11	B / 11	B / 11
		PM	B / 11	B / 11	B / 11	B / 12
3	US-89 / 750 West[1]	AM	A / 9	A / 9	A / 9	A / 9
		PM	A / 9	A / 9	B / 10	B / 10
4	2000 North / US-89[2]	AM	D / 28	D / 28	E / 49	F / 52
		PM	D / 26	D / 27	E / 44	E / 47
5	2000 North / South Access[2]	AM	-	B / 10	-	B / 10
		PM	-	A / 9	-	B / 10

1. Signalized intersections: overall intersection LOS and delay reported.
2. Unsignalized intersections: worst movement LOS and delay reported.

Source: Fehr & Peers.

Introduction

The purpose of this study is to determine the potential impacts to traffic conditions due to the completion of the proposed Copperwoods development located southeast of the 2150 North / 750 West intersection in Harrisville, Utah. **Figure 1** shows the project location.

Study area

This study analyzes the traffic impacts of intersections near the proposed project site. Impacts are specifically addressed at the following study intersections:

1. 2150 North / 700 West (stop-controlled)
2. 2150 North / 750 West (stop-controlled)
3. US-89 / 750 West (signalized)
4. 2000 North / US-89 (stop-controlled)

In addition to these intersections, the following accesses are analyzed:

1. North Access: aligned with 700 West on 2150 North
2. South Access: just east of US-89 on 2000 North

Data collection

Traffic counts at the existing study intersections were collected to establish a baseline of existing conditions and operations for the area. AM peak period traffic counts were recorded from 7:00 AM to 9:00 AM for all study intersections on Thursday, May 20, 2021. PM peak period traffic counts were also recorded from 4:00 PM to 6:00 PM at 2150 North / 700 West and 2150 North / 750 West on May 20, 2021. For the intersections at US-89 / 750 West and 2000 North / US-89, previous traffic counts recorded on July 22, 2020 in the PM peak period were used for this study.

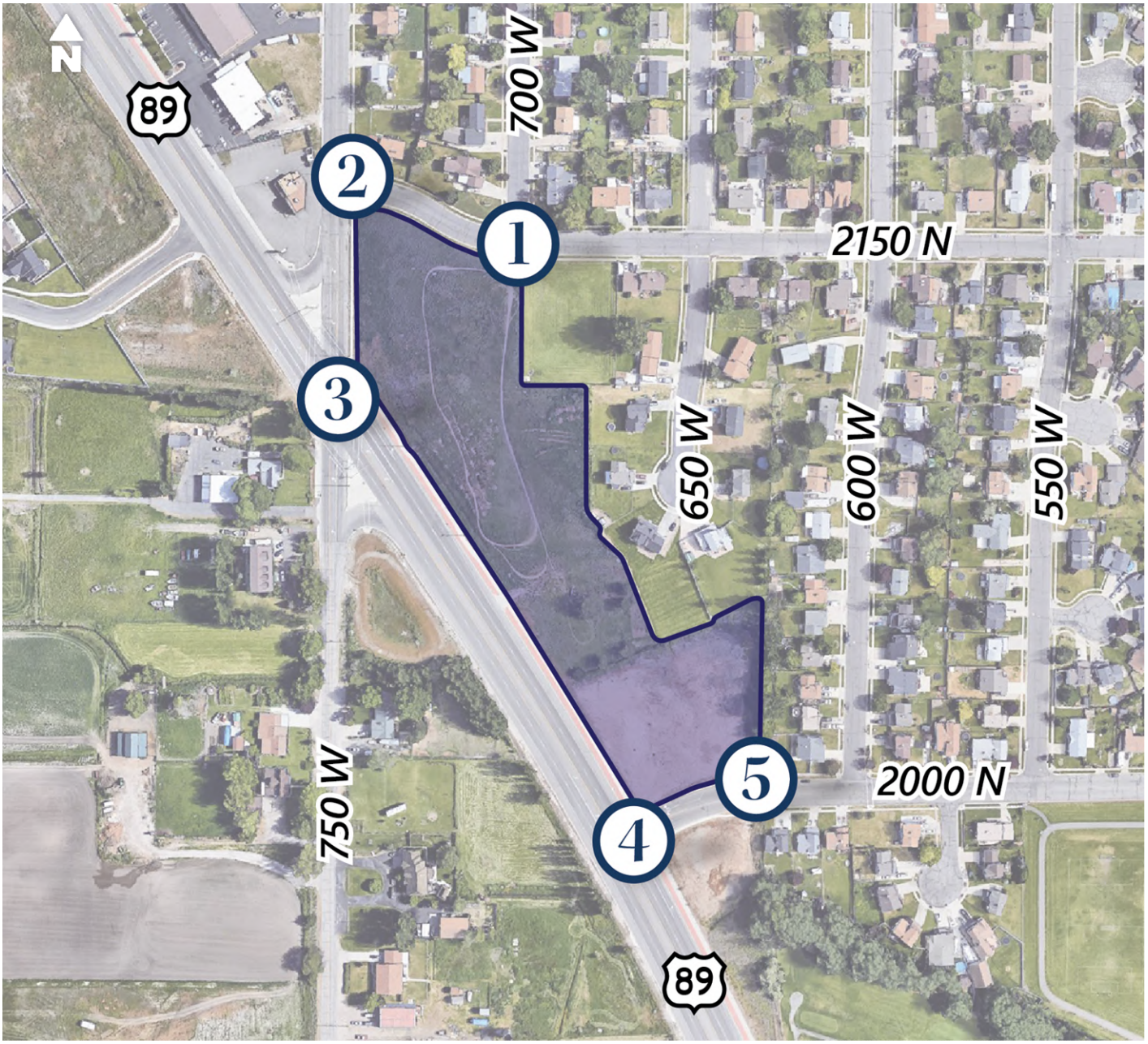


Figure 1

Analysis Methodology

Level of Service (LOS) is a term that describes the operating performance of an intersection or roadway. LOS is measured quantitatively and reported on a scale from A to F, with A representing the best performance and F the worst. **Table 2** provides a brief description of each LOS letter designation and an accompanying average delay per vehicle for unsignalized intersections. The Highway Capacity Manual 6th Edition (HCM 6) methodology was used in this study to remain consistent with "state-of-the-practice" professional standards.

Table 2: Level of Service Descriptions

LOS	Description	Signalized Intersections	Unsignalized Intersections
		Avg. Delay (sec/veh)[1]	Avg. Delay (sec/veh)[2]
A	*Free Flow / Insignificant Delay* Extremely favorable progression. Individual users are virtually unaffected by others in the traffic stream.	< 10.0	< 10.0
B	*Stable Operations / Minimum Delays* Good progression. The presence of other users in the traffic stream becomes noticeable.	> 10.0 to 20.0	> 10.0 to 15.0
C	*Stable Operations / Acceptable Delays* Fair progression. The operation of individual users is affected by interactions with others in the traffic stream	> 20.0 to 35.0	> 15.0 to 25.0
D	*Approaching Unstable Flows / Tolerable Delays* Marginal progression. Operating conditions are noticeably more constrained.	> 35.0 to 55.0	> 25.0 to 35.0
E	*Unstable Operations / Significant Delays Can Occur* Poor progression. Operating conditions are at or near capacity.	> 55.0 to 80.0	> 35.0 to 50.0
F	*Forced, Unpredictable Flows / Excessive Delays* Unacceptable progression with forced or breakdown of operating conditions.	> 80.0	> 50.0

1. Overall intersection LOS and average delay (seconds/vehicle) for all approaches.
2. Worst movement LOS and delay (seconds/vehicle) only.

Source: Fehr & Peers descriptions, based on *Highway Capacity Manual 6th Edition*.

Existing 2021 Background Conditions

Purpose

The existing 2021 background conditions analysis examines the pertinent intersections and roadways during the peak travel periods of the day under existing traffic and geometric conditions. Through this analysis, existing traffic operational deficiencies can be identified, and potential mitigation measures recommended.

Traffic Volumes

Fehr & Peers collected traffic counts at the study intersections to establish a baseline of existing conditions and operations for the area. The existing weekday peak hour volumes are shown in **Figure 2**.

Level of Service Analysis

The delay thresholds provided in the introduction were used to compute the LOS at each study intersection for the existing background weekday AM and weekday PM peak hour LOS. The results of this analysis are reported in **Table 3** (see Appendix for the detailed LOS report). These results serve as a base for the analysis of the impacts of the proposed development.

Table 3: Existing 2021 Background Conditions Level of Service

Intersection				Worst Movement[1]			Overall Intersection[2]	
ID	Location	Period	Control	Movement[3]	Delay Sec/Veh	LOS	Avg. Delay Sec/Veh	LOS
1	2150 North / 700 West	AM	SB Stop	SB LT	9	A	-	-
		PM		SB LT	9	A	-	-
2	2150 North / 750 West	AM	WB Stop	WB LT	11	B	-	-
		PM		WB LT	11	B	-	-
3	US-89 / 750 West	AM	Signal	-	-	-	9	A
		PM		-	-	-	9	A
4	2000 North / US-89	AM	WB Stop	WB LT	28	D	-	-
		PM		WB LT	26	D	-	-

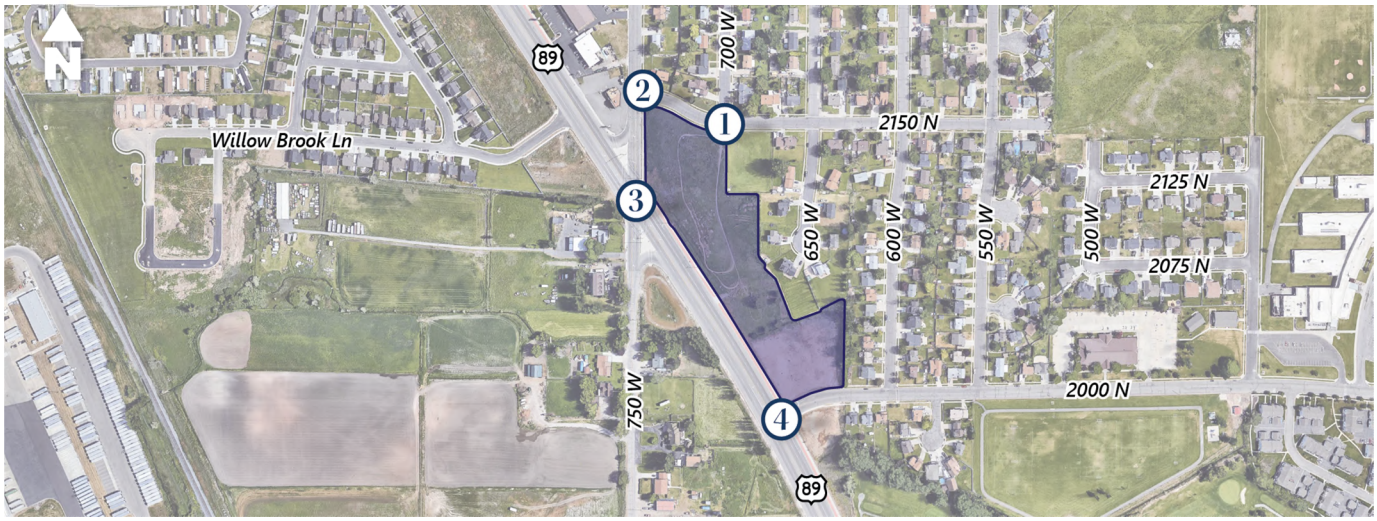
1. This represents the worst movement LOS and delay (seconds/vehicle) and is only reported for unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds/vehicle) and is only reported for signalized intersections.
3. NB=Northbound, SB=Southbound, EB=Eastbound, WB=Westbound, LT=Left-turn, RT=Right-turn, and TH=Through

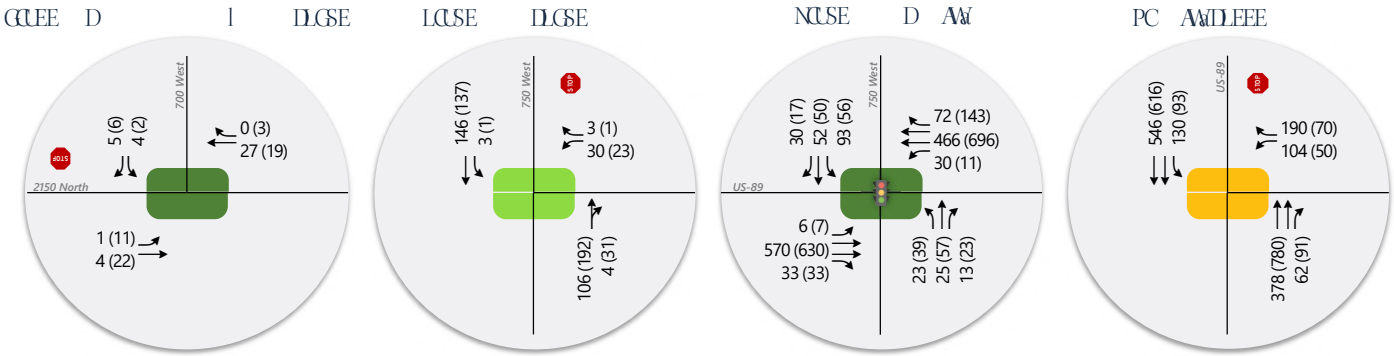
Source: Fehr & Peers.

As shown in **Table 3**, all study intersections operate within acceptable LOS (LOS D or better) during both AM and PM peak hours.

Mitigation Measures

No mitigation measures are recommended for existing 2021 background conditions.





ps p o

Stop Sign Signalized

Lane Configuration AM (PM) / AM (PM) / AM (PM) Peak Hour Traffic Volume per lane

Intersection Level of Service (LOS):

AM PM A B C D E F

p n

Figure 2

Project Conditions

Purpose

The project conditions analysis explains the type and intensity of the proposed development. This provides the basis for trip generation, distribution, and assignment of project trips to the surrounding study intersections defined in the introduction.

Project Description

The proposed Copperwoods development will be located southeast of the 2150 North / 750 West intersection in Harrisville, Utah. The site plan (attached in the Appendix) proposes two accesses:

1. On 2150 North, aligned with 700 West
2. On 2000 North, between US-89 and 600 West

Trip Generation

Trip generation for the project was computed using trip generation rates published in the Institute of Transportation Engineers (ITE) Trip Generation, 10th Edition, 2017, and Fehr & Peers' mixed-use development (MXD+) methodology. The MXD+ methodology captures the traffic benefits of developments by looking at interactions among the mixture of land uses and patron usage of alternative modes (i.e. transit, bicycling, and/or walking). The below land use assumptions were used to calculate the number of trips:

- Office – 3,000 ft^2
- General Retail – 400 ft^2
- Residential with 1st-floor commercial (for the live here/work here units) – 24 dwelling units
- General Retail – 6,720 ft^2 (for the live here/work here units, 280 ft^2 x 24 units)

Based on input from the development owner, it has been observed from past similar developments that the majority of the live here/work here owners use the space for personal office space to work from home. However, they can be used for retail space that anticipate customers. For this study, all 24 units were assumed to be retail space that generate customer traffic. Therefore, this study assumes a high-end of trips generated by the proposed development, and the actual trips generated by the development will likely be lower.

The gross and net external vehicle trips expected to be generated by the proposed development, along with the vehicle trip reduction rates (that account for trips that are internal to the site, as well as trips that shift to transit or walk/bike modes) are shown below in **Table 4**.

Table 4: Trip Generation

Time Period	Project Gross Trips	Net External Vehicle Trips	Total Vehicle Trip Reduction
Daily	379	361	4.7%
AM Peak Hour	16	16	0.0%
PM Peak Hour	40	36	1.0%

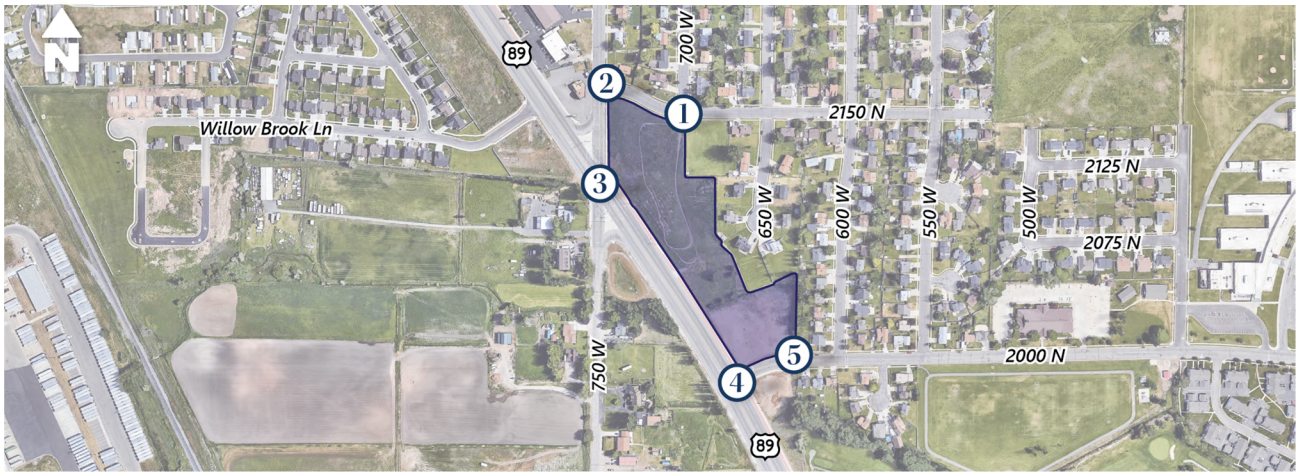
Source: Fehr & Peers.

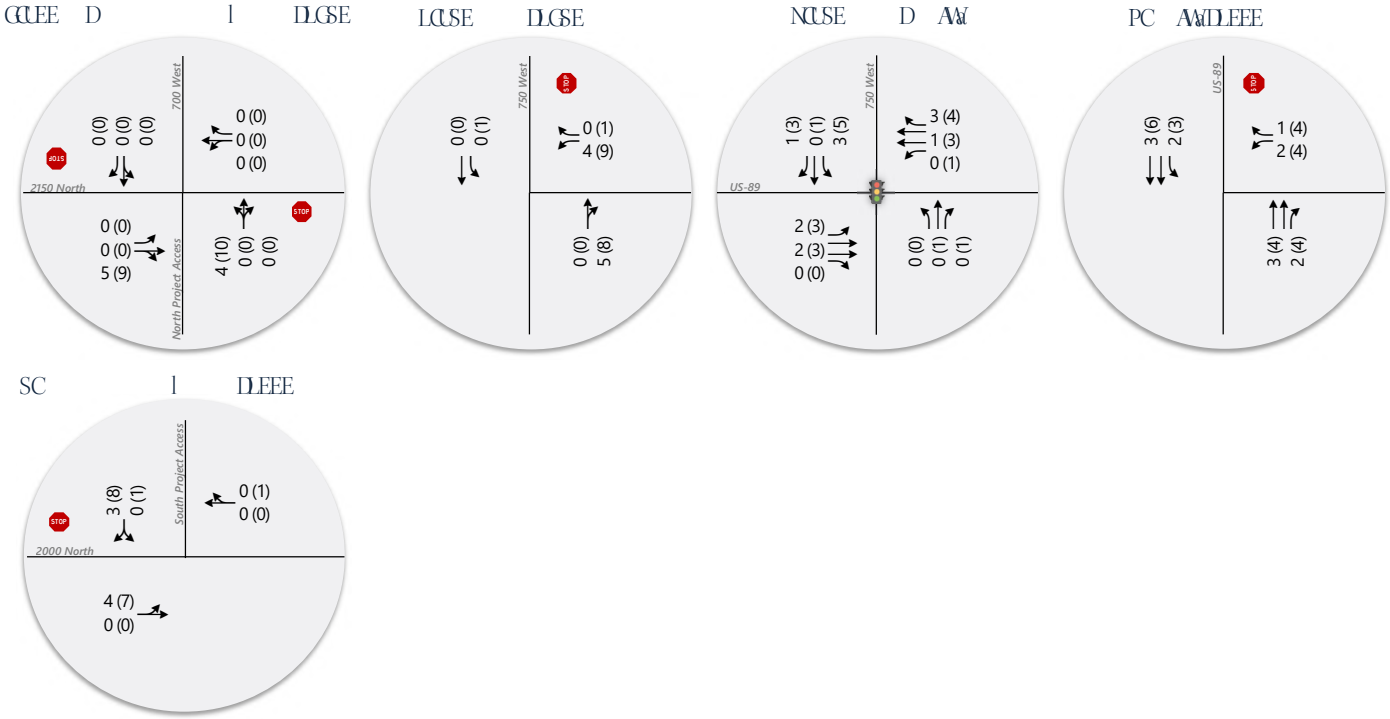
Trip Distribution and Assignment

Project traffic was assigned to the roadway network based on the proximity to major streets, roadway network, high population densities, and regional trip attractions. Existing travel patterns observed during data collection also provided helpful guidance to establish these distribution percentages, especially in close proximity to the site.

Overall, the project-generated trips as shown in **Figure 3** were distributed to and from these directions in the project conditions analyses, in the corresponding percentages:

- 5% North (using 750 West)
- 5% South (using 750 West)
- 30% North (using US-89)
- 5% East (using 2000 North)
- 55% South (using US-89)





ps p o

Stop Sign Signalized

Lane Configuration AM (PM) AM (PM) AM (PM) Peak Hour Traffic Volume per lane

Intersection Level of Service (LOS):

AM PM A B C D E F

Figure 3

Existing 2021 Plus Project Conditions

Purpose

The purpose of the existing 2021 plus project conditions analysis is to evaluate the impact of the proposed development traffic on the surrounding roadway network. To analyze this impact, the peak hour background traffic volumes were combined with volumes generated by the proposed project at its peak hour. Intersection LOS analyses were then performed and compared to the results of the background traffic volumes to show the impact of the proposed project.

Traffic Volumes

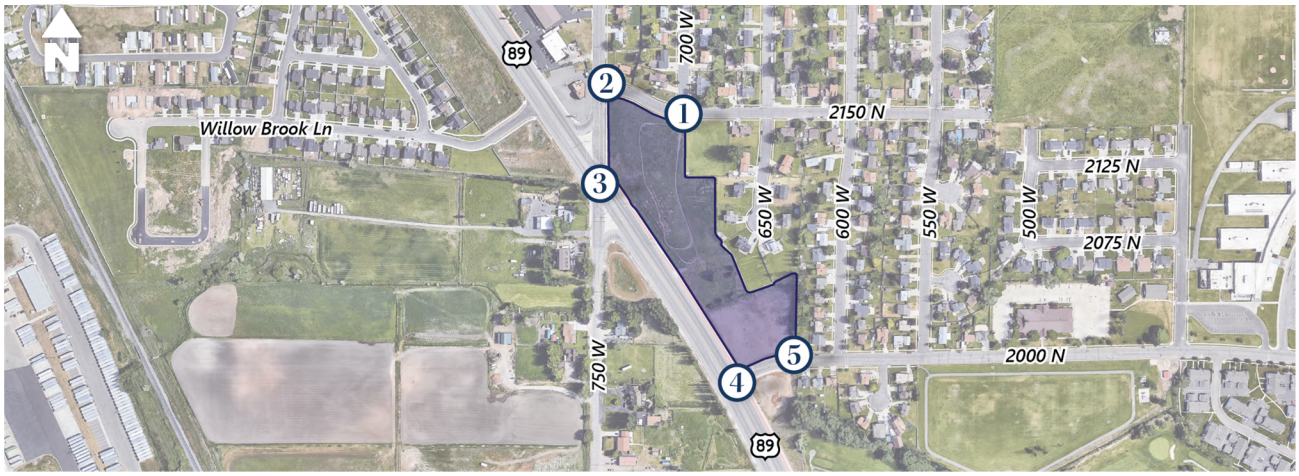
Project-generated traffic (**Figure 3)** was added to the background 2021 volumes (**Figure 2**) to yield "existing 2021 plus project" weekday AM and PM peak hour volumes as shown in

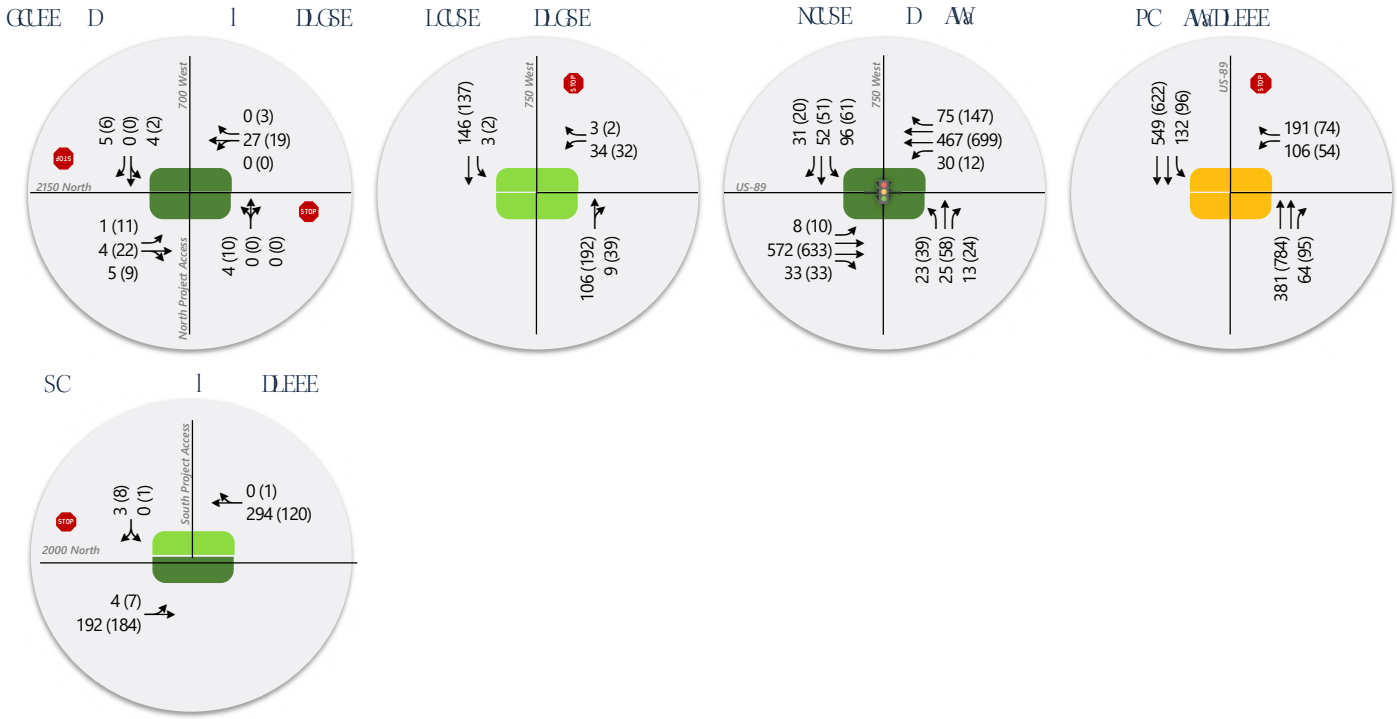
Figure 4.

Level of Service Analysis

The delay thresholds provided in the introduction were used to compute the LOS at each study intersection for existing plus project for each peak hour. The results of this analysis for the weekday AM and PM peak hours are reported in **Table 5** (see Appendix for the detailed LOS report).

As shown in **Table 5**, all study intersections operate within acceptable LOS (LOS D or better), and the expected project trips cause minimal impact to the study intersections.





ps p o

Stop Sign Signalized

Lane Configuration — AM (PM) / AM (PM) / AM (PM) — Peak Hour Traffic Volume per lane

Intersection Level of Service (LOS):

AM PM A B C D E F

p n

Figure 4

Table 5. Existing 2021 plus Project Conditions Level of Service

Intersection				Worst Movement[1]			Overall Intersection[2]	
ID	Location	Period	Control	Movement[3]	Delay Sec/Veh	LOS	Avg. Delay Sec/Veh	LOS
1	2150 North / 700 West – North Access	AM	NB/SB Stop	NB LT	9	A	-	-
		PM		NB LT	9	A	-	-
2	2150 North / 750 West	AM	WB Stop	WB LT	11	B	-	-
		PM		WB LT	11	B	-	-
3	US-89 / 750 West	AM	Signal	-	-	-	9	A
		PM		-	-	-	9	A
4	2000 North / US-89	AM	WB Stop	WB LT	28	D	-	-
		PM		WB LT	27	D	-	-
5	2000 North / South Access	AM	SB Stop	SB RT	10	B	-	-
		PM		SB RT	9	A	-	-

1. This represents the worst movement LOS and delay (seconds/vehicle) and is only reported for unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds/vehicle) and is only reported for signalized intersections and roundabouts.
3. NB=Northbound, SB=Southbound, EB=Eastbound, WB=Westbound, LT=Left-turn, RT=Right-turn, and TH=Through

Source: Fehr & Peers.

Mitigation Measures

Although all study intersections operate at acceptable LOS, the proximity of the south access on 2000 North to the 2000 North / US-89 intersection may cause potential issues. The queues of vehicles at the stop-control on the westbound approach at 2000 North / US-89 trying to turn onto US-89 will potentially extend past the south access. This causes potential issues for vehicles on 2000 North trying to turn left into the proposed development. Fehr & Peers recommends that left turns into the south access from 2000 North be restricted. This could be accomplished with roadway striping, or a curbed median on 2000 North, if necessary.

Existing 2021 Cumulative Conditions

Purpose

The existing 2021 cumulative conditions analysis examines the pertinent intersections and roadways during the peak travel periods of the day under existing traffic with planned projects in the immediate area, and existing geometric conditions. Through this analysis, existing cumulative traffic operational deficiencies can be identified, and potential mitigation measures recommended.

Planned Projects

Fehr & Peers performed a traffic impact study for the proposed Ben Lomond Views development, which will be located on the site of the former Ben Lomond Golf Course, southeast of the US-89 / 2000 North intersection, just south of the proposed Copperwoods development. The below land use assumptions were used to calculate the number of trips generated for the Ben Lomond Views development:

- Multifamily Housing – 118 Dwelling Units (80 condominium apartments, 38 rental apartments)
- Single-Family Housing – 669 Dwelling Units
- General Retail – 32,500 ft^2
- Project Community Space (Fitness Center) - 6,500 ft^2
- Office Space – 15,000 ft^2

The gross and net external vehicle trips expected to be generated by the Ben Lomond Views development along with the vehicle trip reduction rates are shown below in **Table 6**.

Table 6: Ben Lomond Views Trip Generation

Time Period	Project Gross Trips	Net External Vehicle Trips	Total Vehicle Trip Reduction
Daily	9,794	9,046	7.7%
AM Peak Hour	763	691	9.4%
PM Peak Hour	988	886	10.3%

Source: Fehr & Peers.

Traffic Volumes

The trips generated by the Ben Lomond Views development were assigned to the study intersections using the same distribution assumptions as described in the previous project conditions section. The project-generated traffic from the Ben Lomond Views development was added to the background 2021 volumes to yield "existing 2021 cumulative" weekday AM and PM peak hour volumes, as shown in **Figure 5**.

Level of Service Analysis

The delay thresholds provided in the introduction were used to compute the LOS at each study intersection for the existing cumulative weekday AM and weekday PM peak hour LOS. The results of this analysis are reported in **Table 7** (see Appendix for the detailed LOS report).

Table 7: Existing 2021 Cumulative Conditions Level of Service

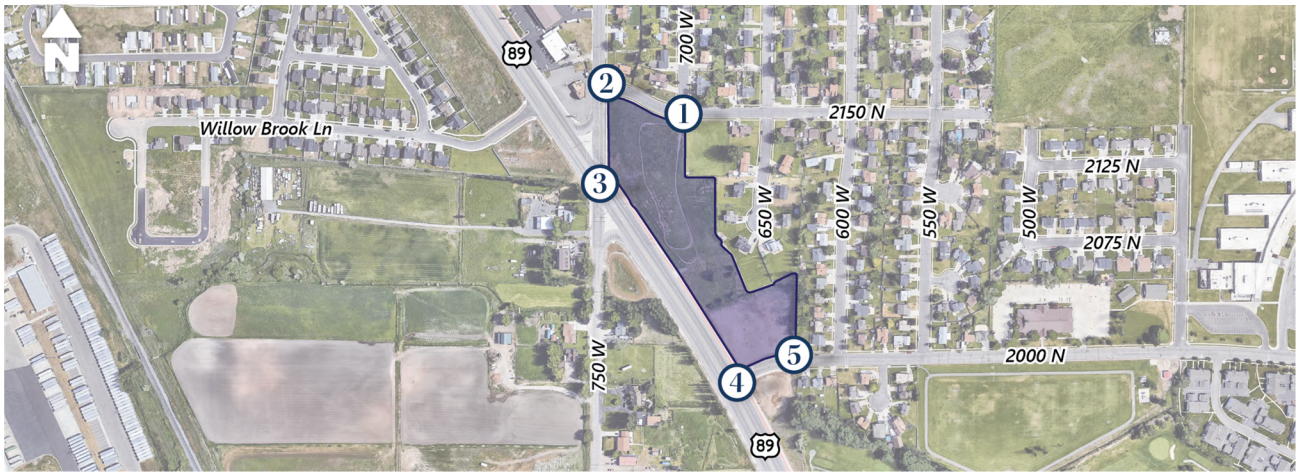
Intersection				Worst Movement[1]			Overall Intersection[2]	
ID	Location	Period	Control	Movement[3]	Delay Sec/Veh	LOS	Avg. Delay Sec/Veh	LOS
1	2150 North / 700 West	AM	SB Stop	SB LT	9	A	-	-
		PM		SB LT	9	A	-	-
2	2150 North / 750 West	AM	WB Stop	WB LT	11	B	-	-
		PM		WB LT	11	B	-	-
3	US-89 / 750 West	AM	Signal	-	-	-	9	A
		PM		-	-	-	10	B
4	2000 North / US-89	AM	WB Stop	WB LT	49	E	-	-
		PM		WB LT	44	E	-	-

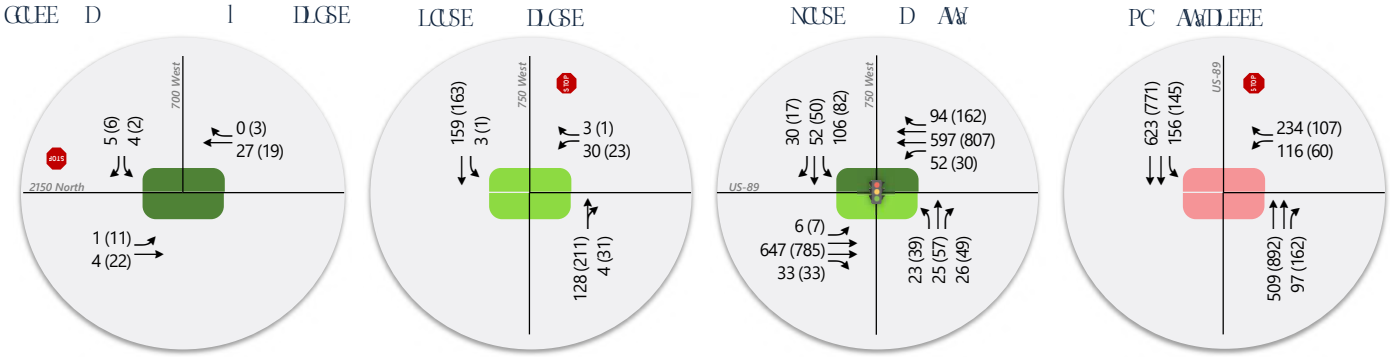
1. This represents the worst movement LOS and delay (seconds/vehicle) and is only reported for unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds/vehicle) and is only reported for signalized intersections.
3. NB=Northbound, SB=Southbound, EB=Eastbound, WB=Westbound, LT=Left-turn, RT=Right-turn, and TH=Through

Source: Fehr & Peers.

As shown in **Table 7**, all study intersections operate within acceptable LOS (LOS D or better) with the exception of the following location:

- 2000 North / US-89 – LOS E in both AM and PM peak hours
    - This is caused by the stop-controlled westbound vehicles attempting to turn left onto US-89.





ps p o

Stop Sign Signalized

Lane Configuration — AM (PM) / AM (PM) / AM (PM) — Peak Hour Traffic Volume per lane

Intersection Level of Service (LOS):

AM PM A B C D E F

p n n

Figure 5

Mitigation Measures

For the Ben Lomond Views TIS, Fehr & Peers did not recommend any mitigation measures at the US-89 / 2000 North intersection. However, Fehr & Peers did recommend that the City look into re-aligning 750 West to align with 2000 North, moving the existing signal at 750 West to 2000 North, as 2000 North provides better regional connectivity in the study area.

Existing 2021 Cumulative Plus Project Conditions

Purpose

The purpose of the existing 2021 cumulative plus project conditions analysis is to evaluate the impact of the proposed development traffic and the planned background development traffic on the surrounding roadway network. To analyze this impact, the peak hour background traffic volumes were combined with volumes generated by the proposed project and the proposed background project at its peak hour. Intersection LOS analyses were then performed and compared to the results of the cumulative background traffic volumes to show the impact of the proposed project.

Traffic Volumes

Project-generated traffic (**Figure 3)** was added to the cumulative 2021 volumes (**Figure 5**) to yield "existing 2021 cumulative plus project" weekday AM and PM peak hour volumes as shown in **Figure 6.**

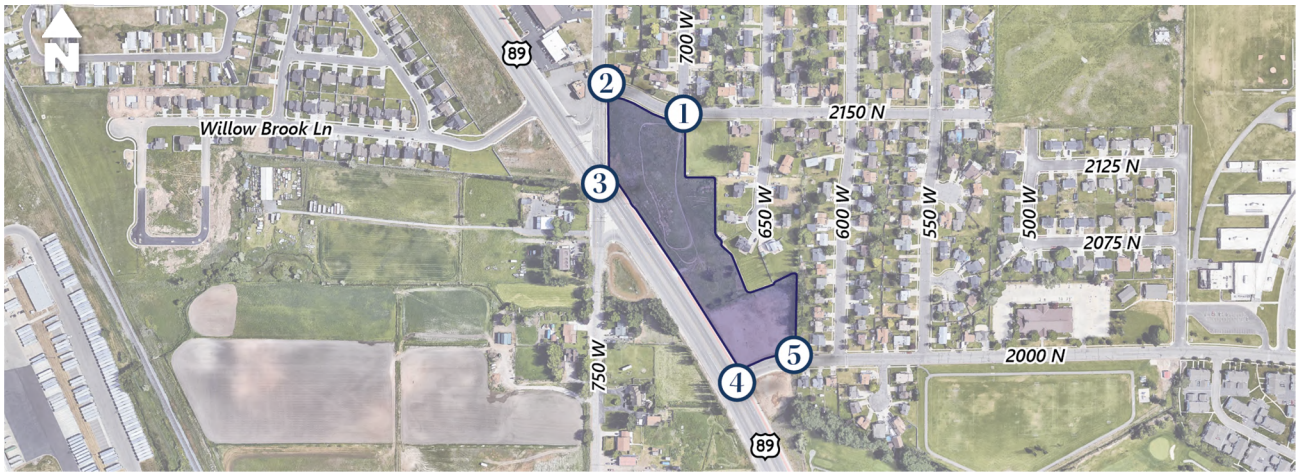
Level of Service Analysis

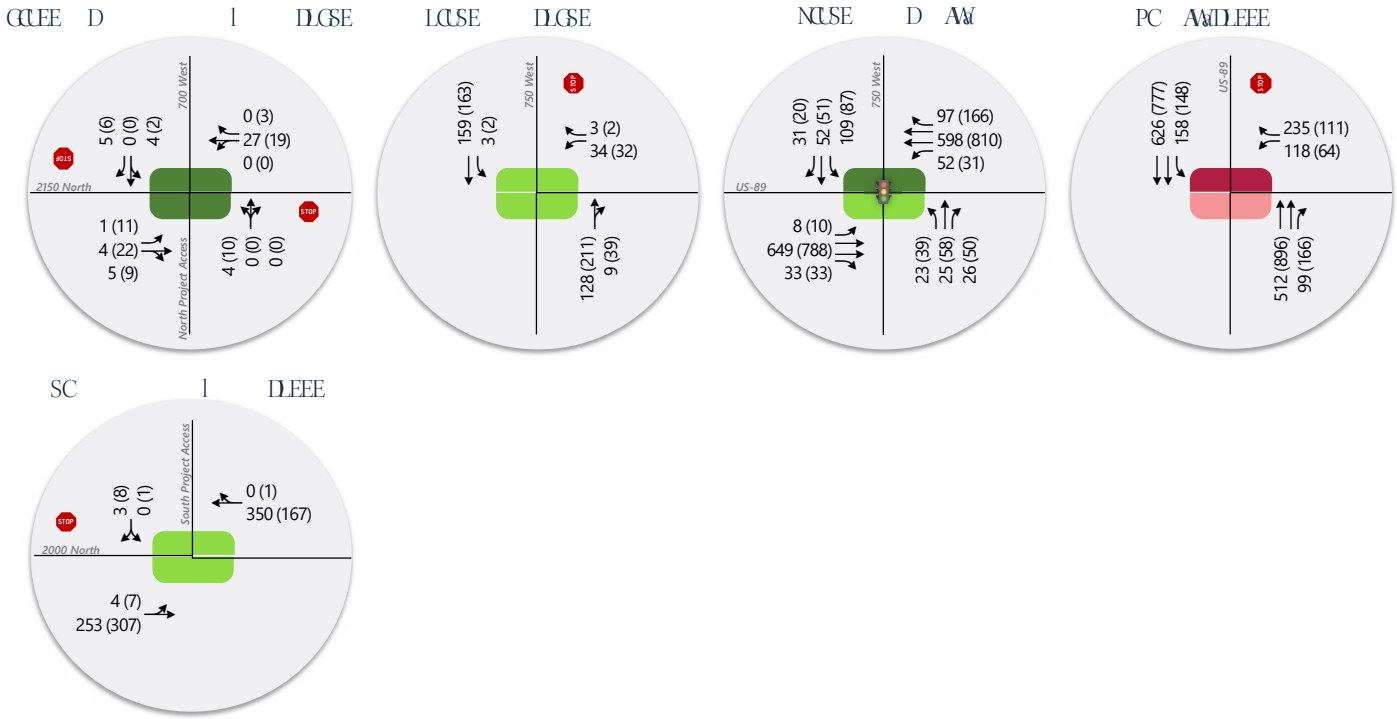
The delay thresholds provided in the introduction were used to compute the LOS at each study intersection for existing cumulative plus project for each peak hour. The results of this analysis for the weekday AM and PM peak hours are reported in **Table 8** (see Appendix for the detailed LOS report).

As shown in **Table 8**, all study intersections operate within acceptable LOS (LOS D or better) with the exception of the following location:

- 2000 North / US-89 – LOS F in the AM peak hour and LOS E in the PM peak hour
    - This is caused by the stop-controlled westbound vehicles attempting to turn left onto US-89.

As shown in the existing cumulative conditions analysis, the delay at the 2000 North / US-89 intersection is caused mainly from the trips generated from the background Ben Lomond Views development. The trips generated by the proposed Copperwoods development show minimal impact to the study intersections. Nonetheless, this intersection is expected to experience delays with the proposed developments in the study area.





ps p o

Stop Sign Signalized

Lane Configuration AM (PM) / AM (PM) / AM (PM) Peak Hour Traffic Volume per lane

Intersection Level of Service (LOS):

AM PM A B C D E F

p n n

Figure 6

Table 8. Existing 2021 Cumulative plus Project Conditions Level of Service

Intersection				Worst Movement[1]			Overall Intersection[2]	
ID	Location	Period	Control	Movement[3]	Delay Sec/Veh	LOS	Avg. Delay Sec/Veh	LOS
1	2150 North / 700 West – North Access	AM	NB/SB Stop	NB LT	9	A	-	-
		PM		NB LT	9	A	-	-
2	2150 North / 750 West	AM	WB Stop	WB LT	11	B	-	-
		PM		WB LT	12	B	-	-
3	US-89 / 750 West	AM	Signal	-	-	-	9	A
		PM		-	-	-	10	B
4	2000 North / US-89	AM	WB Stop	WB LT	52	F	-	-
		PM		WB LT	47	E	-	-
5	2000 North / South Access	AM	SB Stop	SB RT	10	B	-	-
		PM		SB RT	10	B	-	-

1. This represents the worst movement LOS and delay (seconds/vehicle) and is only reported for unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds/vehicle) and is only reported for signalized intersections and roundabouts.
3. NB=Northbound, SB=Southbound, EB=Eastbound, WB=Westbound, LT=Left-turn, RT=Right-turn, and TH=Through

Source: Fehr & Peers.

Mitigation Measures

Although all study intersections operate at acceptable LOS, the proximity of the south access on 2000 North to the 2000 North / US-89 intersection may cause potential issues. The queues of vehicles at the stop-control on the westbound approach at 2000 North / US-89 trying to turn onto US-89 will potentially extend past the south access. This causes potential issues for vehicles on 2000 North trying to turn left into the proposed development. Fehr & Peers recommends that left turns into the south access from 2000 North be restricted. This could be accomplished with roadway striping and signage, or a curbed median on 2000 North if necessary.

Conclusion

The analysis has shown that traffic generated by the proposed Copperwoods development have minimal impacts to the study intersections in existing conditions. However, with the addition of the proposed Ben Lomond Views development, which is located just south of the Copperwoods development, the 2000 North / US-89 intersection is expected to operate at unacceptable LOS. The proximity of the south access on 2000 North to the 2000 North / US-89 intersection may cause potential issues. Fehr & Peers recommends that left turns into the south access from 2000 North be restricted. This could be accomplished with roadway striping and signage, or a curbed median on 2000 North, if necessary.

Appendix

Site Plan

Traffic Counts

LOS Results

NOTES:
TOTAL AREA: 6.196 ACRES
COMMERCIAL: 3.10 ACRES (50%)

THE COPPERWOODS AT HARRISVILLE

SCALE: 1" = 50'

DATE : MAY,2021	PROJECT TITLE: THE COPPERWOODS AT HARRISVILLE	No. / REVISIONS/ SUBMISSIONS / DATE
DRAWING No.	DRAWING TITLE: CONCEPT	REVIEWED : / DRAWN : / CAD FILE : / PROJECT NO. :

ALLIANCE CONSULTING ENGINEERS
150 EAST 200 NORTH SUITE P
LOGAN, UTAH 84321
(435)755-5121
alliancelogan@yahoo.com

07/07/2021

FEHR PEERS

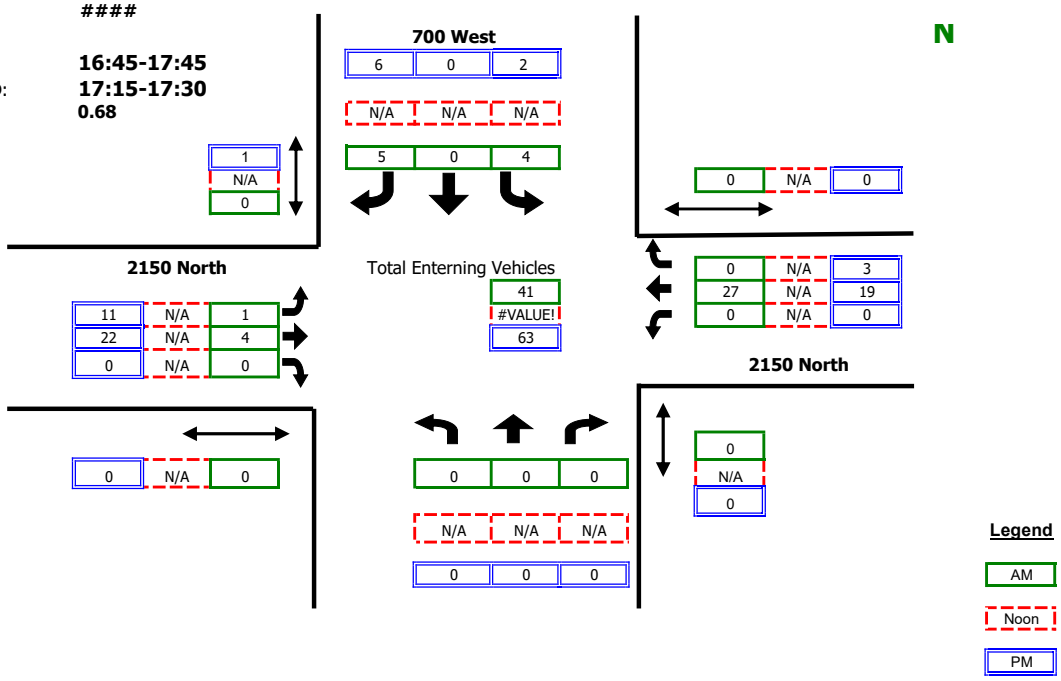
Intersection Turning Movement Summary

Intersection:	**700 West/2150 North**	**Date:**	**5-20-21, Thu**
	North/South: 700 West	**Day of Week Adjustment:**	**100.0%**
	East/West: 2150 North	**Month of Year Adjustment:**	**100.0%**
Jurisdiction:	**Harrisville**	**Adjustment Station #:**	
Project Title:	**Harrisville Copperwoods TIS**	**Growth Rate:**	**0.0%**
Project No:	**UT21-2282**	**Number of Years:**	**0**
Weather:			

AM PEAK HOUR PERIOD: **7:15-8:15**
AM PEAK 15 MINUTE PERIOD: **7:30-7:45**
AM PHF: **0.68**

NOON PEAK HOUR PERIOD:
NOON PEAK 15 MINUTE PERIOD:
NOON PHF: **####**

PM PEAK HOUR PERIOD: **16:45-17:45**
PM PEAK 15 MINUTE PERIOD: **17:15-17:30**
PM PHF: **0.68**



RAW COUNT SUMMARIES	700 West Northbound				700 West Southbound				2150 North Eastbound				2150 North Westbound				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	

AM PERIOD COUNTS

Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00-7:15	0	0	0	0	1	0	1	1	0	2	0	0	0	8	0	0	12
7:15-7:30	0	0	0	0	1	0	1	0	0	1	0	0	0	6	0	0	9
7:30-7:45	0	0	0	0	2	0	2	0	0	1	0	0	0	10	0	0	15
7:45-8:00	0	0	0	0	0	0	0	0	1	2	0	0	0	5	0	0	8
8:00-8:15	0	0	0	0	1	0	2	0	0	0	0	0	0	6	0	0	9
8:15-8:30	0	0	0	0	0	0	1	0	0	3	0	0	0	1	0	0	5
8:30-8:45	0	0	0	0	0	0	0	0	1	0	0	0	0	4	0	0	5
8:45-9:00	0	0	0	0	0	0	0	1	1	5	0	0	0	6	0	0	12

NOON PERIOD COUNTS

Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
14:00-14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15-14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30-14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45-15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00-15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15-15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30-15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45-14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PM PERIOD COUNTS

Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00-16:15	0	0	0	0	0	0	0	3	1	5	0	0	0	1	0	0	7
16:15-16:30	0	0	0	0	1	0	2	0	2	4	0	0	0	4	0	0	13
16:30-16:45	0	0	0	0	1	0	0	0	0	0	0	0	0	3	1	2	5
16:45-17:00	0	0	0	0	1	0	0	0	2	5	0	0	0	5	0	0	13
17:00-17:15	0	0	0	0	0	0	2	1	3	4	0	0	0	2	0	0	11
17:15-17:30	0	0	0	0	1	0	4	0	3	6	0	0	0	7	2	0	23
17:30-17:45	0	0	0	0	0	0	0	0	3	7	0	0	0	5	1	0	16
17:45-18:00	0	0	0	0	2	0	0	0	1	5	0	0	0	7	0	0	15

FEHR PEERS

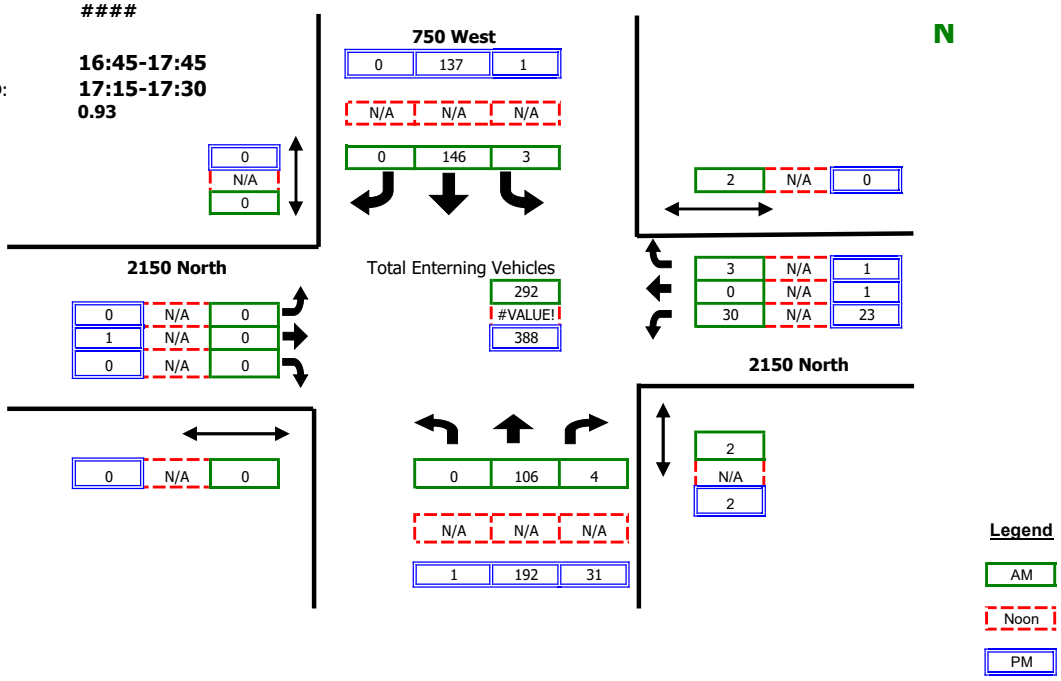
Intersection Turning Movement Summary

Intersection:	**750 West/2150 North**	**Date:**	**5-20-21, Thu**
	North/South: 750 West	**Day of Week Adjustment:**	**100.0%**
	East/West: 2150 North	**Month of Year Adjustment:**	**100.0%**
Jurisdiction:	**Harrisville**	**Adjustment Station #:**	
Project Title:	**Harrisville Copperwoods TIS**	**Growth Rate:**	**0.0%**
Project No:	**UT21-2282**	**Number of Years:**	**0**
Weather:			

AM PEAK HOUR PERIOD: **7:15-8:15**
AM PEAK 15 MINUTE PERIOD: **7:30-7:45**
AM PHF: **0.79**

NOON PEAK HOUR PERIOD:
NOON PEAK 15 MINUTE PERIOD:
NOON PHF: **####**

PM PEAK HOUR PERIOD: **16:45-17:45**
PM PEAK 15 MINUTE PERIOD: **17:15-17:30**
PM PHF: **0.93**



RAW COUNT SUMMARIES	750 West Northbound				750 West Southbound				2150 North Eastbound				2150 North Westbound				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
7:00-7:15	0	20	3	0	0	25	0	0	0	0	0	0	8	0	0	1	56
7:15-7:30	0	35	0	1	1	26	0	0	0	0	0	0	7	0	1	1	70
7:30-7:45	0	26	1	0	1	52	0	0	0	0	0	0	11	0	1	0	92
7:45-8:00	0	17	3	1	0	40	0	0	0	0	0	0	4	0	1	1	65
8:00-8:15	0	28	0	0	1	28	0	0	0	0	0	0	8	0	0	0	65
8:15-8:30	0	40	3	0	0	35	0	0	0	0	0	0	2	0	0	0	80
8:30-8:45	0	22	0	0	1	53	0	0	0	0	0	0	4	0	0	0	80
8:45-9:00	0	21	5	0	2	33	0	0	0	0	0	0	5	0	1	0	67
NOON PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
14:00-14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15-14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30-14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45-15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00-15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15-15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30-15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45-14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
16:00-16:15	0	38	5	0	2	25	0	0	0	0	0	0	0	0	1	0	71
16:15-16:30	0	49	5	0	0	29	0	0	0	0	0	0	6	0	0	0	89
16:30-16:45	0	52	0	0	0	30	0	0	0	0	0	0	3	0	0	0	85
16:45-17:00	0	47	7	1	0	36	0	0	0	0	0	0	4	0	1	0	95
17:00-17:15	0	49	7	0	0	31	0	0	0	0	0	0	4	0	0	0	91
17:15-17:30	1	48	8	0	0	36	0	0	0	1	0	0	9	1	0	0	104
17:30-17:45	0	48	9	1	1	34	0	0	0	0	0	0	6	0	0	0	98
17:45-18:00	0	39	5	0	2	29	0	0	0	0	0	0	7	0	0	0	82

FEHR PEERS

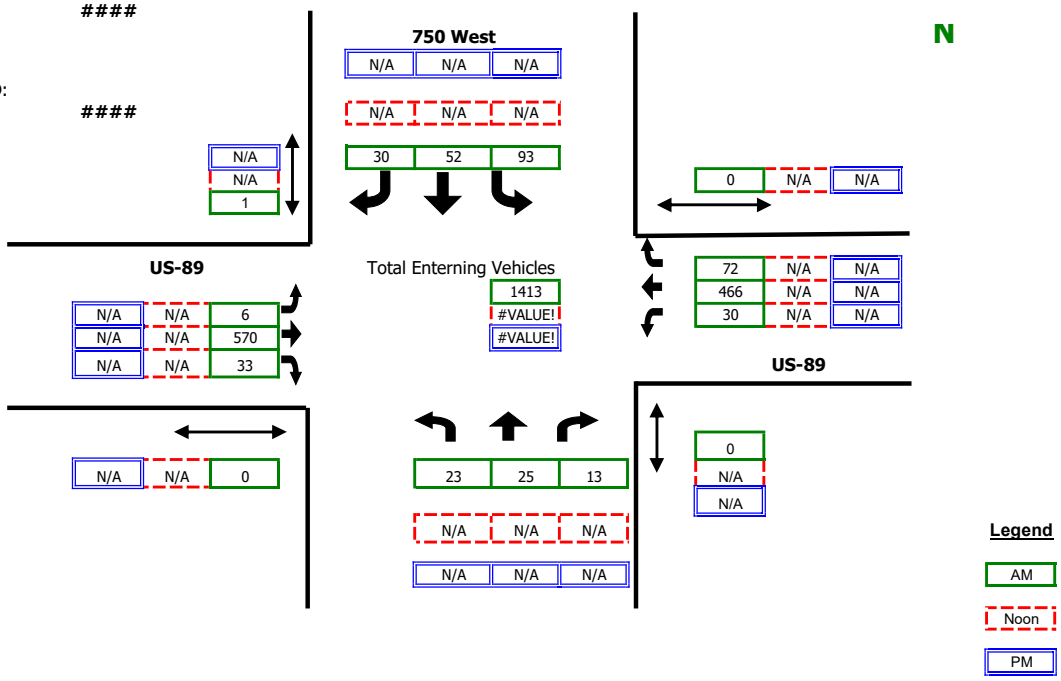
Intersection Turning Movement Summary

Intersection:	**750 West/US-89**	**Date:**	**5-20-21, Thu**
	North/South: 750 West	**Day of Week Adjustment:**	**100.0%**
	East/West: US-89	**Month of Year Adjustment:**	**100.0%**
Jurisdiction:	**Harrisville**	**Adjustment Station #:**	
Project Title:	**Harrisville Copperwoods TIS**	**Growth Rate:**	**0.0%**
Project No:	**UT21-2282**	**Number of Years:**	**0**
Weather:			

AM PEAK HOUR PERIOD: **7:15-8:15**
AM PEAK 15 MINUTE PERIOD: **7:30-7:45**
AM PHF: **0.86**

NOON PEAK HOUR PERIOD:
NOON PEAK 15 MINUTE PERIOD:
NOON PHF: **####**

PM PEAK HOUR PERIOD:
PM PEAK 15 MINUTE PERIOD:
PM PHF: **####**



RAW COUNT SUMMARIES	750 West Northbound Left	Thru	Right	Peds	750 West Southbound Left	Thru	Right	Peds	US-89 Eastbound Left	Thru	Right	Peds	US-89 Westbound Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
7:00-7:15	3	7	9	0	20	6	7	0	1	121	2	0	3	98	14	0	291
7:15-7:30	3	9	5	0	17	11	4	0	0	153	7	0	13	97	23	0	342
7:30-7:45	7	4	3	0	36	16	12	1	2	153	12	0	8	138	20	0	411
7:45-8:00	6	4	1	0	22	17	5	0	2	156	5	0	5	120	13	0	356
8:00-8:15	7	8	4	0	18	8	9	0	2	108	9	0	4	111	16	0	304
8:15-8:30	5	16	5	0	13	12	9	1	2	110	6	0	4	112	25	0	319
8:30-8:45	2	10	2	0	29	17	11	0	0	123	2	0	2	90	12	0	300
8:45-9:00	7	7	1	0	21	13	4	0	4	116	7	0	6	105	15	0	306
NOON PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
14:00-14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15-14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30-14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45-15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00-15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15-15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30-15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45-14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
16:00-16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15-16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30-16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45-17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00-17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15-17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30-17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45-18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

FEHR PEERS

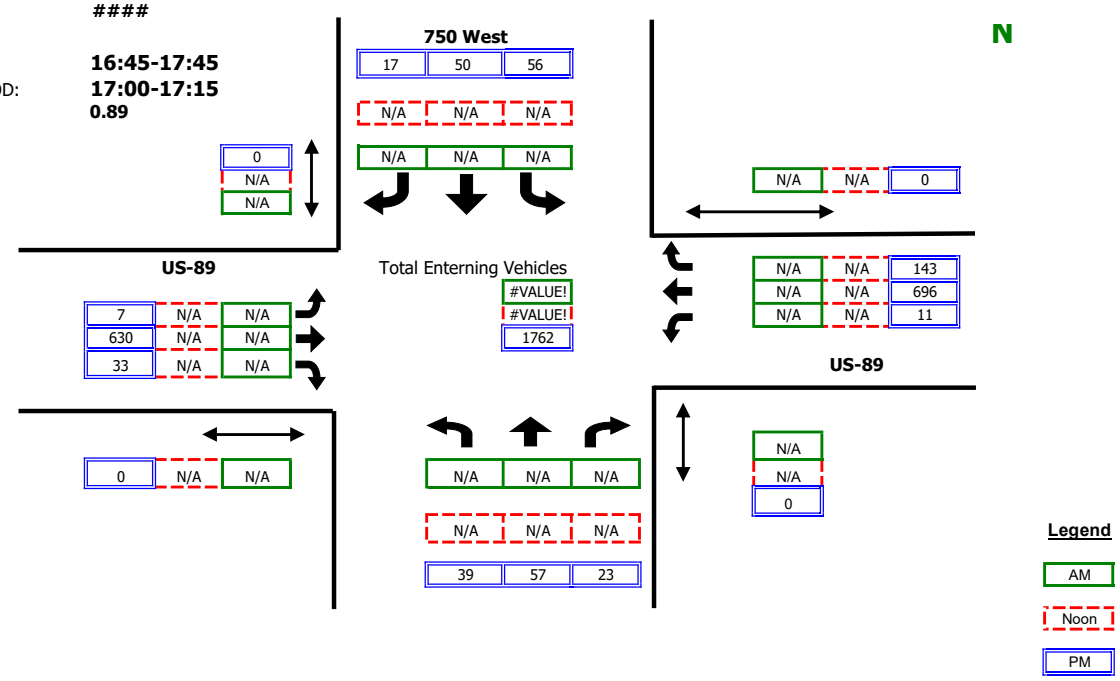
Intersection Turning Movement Summary

Intersection:	**750 West/US-89**	**Date:**	**7/22/2020**
	North/South: 750 West	**Day of Week Adjustment:**	**100.0%**
	East/West: US-89	**Month of Year Adjustment:**	**100.0%**
Jurisdiction:	**UDOT**	**Adjustment Station #:**	
Project Title:	**Harrisville Ben Lomond Views**	**Growth Rate:**	**0.0%**
Project No:	**UT20-2226**	**Number of Years:**	**0**
Weather:	**Clear**		

AM PEAK HOUR PERIOD:
AM PEAK 15 MINUTE PERIOD:
AM PHF: ####

NOON PEAK HOUR PERIOD:
NOON PEAK 15 MINUTE PERIOD:
NOON PHF: ####

PM PEAK HOUR PERIOD: **16:45-17:45**
PM PEAK 15 MINUTE PERIOD: **17:00-17:15**
PM PHF: **0.89**



RAW COUNT SUMMARIES	750 West Northbound Left	Thru	Right	Peds	750 West Southbound Left	Thru	Right	Peds	US-89 Eastbound Left	Thru	Right	Peds	US-89 Westbound Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
7:00-7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15-7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30-7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45-8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00-8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15-8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30-8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45-9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOON PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
14:00-14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15-14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30-14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45-15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00-15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15-15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30-15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45-14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
16:00-16:15	3	10	6	0	13	5	2	0	1	151	8	0	4	171	34	0	408
16:15-16:30	3	11	3	0	14	9	9	0	1	137	8	0	4	173	41	0	413
16:30-16:45	2	13	9	0	17	6	2	0	2	151	3	0	3	150	38	0	396
16:45-17:00	7	14	5	0	10	11	2	0	0	143	7	0	4	176	25	0	404
17:00-17:15	14	15	8	0	19	11	4	0	4	182	7	0	3	190	38	0	495
17:15-17:30	13	19	7	0	15	14	4	0	1	152	11	0	2	160	36	0	434
17:30-17:45	5	9	3	0	12	14	7	0	2	153	8	0	2	170	44	0	429
17:45-18:00	6	8	7	0	12	10	4	0	2	159	11	0	8	150	47	0	424

FEHR PEERS

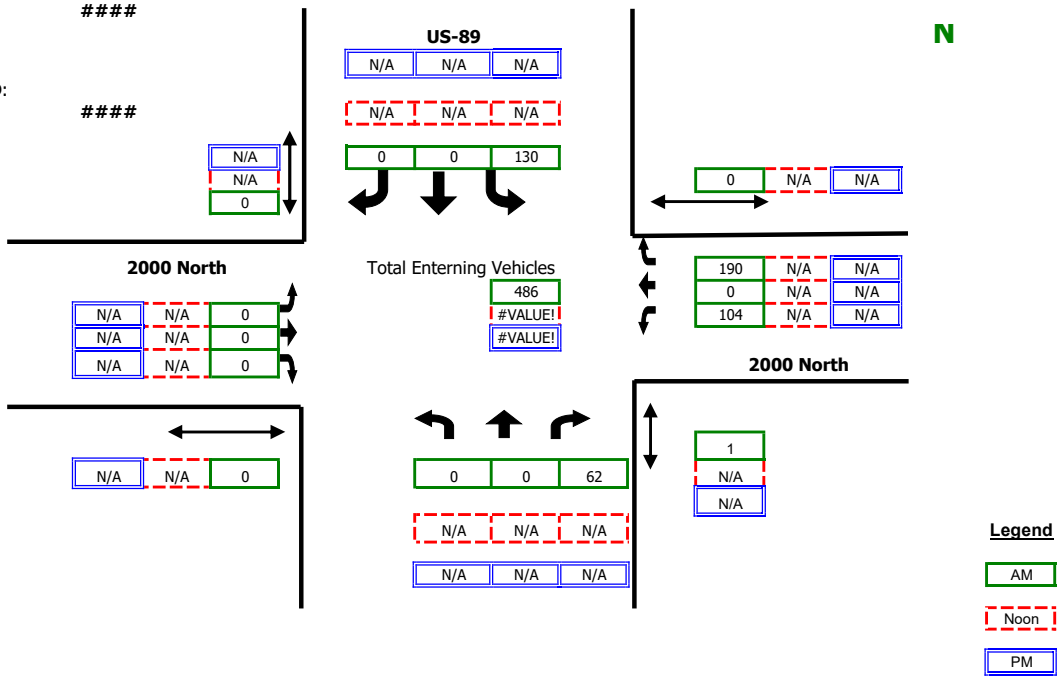
Intersection Turning Movement Summary

Intersection:	**US-89/2000 North**	**Date:**	**5-20-21, Thu**
	North/South: US-89	**Day of Week Adjustment:**	**100.0%**
	East/West: 2000 North	**Month of Year Adjustment:**	**100.0%**
Jurisdiction:	**Harrisville**	**Adjustment Station #:**	
Project Title:	**Harrisville Copperwoods TIS**	**Growth Rate:**	**0.0%**
Project No:	**UT21-2282**	**Number of Years:**	**0**
Weather:			

AM PEAK HOUR PERIOD: **7:15-8:15**
AM PEAK 15 MINUTE PERIOD: **7:15-7:30**
AM PHF: **0.66**

NOON PEAK HOUR PERIOD:
NOON PEAK 15 MINUTE PERIOD:
NOON PHF: ####

PM PEAK HOUR PERIOD:
PM PEAK 15 MINUTE PERIOD:
PM PHF: ####



RAW COUNT SUMMARIES	US-89 Northbound Left	Thru	Right	Peds	US-89 Southbound Left	Thru	Right	Peds	2000 North Eastbound Left	Thru	Right	Peds	2000 North Westbound Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
7:00-7:15	0	0	14	1	48	0	0	0	0	0	0	0	9	0	40	0	111
7:15-7:30	0	0	32	0	58	0	0	0	0	0	0	0	32	0	63	0	185
7:30-7:45	0	0	13	1	53	0	0	0	0	0	0	0	37	0	79	0	182
7:45-8:00	0	0	6	0	12	0	0	0	0	0	0	0	23	0	25	0	66
8:00-8:15	0	0	11	0	7	0	0	0	0	0	0	0	12	0	23	0	53
8:15-8:30	0	0	5	0	18	0	0	0	0	0	0	0	15	0	24	0	62
8:30-8:45	0	0	7	0	11	0	0	0	0	0	0	0	14	0	20	0	52
8:45-9:00	0	0	3	0	15	0	0	0	0	0	0	0	11	0	18	0	47
NOON PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
14:00-14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15-14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30-14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45-15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00-15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15-15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30-15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45-14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
16:00-16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15-16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30-16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45-17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00-17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15-17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30-17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45-18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

FEHR & PEERS

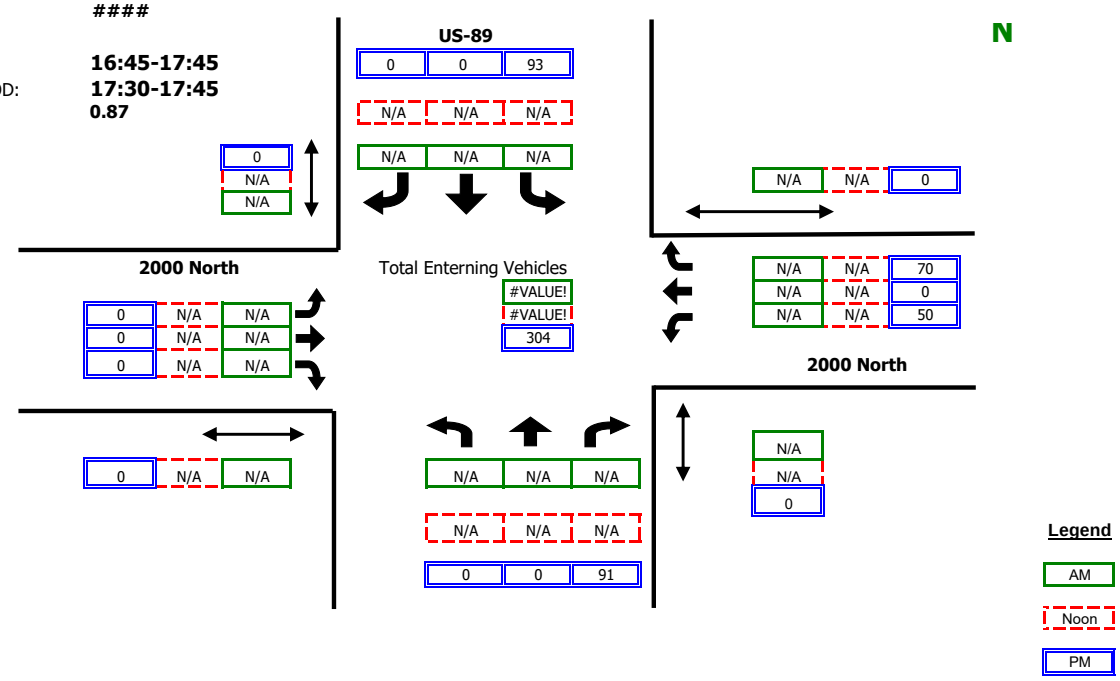
Intersection Turning Movement Summary

Intersection:	**US-89/2000 North**	**Date:**	**7/22/2020**
	North/South: US-89	**Day of Week Adjustment:**	**100.0%**
	East/West: 2000 North	**Month of Year Adjustment:**	**100.0%**
Jurisdiction:	**UDOT**	**Adjustment Station #:**	
Project Title:	**Harrisville Ben Lomond Views**	**Growth Rate:**	**0.0%**
Project No:	**UT20-2226**	**Number of Years:**	**0**
Weather:	**Clear**		

AM PEAK HOUR PERIOD:
AM PEAK 15 MINUTE PERIOD:
AM PHF: ####

NOON PEAK HOUR PERIOD:
NOON PEAK 15 MINUTE PERIOD:
NOON PHF: ####

PM PEAK HOUR PERIOD: **16:45-17:45**
PM PEAK 15 MINUTE PERIOD: **17:30-17:45**
PM PHF: **0.87**



RAW COUNT SUMMARIES	US-89 Northbound Left	Thru	Right	Peds	US-89 Southbound Left	Thru	Right	Peds	2000 North Eastbound Left	Thru	Right	Peds	2000 North Westbound Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
7:00-7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15-7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30-7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45-8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00-8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15-8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30-8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45-9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOON PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
14:00-14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15-14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30-14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45-15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00-15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15-15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30-15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45-14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
16:00-16:15	0	0	20	0	20	0	0	0	0	0	0	0	12	0	12	0	64
16:15-16:30	0	0	24	0	23	0	0	0	0	0	0	0	9	0	23	1	79
16:30-16:45	0	0	13	0	22	0	0	0	0	0	0	0	7	0	9	0	51
16:45-17:00	0	0	15	0	18	0	0	0	0	0	0	0	11	0	16	0	60
17:00-17:15	0	0	22	0	26	0	0	0	0	0	0	0	12	0	17	0	77
17:15-17:30	0	0	28	0	23	0	0	0	0	0	0	0	9	0	20	0	80
17:30-17:45	0	0	26	0	26	0	0	0	0	0	0	0	18	0	17	0	87
17:45-18:00	0	0	25	0	30	0	0	0	0	0	0	0	6	0	20	0	81

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	4	27	0	4	5
Future Vol, veh/h	1	4	27	0	4	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	100	0	100
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	68	68	68	68	68	68
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	6	40	0	6	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	40	0	-	0	48	40
Stage 1	-	-	-	-	40	-
Stage 2	-	-	-	-	8	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1570	-	-	-	962	1031
Stage 1	-	-	-	-	982	-
Stage 2	-	-	-	-	1015	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1570	-	-	-	961	1031
Mov Cap-2 Maneuver	-	-	-	-	961	-
Stage 1	-	-	-	-	981	-
Stage 2	-	-	-	-	1015	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1570	-	-	-	961	1031
HCM Lane V/C Ratio	0.001	-	-	-	0.006	0.007
HCM Control Delay (s)	7.3	-	-	-	8.8	8.5
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0	0

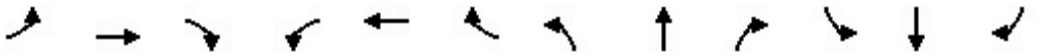
Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	3	106	4	3	146
Future Vol, veh/h	30	3	106	4	3	146
Conflicting Peds, #/hr	0	2	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	4	134	5	4	185

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	332	141	0	0	141	0
Stage 1	139	-	-	-	-	-
Stage 2	193	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	663	907	-	-	1442	-
Stage 1	888	-	-	-	-	-
Stage 2	840	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	660	904	-	-	1439	-
Mov Cap-2 Maneuver	660	-	-	-	-	-
Stage 1	886	-	-	-	-	-
Stage 2	837	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	660	904	1439	-
HCM Lane V/C Ratio	-	-	0.058	0.004	0.003	-
HCM Control Delay (s)	-	-	10.8	9	7.5	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	570	33	30	466	72	23	25	13	93	52	30
Future Volume (veh/h)	6	570	33	30	466	72	23	25	13	93	52	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1781	1870	1870	1781	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	663	18	35	542	39	27	29	0	108	60	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	8	2	2	8	2	2	2	2	2	2	2
Cap, veh/h	532	1866	870	480	1866	874	272	233		297	233	
Arrive On Green	0.55	0.55	0.55	0.55	0.55	0.55	0.12	0.12	0.00	0.12	0.12	0.00
Sat Flow, veh/h	833	3385	1577	759	3385	1585	1340	1870	1585	1378	1870	1585
Grp Volume(v), veh/h	7	663	18	35	542	39	27	29	0	108	60	0
Grp Sat Flow(s),veh/h/ln	833	1692	1577	759	1692	1585	1340	1870	1585	1378	1870	1585
Q Serve(g_s), s	0.2	5.5	0.3	1.3	4.3	0.6	0.9	0.7	0.0	3.8	1.5	0.0
Cycle Q Clear(g_c), s	4.5	5.5	0.3	6.8	4.3	0.6	2.4	0.7	0.0	4.5	1.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	532	1866	870	480	1866	874	272	233		297	233	
V/C Ratio(X)	0.01	0.36	0.02	0.07	0.29	0.04	0.10	0.12		0.36	0.26	
Avail Cap(c_a), veh/h	532	1866	870	480	1866	874	357	352		384	352	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.2	6.3	5.1	8.2	6.0	5.2	20.9	19.5	0.0	21.4	19.8	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.3	0.4	0.1	0.1	0.1	0.0	0.3	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.1	0.1	0.2	0.8	0.1	0.3	0.3	0.0	1.1	0.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.2	6.8	5.1	8.5	6.4	5.3	20.9	19.5	0.0	21.7	20.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	B		C	C	
Approach Vol, veh/h		688			616			56	A		168	A
Approach Delay, s/veh		6.7			6.4			20.2			21.1	
Approach LOS		A			A			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	35.2	14.8	35.2	14.8
Change Period (Y+Rc), s	* 7.6	* 8.6	* 7.6	* 8.6
Max Green Setting (Gmax), s	* 24	* 9.4	* 24	* 9.4
Max Q Clear Time (g_c+I1), s	8.8	4.4	7.5	6.5
Green Ext Time (p_c), s	1.9	0.0	2.2	0.1

Intersection Summary	
HCM 6th Ctrl Delay	8.7
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	4.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	104	190	378	62	130	546
Future Vol, veh/h	104	190	378	62	130	546
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	80	-	100	110	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	2	2	8	2	2	8
Mvmt Flow	130	238	473	78	163	683

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1141	237	0	0	551	0
Stage 1	473	-	-	-	-	-
Stage 2	668	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	194	764	-	-	1015	-
Stage 1	593	-	-	-	-	-
Stage 2	471	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	163	764	-	-	1015	-
Mov Cap-2 Maneuver	286	-	-	-	-	-
Stage 1	593	-	-	-	-	-
Stage 2	395	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.4	0	1.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	286	764	1015	-
HCM Lane V/C Ratio	-	-	0.455	0.311	0.16	-
HCM Control Delay (s)	-	-	27.7	11.8	9.2	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	2.2	1.3	0.6	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	22	19	3	2	6
Future Vol, veh/h	11	22	19	3	2	6
Conflicting Peds, #/hr	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	100	0	100
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	68	68	68	68	68	68
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	32	28	4	3	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	33	0	-	0	93	30
Stage 1	-	-	-	-	29	-
Stage 2	-	-	-	-	64	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1579	-	-	-	907	1044
Stage 1	-	-	-	-	994	-
Stage 2	-	-	-	-	959	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1577	-	-	-	896	1042
Mov Cap-2 Maneuver	-	-	-	-	896	-
Stage 1	-	-	-	-	983	-
Stage 2	-	-	-	-	958	-

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1577	-	-	-	896	1042
HCM Lane V/C Ratio	0.01	-	-	-	0.003	0.008
HCM Control Delay (s)	7.3	-	-	-	9	8.5
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0	0

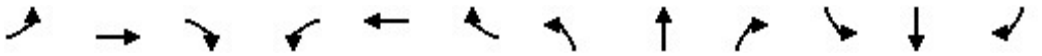
Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	23	1	192	31	1	137
Future Vol, veh/h	23	1	192	31	1	137
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	1	206	33	1	147

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	372	223	0	0	239	0
Stage 1	223	-	-	-	-	-
Stage 2	149	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	629	817	-	-	1328	-
Stage 1	814	-	-	-	-	-
Stage 2	879	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	628	817	-	-	1328	-
Mov Cap-2 Maneuver	628	-	-	-	-	-
Stage 1	814	-	-	-	-	-
Stage 2	878	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	628	817	1328	-
HCM Lane V/C Ratio	-	-	0.039	0.001	0.001	-
HCM Control Delay (s)	-	-	11	9.4	7.7	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	630	33	11	696	143	39	57	23	56	50	17
Future Volume (veh/h)	7	630	33	11	696	143	39	57	23	56	50	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1781	1870	1870	1781	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	708	26	12	782	114	44	64	0	63	56	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	8	2	2	8	2	2	2	2	2	2	2
Cap, veh/h	474	2434	1135	546	2434	1140	179	189		172	189	
Arrive On Green	0.72	0.72	0.72	0.72	0.72	0.72	0.10	0.10	0.00	0.10	0.10	0.00
Sat Flow, veh/h	621	3385	1579	723	3385	1585	1348	1870	1585	1338	1870	1585
Grp Volume(v), veh/h	8	708	26	12	782	114	44	64	0	63	56	0
Grp Sat Flow(s),veh/h/ln	621	1692	1579	723	1692	1585	1348	1870	1585	1338	1870	1585
Q Serve(g_s), s	0.4	6.7	0.4	0.5	7.6	2.0	2.8	2.9	0.0	4.1	2.5	0.0
Cycle Q Clear(g_c), s	8.0	6.7	0.4	7.2	7.6	2.0	5.3	2.9	0.0	7.0	2.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	474	2434	1135	546	2434	1140	179	189		172	189	
V/C Ratio(X)	0.02	0.29	0.02	0.02	0.32	0.10	0.25	0.34		0.37	0.30	
Avail Cap(c_a), veh/h	474	2434	1135	546	2434	1140	363	445		355	445	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	6.1	4.5	3.6	5.8	4.6	3.8	40.0	37.7	0.0	40.9	37.5	0.0
Incr Delay (d2), s/veh	0.1	0.3	0.0	0.1	0.3	0.2	0.3	0.4	0.0	0.5	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.4	0.1	0.1	1.6	0.4	0.9	1.3	0.0	1.4	1.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.1	4.8	3.6	5.8	5.0	4.0	40.2	38.1	0.0	41.4	37.8	0.0
LnGrp LOS	A	A	A	A	A	A	D	D		D	D	
Approach Vol, veh/h		742			908			108	A		119	A
Approach Delay, s/veh		4.8			4.9			38.9			39.7	
Approach LOS		A			A			D			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		72.3		17.7		72.3		17.7				
Change Period (Y+Rc), s		* 7.6		* 8.6		* 7.6		* 8.6				
Max Green Setting (Gmax), s		* 52		* 21		* 52		* 21				
Max Q Clear Time (g_c+I1), s		9.6		7.3		10.0		9.0				
Green Ext Time (p_c), s		3.1		0.1		2.7		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			9.0									
HCM 6th LOS			A									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	70	780	91	93	616
Future Vol, veh/h	50	70	780	91	93	616
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	80	-	100	110	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	8	2	2	8
Mvmt Flow	57	80	897	105	107	708

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1465	449	0	0	1002	0
Stage 1	897	-	-	-	-	-
Stage 2	568	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	119	557	-	-	687	-
Stage 1	358	-	-	-	-	-
Stage 2	530	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	100	557	-	-	687	-
Mov Cap-2 Maneuver	226	-	-	-	-	-
Stage 1	358	-	-	-	-	-
Stage 2	447	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.3	0	1.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	226	557	687	-
HCM Lane V/C Ratio	-	-	0.254	0.144	0.156	-
HCM Control Delay (s)	-	-	26.3	12.6	11.2	-
HCM Lane LOS	-	-	D	B	B	-
HCM 95th %tile Q(veh)	-	-	1	0.5	0.5	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	4	5	0	27	0	4	0	0	4	0	5
Future Vol, veh/h	1	4	5	0	27	0	4	0	0	4	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	-	100	-	-	-	-	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	68	68	92	92	68	68	92	92	92	68	92	68
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	6	5	0	40	0	4	0	0	6	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	40	0	0	11	0	0	55	51	9	51	53	40
Stage 1	-	-	-	-	-	-	11	11	-	40	40	-
Stage 2	-	-	-	-	-	-	44	40	-	11	13	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1570	-	-	1608	-	-	943	840	1073	948	838	1031
Stage 1	-	-	-	-	-	-	1010	886	-	975	862	-
Stage 2	-	-	-	-	-	-	970	862	-	1010	885	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1570	-	-	1608	-	-	935	839	1073	948	837	1031
Mov Cap-2 Maneuver	-	-	-	-	-	-	935	839	-	948	837	-
Stage 1	-	-	-	-	-	-	1009	885	-	974	862	-
Stage 2	-	-	-	-	-	-	963	862	-	1009	884	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0	8.9	8.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	935	1570	-	-	1608	-	-	948	1031
HCM Lane V/C Ratio	0.005	0.001	-	-	-	-	-	0.006	0.007
HCM Control Delay (s)	8.9	7.3	-	-	0	-	-	8.8	8.5
HCM Lane LOS	A	A	-	-	A	-	-	A	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0	0

Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	34	3	106	9	3	146
Future Vol, veh/h	34	3	106	9	3	146
Conflicting Peds, #/hr	0	2	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	43	4	134	11	4	185

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	335	144	0	0	147	0
Stage 1	142	-	-	-	-	-
Stage 2	193	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	660	903	-	-	1435	-
Stage 1	885	-	-	-	-	-
Stage 2	840	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	657	900	-	-	1432	-
Mov Cap-2 Maneuver	657	-	-	-	-	-
Stage 1	883	-	-	-	-	-
Stage 2	837	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	657	900	1432	-
HCM Lane V/C Ratio	-	-	0.066	0.004	0.003	-
HCM Control Delay (s)	-	-	10.9	9	7.5	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	572	33	30	467	75	23	25	13	96	52	31
Future Volume (veh/h)	8	572	33	30	467	75	23	25	13	96	52	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1781	1870	1870	1781	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	665	18	35	543	42	27	29	0	112	60	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	8	2	2	8	2	2	2	2	2	2	2
Cap, veh/h	528	1856	865	476	1856	869	276	239		301	239	
Arrive On Green	0.55	0.55	0.55	0.55	0.55	0.55	0.13	0.13	0.00	0.13	0.13	0.00
Sat Flow, veh/h	830	3385	1577	758	3385	1585	1340	1870	1585	1378	1870	1585
Grp Volume(v), veh/h	9	665	18	35	543	42	27	29	0	112	60	0
Grp Sat Flow(s),veh/h/ln	830	1692	1577	758	1692	1585	1340	1870	1585	1378	1870	1585
Q Serve(g_s), s	0.3	5.5	0.3	1.4	4.3	0.6	0.9	0.7	0.0	3.9	1.4	0.0
Cycle Q Clear(g_c), s	4.6	5.5	0.3	6.9	4.3	0.6	2.4	0.7	0.0	4.6	1.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	528	1856	865	476	1856	869	276	239		301	239	
V/C Ratio(X)	0.02	0.36	0.02	0.07	0.29	0.05	0.10	0.12		0.37	0.25	
Avail Cap(c_a), veh/h	528	1856	865	476	1856	869	357	352		384	352	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.3	6.3	5.2	8.3	6.1	5.2	20.7	19.3	0.0	21.4	19.7	0.0
Incr Delay (d2), s/veh	0.1	0.5	0.0	0.3	0.4	0.1	0.1	0.1	0.0	0.3	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.1	0.1	0.2	0.8	0.1	0.3	0.3	0.0	1.2	0.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.4	6.9	5.2	8.6	6.5	5.3	20.8	19.4	0.0	21.7	19.9	0.0
LnGrp LOS	A	A	A	A	A	A	C	B		C	B	
Approach Vol, veh/h		692			620			56	A		172	A
Approach Delay, s/veh		6.8			6.5			20.1			21.0	
Approach LOS		A			A			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	35.0	15.0	35.0	15.0
Change Period (Y+Rc), s	* 7.6	* 8.6	* 7.6	* 8.6
Max Green Setting (Gmax), s	* 24	* 9.4	* 24	* 9.4
Max Q Clear Time (g_c+I1), s	8.9	4.4	7.5	6.6
Green Ext Time (p_c), s	1.9	0.0	2.2	0.0

Intersection Summary	
HCM 6th Ctrl Delay	8.8
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	4.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	106	191	381	64	132	549
Future Vol, veh/h	106	191	381	64	132	549
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	80	-	100	110	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	2	2	8	2	2	8
Mvmt Flow	133	239	476	80	165	686

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1149	238	0	0	556	0
Stage 1	476	-	-	-	-	-
Stage 2	673	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	192	763	-	-	1011	-
Stage 1	591	-	-	-	-	-
Stage 2	468	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	161	763	-	-	1011	-
Mov Cap-2 Maneuver	284	-	-	-	-	-
Stage 1	591	-	-	-	-	-
Stage 2	392	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.8	0	1.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	284	763	1011	-
HCM Lane V/C Ratio	-	-	0.467	0.313	0.163	-
HCM Control Delay (s)	-	-	28.3	11.9	9.3	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	2.3	1.3	0.6	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	192	294	0	0	3
Future Vol, veh/h	4	192	294	0	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	209	320	0	0	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	320	0	-	0	537	320
Stage 1	-	-	-	-	320	-
Stage 2	-	-	-	-	217	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1240	-	-	-	505	721
Stage 1	-	-	-	-	736	-
Stage 2	-	-	-	-	819	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1240	-	-	-	503	721
Mov Cap-2 Maneuver	-	-	-	-	503	-
Stage 1	-	-	-	-	733	-
Stage 2	-	-	-	-	819	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1240	-	-	-	721
HCM Lane V/C Ratio	0.004	-	-	-	0.005
HCM Control Delay (s)	7.9	0	-	-	10
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	22	9	0	19	3	10	0	0	2	0	6
Future Vol, veh/h	11	22	9	0	19	3	10	0	0	2	0	6
Conflicting Peds, #/hr	1	0	0	0	0	0	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	-	100	-	-	-	-	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	68	68	92	92	68	68	92	92	92	68	92	68
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	32	10	0	28	4	11	0	0	3	0	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	33	0	0	42	0	0	105	102	37	98	103	30
Stage 1	-	-	-	-	-	-	69	69	-	29	29	-
Stage 2	-	-	-	-	-	-	36	33	-	69	74	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1579	-	-	1567	-	-	875	788	1035	884	787	1044
Stage 1	-	-	-	-	-	-	941	837	-	988	871	-
Stage 2	-	-	-	-	-	-	980	868	-	941	833	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1577	-	-	1567	-	-	860	779	1035	876	778	1042
Mov Cap-2 Maneuver	-	-	-	-	-	-	860	779	-	876	778	-
Stage 1	-	-	-	-	-	-	932	829	-	977	870	-
Stage 2	-	-	-	-	-	-	971	867	-	931	825	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2	0	9.2	8.7
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	860	1577	-	-	1567	-	-	876	1042
HCM Lane V/C Ratio	0.013	0.01	-	-	-	-	-	0.003	0.008
HCM Control Delay (s)	9.2	7.3	-	-	0	-	-	9.1	8.5
HCM Lane LOS	A	A	-	-	A	-	-	A	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0	0

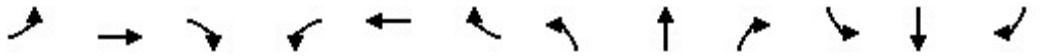
Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	32	2	192	39	2	137
Future Vol, veh/h	32	2	192	39	2	137
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	2	206	42	2	147

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	378	227	0	0	248	0
Stage 1	227	-	-	-	-	-
Stage 2	151	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	624	812	-	-	1318	-
Stage 1	811	-	-	-	-	-
Stage 2	877	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	623	812	-	-	1318	-
Mov Cap-2 Maneuver	623	-	-	-	-	-
Stage 1	811	-	-	-	-	-
Stage 2	875	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	623	812	1318	-
HCM Lane V/C Ratio	-	-	0.055	0.003	0.002	-
HCM Control Delay (s)	-	-	11.1	9.4	7.7	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	633	33	12	699	147	39	58	24	61	51	20
Future Volume (veh/h)	10	633	33	12	699	147	39	58	24	61	51	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1781	1870	1870	1781	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	711	26	13	785	118	44	65	0	69	57	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	8	2	2	8	2	2	2	2	2	2	2
Cap, veh/h	468	2418	1128	540	2418	1132	184	198		178	198	
Arrive On Green	0.71	0.71	0.71	0.71	0.71	0.71	0.11	0.11	0.00	0.11	0.11	0.00
Sat Flow, veh/h	617	3385	1579	721	3385	1585	1346	1870	1585	1337	1870	1585
Grp Volume(v), veh/h	11	711	26	13	785	118	44	65	0	69	57	0
Grp Sat Flow(s),veh/h/ln	617	1692	1579	721	1692	1585	1346	1870	1585	1337	1870	1585
Q Serve(g_s), s	0.6	6.8	0.4	0.6	7.8	2.1	2.8	2.9	0.0	4.5	2.5	0.0
Cycle Q Clear(g_c), s	8.4	6.8	0.4	7.4	7.8	2.1	5.3	2.9	0.0	7.4	2.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	468	2418	1128	540	2418	1132	184	198		178	198	
V/C Ratio(X)	0.02	0.29	0.02	0.02	0.32	0.10	0.24	0.33		0.39	0.29	
Avail Cap(c_a), veh/h	468	2418	1128	540	2418	1132	362	445		355	445	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	6.3	4.7	3.7	6.0	4.8	4.0	39.6	37.3	0.0	40.7	37.1	0.0
Incr Delay (d2), s/veh	0.1	0.3	0.0	0.1	0.4	0.2	0.2	0.4	0.0	0.5	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.5	0.1	0.1	1.7	0.5	0.9	1.3	0.0	1.5	1.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.4	5.0	3.8	6.1	5.1	4.2	39.8	37.6	0.0	41.2	37.4	0.0
LnGrp LOS	A	A	A	A	A	A	D	D		D	D	
Approach Vol, veh/h		748			916			109	A		126	A
Approach Delay, s/veh		4.9			5.0			38.5			39.5	
Approach LOS		A			A			D			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		71.9		18.1		71.9		18.1				
Change Period (Y+Rc), s		* 7.6		* 8.6		* 7.6		* 8.6				
Max Green Setting (Gmax), s		* 52		* 21		* 52		* 21				
Max Q Clear Time (g_c+I1), s		9.8		7.3		10.4		9.4				
Green Ext Time (p_c), s		3.2		0.1		2.7		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	9.2
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	54	74	784	95	96	622
Future Vol, veh/h	54	74	784	95	96	622
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	80	-	100	110	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	8	2	2	8
Mvmt Flow	62	85	901	109	110	715

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1479	451	0	0	1010	0
Stage 1	901	-	-	-	-	-
Stage 2	578	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	116	556	-	-	682	-
Stage 1	357	-	-	-	-	-
Stage 2	524	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	97	556	-	-	682	-
Mov Cap-2 Maneuver	224	-	-	-	-	-
Stage 1	357	-	-	-	-	-
Stage 2	440	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.7	0	1.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	224	556	682	-
HCM Lane V/C Ratio	-	-	0.277	0.153	0.162	-
HCM Control Delay (s)	-	-	27.1	12.6	11.3	-
HCM Lane LOS	-	-	D	B	B	-
HCM 95th %tile Q(veh)	-	-	1.1	0.5	0.6	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	184	120	1	1	8
Future Vol, veh/h	7	184	120	1	1	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	200	130	1	1	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	131	0	-	0	347	131
Stage 1	-	-	-	-	131	-
Stage 2	-	-	-	-	216	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1454	-	-	-	650	919
Stage 1	-	-	-	-	895	-
Stage 2	-	-	-	-	820	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1454	-	-	-	646	919
Mov Cap-2 Maneuver	-	-	-	-	646	-
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	820	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1454	-	-	-	878
HCM Lane V/C Ratio	0.005	-	-	-	0.011
HCM Control Delay (s)	7.5	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	4	27	0	4	5
Future Vol, veh/h	1	4	27	0	4	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	100	0	100
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	68	68	68	68	68	68
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	6	40	0	6	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	40	0	-	0	48	40
Stage 1	-	-	-	-	40	-
Stage 2	-	-	-	-	8	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1570	-	-	-	962	1031
Stage 1	-	-	-	-	982	-
Stage 2	-	-	-	-	1015	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1570	-	-	-	961	1031
Mov Cap-2 Maneuver	-	-	-	-	961	-
Stage 1	-	-	-	-	981	-
Stage 2	-	-	-	-	1015	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1570	-	-	-	961	1031
HCM Lane V/C Ratio	0.001	-	-	-	0.006	0.007
HCM Control Delay (s)	7.3	-	-	-	8.8	8.5
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0	0

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	3	128	4	3	159
Future Vol, veh/h	30	3	128	4	3	159
Conflicting Peds, #/hr	0	2	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	4	162	5	4	201

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	376	169	0	0	169	0
Stage 1	167	-	-	-	-	-
Stage 2	209	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	625	875	-	-	1409	-
Stage 1	863	-	-	-	-	-
Stage 2	826	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	622	872	-	-	1406	-
Mov Cap-2 Maneuver	622	-	-	-	-	-
Stage 1	861	-	-	-	-	-
Stage 2	824	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	622	872	1406	-
HCM Lane V/C Ratio	-	-	0.061	0.004	0.003	-
HCM Control Delay (s)	-	-	11.2	9.1	7.6	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	647	33	52	597	94	23	25	26	106	52	30
Future Volume (veh/h)	6	647	33	52	597	94	23	25	26	106	52	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1781	1870	1870	1781	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	752	18	60	694	64	27	29	0	123	60	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	8	2	2	8	2	2	2	2	2	2	2
Cap, veh/h	442	1829	852	430	1829	857	287	253		312	253	
Arrive On Green	0.54	0.54	0.54	0.54	0.54	0.54	0.14	0.14	0.00	0.14	0.14	0.00
Sat Flow, veh/h	707	3385	1577	699	3385	1585	1340	1870	1585	1378	1870	1585
Grp Volume(v), veh/h	7	752	18	60	694	64	27	29	0	123	60	0
Grp Sat Flow(s),veh/h/ln	707	1692	1577	699	1692	1585	1340	1870	1585	1378	1870	1585
Q Serve(g_s), s	0.3	6.6	0.3	2.8	5.9	1.0	0.9	0.7	0.0	4.3	1.4	0.0
Cycle Q Clear(g_c), s	6.2	6.6	0.3	9.3	5.9	1.0	2.4	0.7	0.0	5.0	1.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	442	1829	852	430	1829	857	287	253		312	253	
V/C Ratio(X)	0.02	0.41	0.02	0.14	0.38	0.07	0.09	0.11		0.39	0.24	
Avail Cap(c_a), veh/h	442	1829	852	430	1829	857	358	352		384	352	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.4	6.8	5.3	9.5	6.6	5.5	20.4	19.0	0.0	21.2	19.3	0.0
Incr Delay (d2), s/veh	0.1	0.7	0.0	0.7	0.6	0.2	0.1	0.1	0.0	0.3	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.3	0.1	0.4	1.2	0.2	0.3	0.3	0.0	1.3	0.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.5	7.5	5.4	10.2	7.2	5.7	20.4	19.1	0.0	21.5	19.5	0.0
LnGrp LOS	A	A	A	B	A	A	C	B		C	B	
Approach Vol, veh/h		777			818			56	A		183	A
Approach Delay, s/veh		7.4			7.3			19.7			20.8	
Approach LOS		A			A			B			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	34.6	15.4	34.6	15.4
Change Period (Y+Rc), s	* 7.6	* 8.6	* 7.6	* 8.6
Max Green Setting (Gmax), s	* 24	* 9.4	* 24	* 9.4
Max Q Clear Time (g_c+I1), s	11.3	4.4	8.6	7.0
Green Ext Time (p_c), s	2.5	0.0	2.5	0.0

Intersection Summary	
HCM 6th Ctrl Delay	9.1
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	6.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	116	234	509	97	156	623
Future Vol, veh/h	116	234	509	97	156	623
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	80	-	100	110	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	2	2	8	2	2	8
Mvmt Flow	145	293	636	121	195	779

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1416	318	0	0	757	0
Stage 1	636	-	-	-	-	-
Stage 2	780	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 128	678	-	-	850	-
Stage 1	489	-	-	-	-	-
Stage 2	412	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 99	678	-	-	850	-
Mov Cap-2 Maneuver	218	-	-	-	-	-
Stage 1	489	-	-	-	-	-
Stage 2	318	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	25.9	0	2.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	218	678	850	-
HCM Lane V/C Ratio	-	-	0.665	0.431	0.229	-
HCM Control Delay (s)	-	-	49.2	14.3	10.5	-
HCM Lane LOS	-	-	E	B	B	-
HCM 95th %tile Q(veh)	-	-	4.1	2.2	0.9	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	22	19	3	2	6
Future Vol, veh/h	11	22	19	3	2	6
Conflicting Peds, #/hr	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	100	0	100
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	68	68	68	68	68	68
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	32	28	4	3	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	33	0	-	0	93	30
Stage 1	-	-	-	-	29	-
Stage 2	-	-	-	-	64	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1579	-	-	-	907	1044
Stage 1	-	-	-	-	994	-
Stage 2	-	-	-	-	959	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1577	-	-	-	896	1042
Mov Cap-2 Maneuver	-	-	-	-	896	-
Stage 1	-	-	-	-	983	-
Stage 2	-	-	-	-	958	-

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1577	-	-	-	896	1042
HCM Lane V/C Ratio	0.01	-	-	-	0.003	0.008
HCM Control Delay (s)	7.3	-	-	-	9	8.5
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0	0

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	23	1	211	31	1	163
Future Vol, veh/h	23	1	211	31	1	163
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	1	227	33	1	175

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	421	244	0	0	260	0
Stage 1	244	-	-	-	-	-
Stage 2	177	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	589	795	-	-	1304	-
Stage 1	797	-	-	-	-	-
Stage 2	854	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	588	795	-	-	1304	-
Mov Cap-2 Maneuver	588	-	-	-	-	-
Stage 1	797	-	-	-	-	-
Stage 2	853	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	588	795	1304	-
HCM Lane V/C Ratio	-	-	0.042	0.001	0.001	-
HCM Control Delay (s)	-	-	11.4	9.5	7.8	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	785	33	30	807	162	39	57	49	82	50	17
Future Volume (veh/h)	7	785	33	30	807	162	39	57	49	82	50	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1781	1870	1870	1781	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	882	26	34	907	135	44	64	0	92	56	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	8	2	2	8	2	2	2	2	2	2	2
Cap, veh/h	398	2364	1103	444	2364	1107	207	227		201	227	
Arrive On Green	0.70	0.70	0.70	0.70	0.70	0.70	0.12	0.12	0.00	0.12	0.12	0.00
Sat Flow, veh/h	541	3385	1579	614	3385	1585	1348	1870	1585	1338	1870	1585
Grp Volume(v), veh/h	8	882	26	34	907	135	44	64	0	92	56	0
Grp Sat Flow(s),veh/h/ln	541	1692	1579	614	1692	1585	1348	1870	1585	1338	1870	1585
Q Serve(g_s), s	0.6	9.6	0.5	2.2	9.9	2.5	2.8	2.8	0.0	6.0	2.4	0.0
Cycle Q Clear(g_c), s	10.5	9.6	0.5	11.7	9.9	2.5	5.2	2.8	0.0	8.8	2.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	398	2364	1103	444	2364	1107	207	227		201	227	
V/C Ratio(X)	0.02	0.37	0.02	0.08	0.38	0.12	0.21	0.28		0.46	0.25	
Avail Cap(c_a), veh/h	398	2364	1103	444	2364	1107	364	445		356	445	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.8	5.5	4.2	7.9	5.6	4.5	38.1	36.0	0.0	40.0	35.8	0.0
Incr Delay (d2), s/veh	0.1	0.5	0.0	0.3	0.5	0.2	0.2	0.2	0.0	0.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.3	0.1	0.3	2.3	0.6	0.9	1.3	0.0	2.0	1.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.8	6.0	4.2	8.3	6.1	4.7	38.3	36.2	0.0	40.6	36.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	D		D	D	
Approach Vol, veh/h		916			1076			108	A		148	A
Approach Delay, s/veh		6.0			6.0			37.1			38.8	
Approach LOS		A			A			D			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	70.5	19.5	70.5	19.5
Change Period (Y+Rc), s	* 7.6	* 8.6	* 7.6	* 8.6
Max Green Setting (Gmax), s	* 52	* 21	* 52	* 21
Max Q Clear Time (g_c+I1), s	13.7	7.2	12.5	10.8
Green Ext Time (p_c), s	4.0	0.1	3.5	0.1

Intersection Summary	
HCM 6th Ctrl Delay	9.6
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	60	107	892	162	145	771
Future Vol, veh/h	60	107	892	162	145	771
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	80	-	100	110	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	8	2	2	8
Mvmt Flow	69	123	1025	186	167	886

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1802	513	0	0	1211	0
Stage 1	1025	-	-	-	-	-
Stage 2	777	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	71	506	-	-	572	-
Stage 1	307	-	-	-	-	-
Stage 2	414	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 50	506	-	-	572	-
Mov Cap-2 Maneuver	160	-	-	-	-	-
Stage 1	307	-	-	-	-	-
Stage 2	293	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24.9	0	2.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	160	506	572	-
HCM Lane V/C Ratio	-	-	0.431	0.243	0.291	-
HCM Control Delay (s)	-	-	43.5	14.4	13.9	-
HCM Lane LOS	-	-	E	B	B	-
HCM 95th %tile Q(veh)	-	-	1.9	0.9	1.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	4	5	0	27	0	4	0	0	4	0	5
Future Vol, veh/h	1	4	5	0	27	0	4	0	0	4	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	-	100	-	-	-	-	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	68	68	92	92	68	68	92	92	92	68	92	68
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	6	5	0	40	0	4	0	0	6	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	40	0	0	11	0	0	55	51	9	51	53	40
Stage 1	-	-	-	-	-	-	11	11	-	40	40	-
Stage 2	-	-	-	-	-	-	44	40	-	11	13	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1570	-	-	1608	-	-	943	840	1073	948	838	1031
Stage 1	-	-	-	-	-	-	1010	886	-	975	862	-
Stage 2	-	-	-	-	-	-	970	862	-	1010	885	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1570	-	-	1608	-	-	935	839	1073	948	837	1031
Mov Cap-2 Maneuver	-	-	-	-	-	-	935	839	-	948	837	-
Stage 1	-	-	-	-	-	-	1009	885	-	974	862	-
Stage 2	-	-	-	-	-	-	963	862	-	1009	884	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0	8.9	8.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	935	1570	-	-	1608	-	-	948	1031
HCM Lane V/C Ratio	0.005	0.001	-	-	-	-	-	0.006	0.007
HCM Control Delay (s)	8.9	7.3	-	-	0	-	-	8.8	8.5
HCM Lane LOS	A	A	-	-	A	-	-	A	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0	0

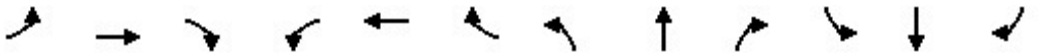
Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	34	3	128	9	3	159
Future Vol, veh/h	34	3	128	9	3	159
Conflicting Peds, #/hr	0	2	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	43	4	162	11	4	201

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	379	172	0	0	175	0
Stage 1	170	-	-	-	-	-
Stage 2	209	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	623	872	-	-	1401	-
Stage 1	860	-	-	-	-	-
Stage 2	826	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	620	869	-	-	1398	-
Mov Cap-2 Maneuver	620	-	-	-	-	-
Stage 1	858	-	-	-	-	-
Stage 2	824	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	620	869	1398	-
HCM Lane V/C Ratio	-	-	0.069	0.004	0.003	-
HCM Control Delay (s)	-	-	11.2	9.2	7.6	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	649	33	52	598	97	23	25	26	109	52	31
Future Volume (veh/h)	8	649	33	52	598	97	23	25	26	109	52	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1781	1870	1870	1781	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	755	18	60	695	68	27	29	0	127	60	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	8	2	2	8	2	2	2	2	2	2	2
Cap, veh/h	438	1820	848	426	1820	852	291	259		316	259	
Arrive On Green	0.54	0.54	0.54	0.54	0.54	0.54	0.14	0.14	0.00	0.14	0.14	0.00
Sat Flow, veh/h	704	3385	1577	697	3385	1585	1340	1870	1585	1378	1870	1585
Grp Volume(v), veh/h	9	755	18	60	695	68	27	29	0	127	60	0
Grp Sat Flow(s),veh/h/ln	704	1692	1577	697	1692	1585	1340	1870	1585	1378	1870	1585
Q Serve(g_s), s	0.4	6.6	0.3	2.8	6.0	1.0	0.9	0.7	0.0	4.4	1.4	0.0
Cycle Q Clear(g_c), s	6.4	6.6	0.3	9.4	6.0	1.0	2.3	0.7	0.0	5.1	1.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	438	1820	848	426	1820	852	291	259		316	259	
V/C Ratio(X)	0.02	0.41	0.02	0.14	0.38	0.08	0.09	0.11		0.40	0.23	
Avail Cap(c_a), veh/h	438	1820	848	426	1820	852	358	352		384	352	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.6	6.9	5.4	9.7	6.7	5.6	20.2	18.9	0.0	21.1	19.2	0.0
Incr Delay (d2), s/veh	0.1	0.7	0.0	0.7	0.6	0.2	0.1	0.1	0.0	0.3	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.4	0.1	0.4	1.2	0.2	0.3	0.3	0.0	1.3	0.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.7	7.6	5.5	10.4	7.3	5.8	20.3	18.9	0.0	21.4	19.3	0.0
LnGrp LOS	A	A	A	B	A	A	C	B		C	B	
Approach Vol, veh/h		782			823			56	A		187	A
Approach Delay, s/veh		7.5			7.4			19.6			20.7	
Approach LOS		A			A			B			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		34.5		15.5		34.5		15.5				
Change Period (Y+Rc), s		* 7.6		* 8.6		* 7.6		* 8.6				
Max Green Setting (Gmax), s		* 24		* 9.4		* 24		* 9.4				
Max Q Clear Time (g_c+I1), s		11.4		4.3		8.6		7.1				
Green Ext Time (p_c), s		2.5		0.0		2.6		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	9.2
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	6.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	118	235	512	99	158	626
Future Vol, veh/h	118	235	512	99	158	626
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	80	-	100	110	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	2	2	8	2	2	8
Mvmt Flow	148	294	640	124	198	783

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1428	320	0	0	764	0
Stage 1	640	-	-	-	-	-
Stage 2	788	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 126	676	-	-	845	-
Stage 1	487	-	-	-	-	-
Stage 2	409	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 97	676	-	-	845	-
Mov Cap-2 Maneuver	215	-	-	-	-	-
Stage 1	487	-	-	-	-	-
Stage 2	313	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.9	0	2.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	215	676	845	-
HCM Lane V/C Ratio	-	-	0.686	0.435	0.234	-
HCM Control Delay (s)	-	-	51.9	14.4	10.6	-
HCM Lane LOS	-	-	F	B	B	-
HCM 95th %tile Q(veh)	-	-	4.3	2.2	0.9	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	253	350	0	0	3
Future Vol, veh/h	4	253	350	0	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	275	380	0	0	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	380	0	-	0	663	380
Stage 1	-	-	-	-	380	-
Stage 2	-	-	-	-	283	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1178	-	-	-	426	667
Stage 1	-	-	-	-	691	-
Stage 2	-	-	-	-	765	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1178	-	-	-	424	667
Mov Cap-2 Maneuver	-	-	-	-	424	-
Stage 1	-	-	-	-	688	-
Stage 2	-	-	-	-	765	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1178	-	-	-	667
HCM Lane V/C Ratio	0.004	-	-	-	0.005
HCM Control Delay (s)	8.1	0	-	-	10.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	22	9	0	19	3	10	0	0	2	0	6
Future Vol, veh/h	11	22	9	0	19	3	10	0	0	2	0	6
Conflicting Peds, #/hr	1	0	0	0	0	0	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	-	100	-	-	-	-	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	68	68	92	92	68	68	92	92	92	68	92	68
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	32	10	0	28	4	11	0	0	3	0	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	33	0	0	42	0	0	105	102	37	98	103	30
Stage 1	-	-	-	-	-	-	69	69	-	29	29	-
Stage 2	-	-	-	-	-	-	36	33	-	69	74	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1579	-	-	1567	-	-	875	788	1035	884	787	1044
Stage 1	-	-	-	-	-	-	941	837	-	988	871	-
Stage 2	-	-	-	-	-	-	980	868	-	941	833	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1577	-	-	1567	-	-	860	779	1035	876	778	1042
Mov Cap-2 Maneuver	-	-	-	-	-	-	860	779	-	876	778	-
Stage 1	-	-	-	-	-	-	932	829	-	977	870	-
Stage 2	-	-	-	-	-	-	971	867	-	931	825	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2	0	9.2	8.7
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	860	1577	-	-	1567	-	-	876	1042
HCM Lane V/C Ratio	0.013	0.01	-	-	-	-	-	0.003	0.008
HCM Control Delay (s)	9.2	7.3	-	-	0	-	-	9.1	8.5
HCM Lane LOS	A	A	-	-	A	-	-	A	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0	0

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	32	2	211	39	2	163
Future Vol, veh/h	32	2	211	39	2	163
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	2	227	42	2	175

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	427	248	0	0	269	0
Stage 1	248	-	-	-	-	-
Stage 2	179	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	584	791	-	-	1295	-
Stage 1	793	-	-	-	-	-
Stage 2	852	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	583	791	-	-	1295	-
Mov Cap-2 Maneuver	583	-	-	-	-	-
Stage 1	793	-	-	-	-	-
Stage 2	850	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.5	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	583	791	1295	-
HCM Lane V/C Ratio	-	-	0.059	0.003	0.002	-
HCM Control Delay (s)	-	-	11.6	9.6	7.8	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	788	33	31	810	166	39	58	50	87	51	20
Future Volume (veh/h)	10	788	33	31	810	166	39	58	50	87	51	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1781	1870	1870	1781	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	885	26	35	910	140	44	65	0	98	57	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	8	2	2	8	2	2	2	2	2	2	2
Cap, veh/h	392	2348	1095	438	2348	1099	213	236		207	236	
Arrive On Green	0.69	0.69	0.69	0.69	0.69	0.69	0.13	0.13	0.00	0.13	0.13	0.00
Sat Flow, veh/h	537	3385	1579	613	3385	1585	1346	1870	1585	1337	1870	1585
Grp Volume(v), veh/h	11	885	26	35	910	140	44	65	0	98	57	0
Grp Sat Flow(s),veh/h/ln	537	1692	1579	613	1692	1585	1346	1870	1585	1337	1870	1585
Q Serve(g_s), s	0.8	9.8	0.5	2.3	10.1	2.7	2.7	2.8	0.0	6.4	2.5	0.0
Cycle Q Clear(g_c), s	10.9	9.8	0.5	12.0	10.1	2.7	5.2	2.8	0.0	9.3	2.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	392	2348	1095	438	2348	1099	213	236		207	236	
V/C Ratio(X)	0.03	0.38	0.02	0.08	0.39	0.13	0.21	0.27		0.47	0.24	
Avail Cap(c_a), veh/h	392	2348	1095	438	2348	1099	363	445		356	445	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.1	5.7	4.3	8.2	5.8	4.6	37.8	35.6	0.0	39.8	35.4	0.0
Incr Delay (d2), s/veh	0.1	0.5	0.0	0.4	0.5	0.2	0.2	0.2	0.0	0.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.3	0.1	0.3	2.4	0.6	0.9	1.3	0.0	2.1	1.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.2	6.2	4.3	8.6	6.3	4.9	37.9	35.8	0.0	40.4	35.6	0.0
LnGrp LOS	A	A	A	A	A	A	D	D		D	D	
Approach Vol, veh/h		922			1085			109	A		155	A
Approach Delay, s/veh		6.2			6.2			36.7			38.6	
Approach LOS		A			A			D			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	70.0	20.0	70.0	20.0
Change Period (Y+Rc), s	* 7.6	* 8.6	* 7.6	* 8.6
Max Green Setting (Gmax), s	* 52	* 21	* 52	* 21
Max Q Clear Time (g_c+I1), s	14.0	7.2	12.9	11.3
Green Ext Time (p_c), s	4.0	0.1	3.6	0.1

Intersection Summary	
HCM 6th Ctrl Delay	9.8
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	64	111	896	166	148	777
Future Vol, veh/h	64	111	896	166	148	777
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	80	-	100	110	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	8	2	2	8
Mvmt Flow	74	128	1030	191	170	893

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1817	515	0	0	1221	0
Stage 1	1030	-	-	-	-	-
Stage 2	787	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 69	505	-	-	567	-
Stage 1	305	-	-	-	-	-
Stage 2	409	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 48	505	-	-	567	-
Mov Cap-2 Maneuver	157	-	-	-	-	-
Stage 1	305	-	-	-	-	-
Stage 2	286	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.3	0	2.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	157	505	567	-
HCM Lane V/C Ratio	-	-	0.469	0.253	0.3	-
HCM Control Delay (s)	-	-	46.7	14.5	14	-
HCM Lane LOS	-	-	E	B	B	-
HCM 95th %tile Q(veh)	-	-	2.2	1	1.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	307	167	1	1	8
Future Vol, veh/h	7	307	167	1	1	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	334	182	1	1	9

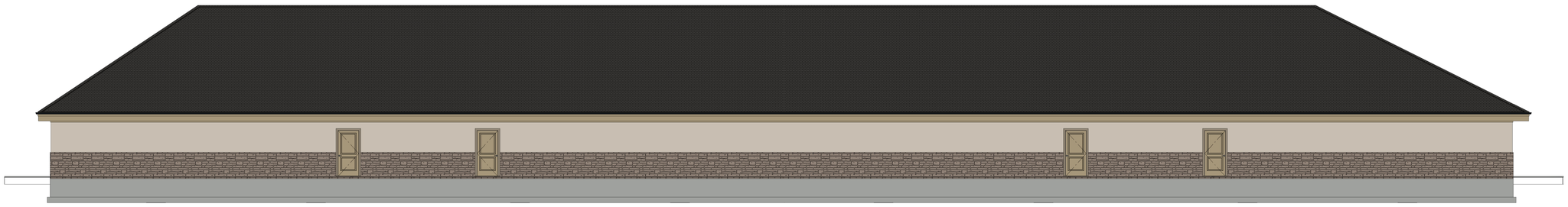
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	183	0	-	0	533	183
Stage 1	-	-	-	-	183	-
Stage 2	-	-	-	-	350	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1392	-	-	-	507	859
Stage 1	-	-	-	-	848	-
Stage 2	-	-	-	-	713	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1392	-	-	-	503	859
Mov Cap-2 Maneuver	-	-	-	-	503	-
Stage 1	-	-	-	-	842	-
Stage 2	-	-	-	-	713	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	9.6
HCM LOS			A

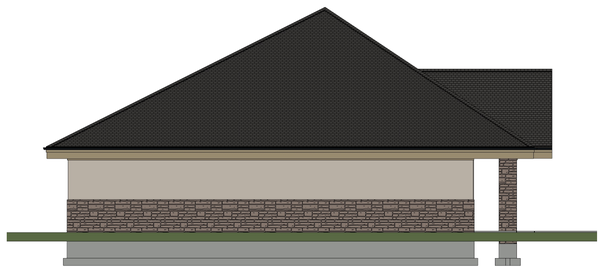
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1392	-	-	-	796
HCM Lane V/C Ratio	0.005	-	-	-	0.012
HCM Control Delay (s)	7.6	0	-	-	9.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Exhibit E
Design and Site Standards

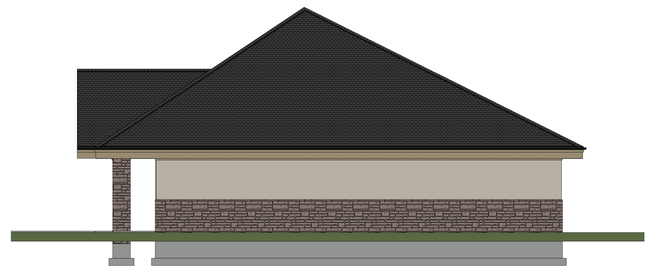
Front elevation



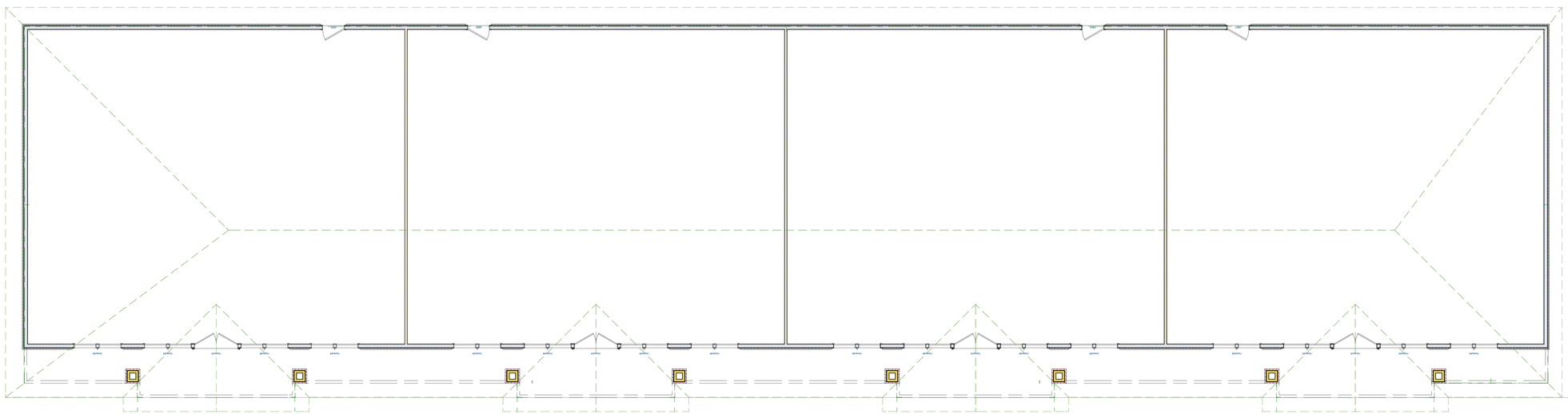
Rear elevation



Left elevation



Right elevation



Floor plan

DO NOT SCALE 11"X17" PRINTS THEY ARE NOT TO SCALE

OWNER: JAY L. BAIR
PHONE: (435)770-8636
EMAIL: jay@bairdesigns.com
WEB: bairdesigns.com
336 SUNBURST LN.
RICHMOND, UT, 84333

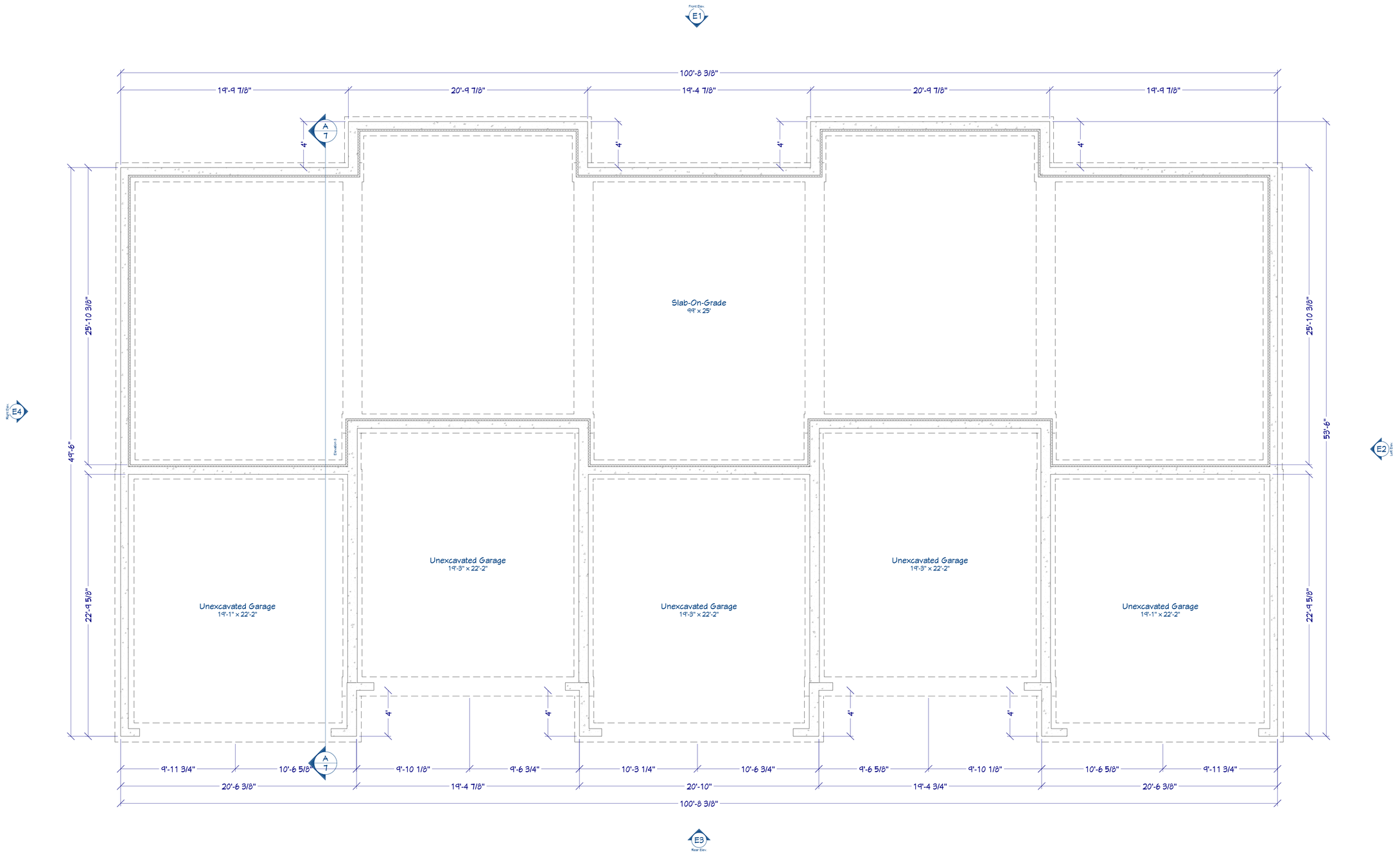
PROJECT FOR:
CopperWood Commercial

TITLE:

DATE:
6/8/2021

PAGE #
1

07/07/2021



Foundation plan
Scale: 1/4" = 1'

OWNER: JAY L. BAIR
PHONE: (435)770-8636
EMAIL: jay@bairdesigns.com
WEB: bairdesigns.com
336 SUNBURST LN.
BAIRDESIGN LLC RICHMOND, UT, 84333 ©

PROJECT FOR: CopperWood - II

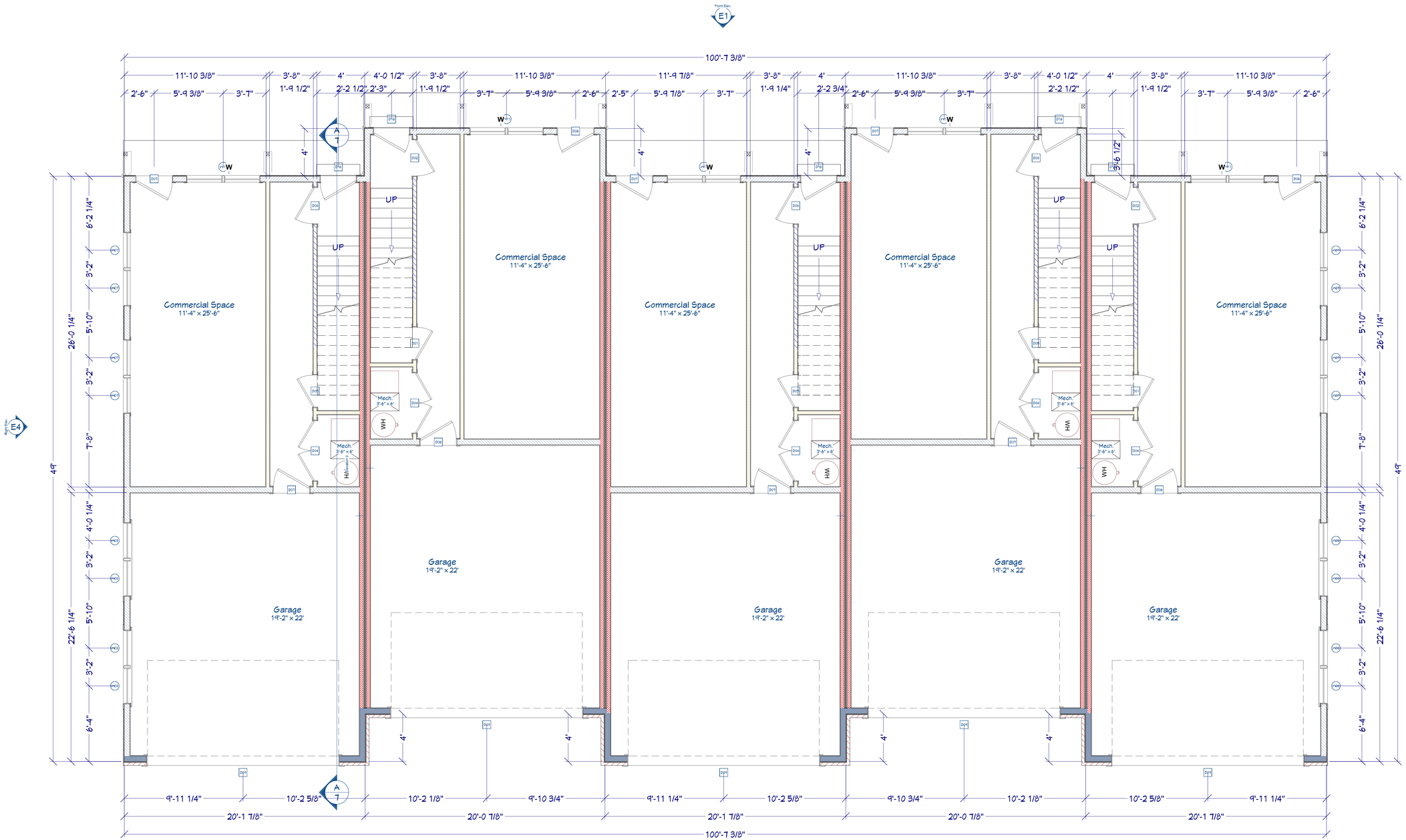
TITLE: Foundation plan

DATE: 5/5/2021

PAGE # 2

DO NOT SCALE 11"X17" PRINTS
THEY ARE NOT TO SCALE

07/07/2021



2,282 sq. ft. floor total
Each unit 456 sq. ft.
318 sq. ft. is Com.
Scale: 1/4" = 1'

DO NOT SCALE 11"X17" PRINTS
THEY ARE NOT TO SCALE

OWNER: JAY L. BAIR
PHONE: (435)770-8636
EMAIL: jay@bairdesigns.com
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336 SUNBURST LN. RICHMOND, UT, 84333

PROJECT FOR: CopperWood - II

TITLE: Main floor plan

DATE: 5/5/2021

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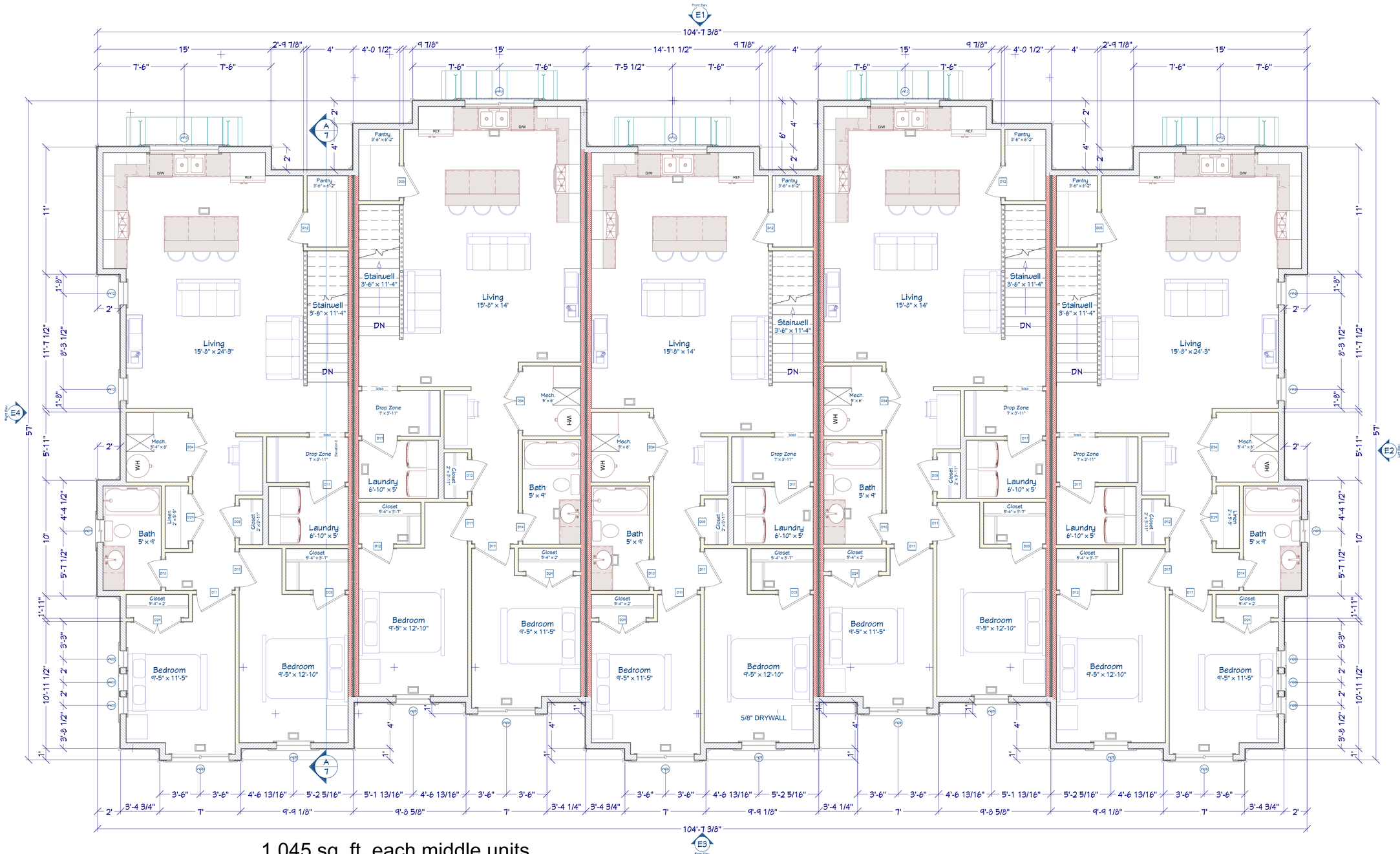

1,045 sq. ft. each middle units

5,301 sq. ft. floor total
2nd floor plan
Scale: 1/4" = 1'

1083 sq.ft. each end unit

DO NOT SCALE 11"X17" PRINTS THEY ARE NOT TO SCALE

OWNER: JAY L. BAIR
PHONE: (435)770-8636
EMAIL: jay@bairdesigns.com
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336 SUNBURST LN. RICHMOND, UT, 84333

PROJECT FOR: CopperWood - II

TITLE: 2nd floor plan

DATE: 5/5/2021

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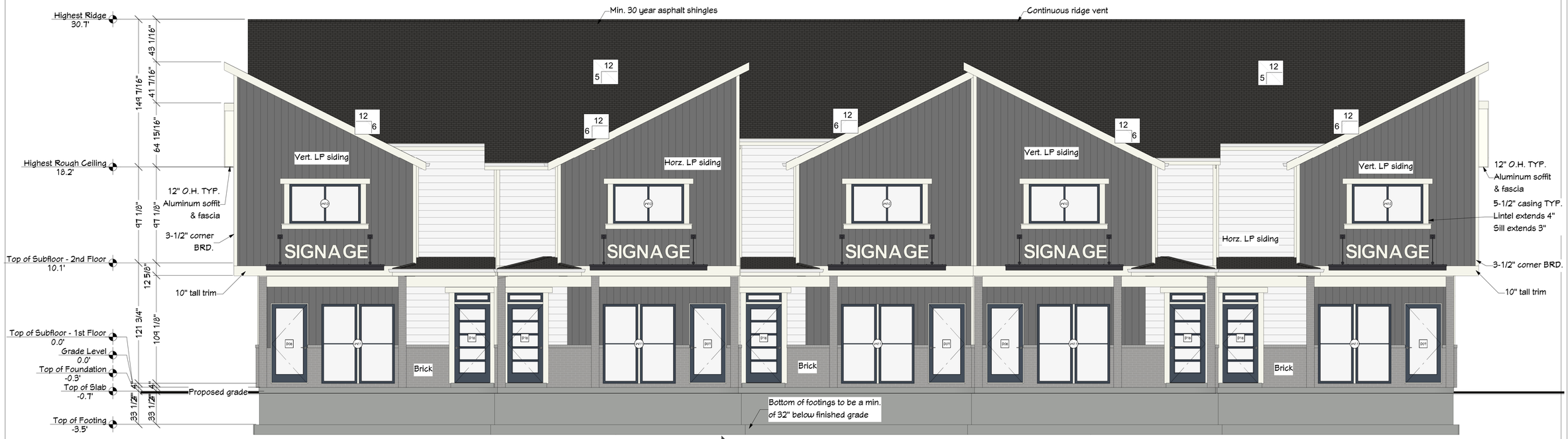
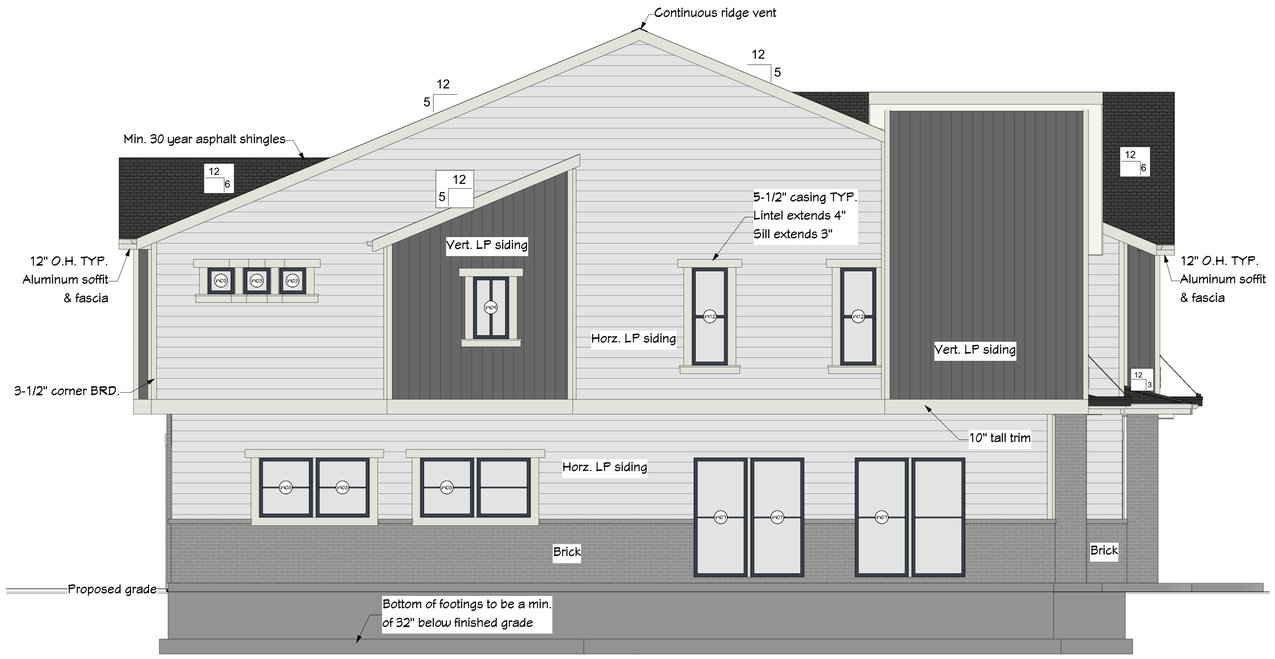
07/07/2021



E1 Front elevation
Scale: 1/4" = 1'



E2 Left elevation
Scale: 1/4" = 1'

MASTER DOOR SCHEDULE

NUMBER	QTY	FLOOR	SIZE	DIMENSIONS	R/O	NUMBER
D01	2	1	2868 R IN	32"X80"X1 3/8" R IN	34"X82 1/2"	D01
D02	2	1	3068 L IN	36"X80"X1 3/8" L IN	38"X82 1/2"	D02
D03	8	2	2868 L IN	32"X80"X1 3/8" L IN	34"X82 1/2"	D03
D04	5	1	5068 L/R IN	(2) 30"X80"X1 3/8" L/R IN	62"X82 1/2"	D04
D05	3	1	2868 L IN	32"X80"X1 3/8" L IN	34"X82 1/2"	D05
D06	4	1	3068 L EX	36"X80"X1 3/4" L EX	38"X83"	D06
D07	6	1	3068 R EX	36"X80"X1 3/4" R EX	38"X83"	D07
D08	3	1	3068 R IN	36"X80"X1 3/8" R IN	38"X82 1/2"	D08
D09	5	1	16080	192"X96"X1 3/4"	194"X99"	D09
D10	3	2	2468 L IN	28"X80"X1 3/8" L IN	30"X82 1/2"	D10
D11	9	2	3068 L IN	36"X80"X1 3/8" L IN	38"X82 1/2"	D11
D12	7	2	2868 R IN	32"X80"X1 3/8" R IN	34"X82 1/2"	D12
D14	2	2	2468 R IN	28"X80"X1 3/8" R IN	30"X82 1/2"	D14
D16	5	1	3078	36"X92"	36"X92"	D16
D17	6	2	3068 R IN	36"X80"X1 3/8" R IN	38"X82 1/2"	D17
D29	7	2	4068 L/R IN	(2) 24"X80"X1 3/8" L/R IN	50"X82 1/2"	D29
D34	5	2	5068 L/R IN	(2) 30"X80"X1 3/8" L/R IN	62"X82 1/2"	D34

MASTER WINDOW SCHEDULE

NUMBER	QTY	FLOOR	SIZE	DIMENSIONS	EGRESS	TEMPERED	QTY
W03	6	2	1616FX	18"X18"FX			6
W05	5	2	3050SH	36"X60"SH	YES		5
W06	5	2	5050LS	60"X60"LS	YES		5
W07	8	1	3068FX	36"X80"FX			8
W08	8	1	3034FX	36"X40"FX			8
W09	2	2	2036LS	24"X42"LS	YES		2
W10	5	2	6034LS	72"X40"LS	YES		5
W11	5	1	6268	74"X80"			5
W12	4	2	20565H	24"X66"SH			4

DO NOT SCALE 11"X17" PRINTS
THEY ARE NOT TO SCALE

OWNER: JAY L. BAIR
PHONE: (435)770-8636
EMAIL: jay@bairdesigns.com
WEB: bairdesigns.com
336 SUNBURST LN. ©
BAIRDESIGN LLC RICHMOND, UT, 84333

PROJECT FOR: CopperWood - II

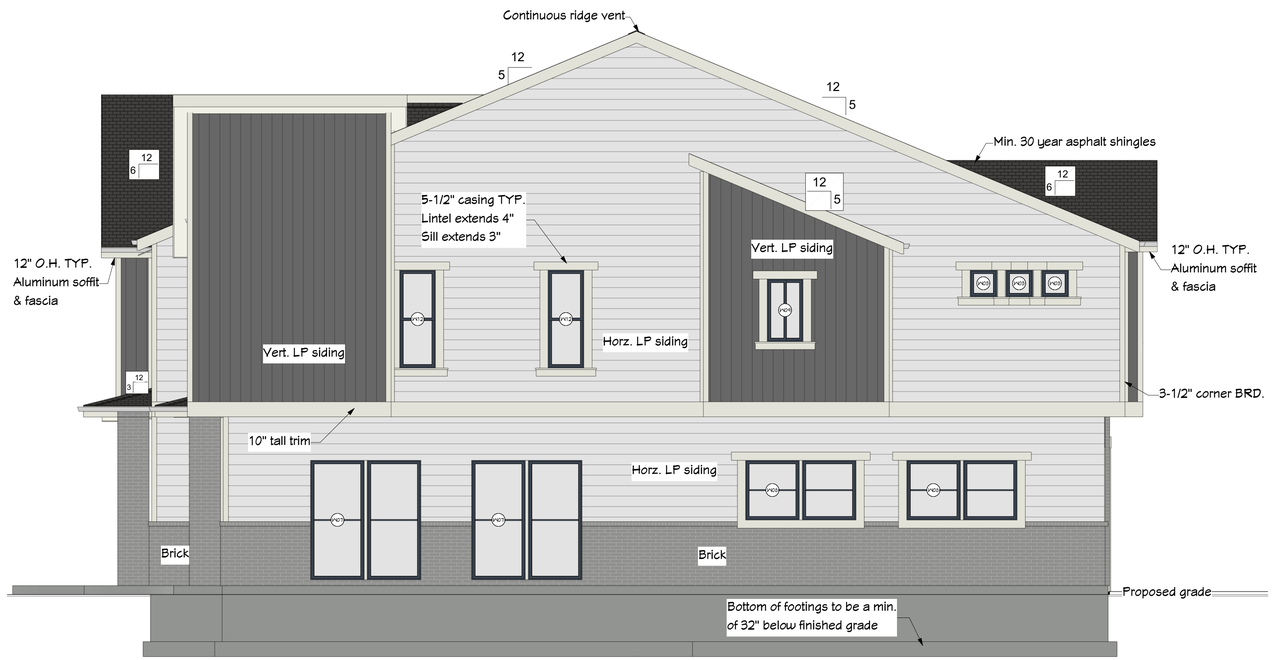
TITLE: Elevations

DATE: 5/5/2021

PAGE # 5

07/07/2021

E3 Rear elevation
Scale: 1/4" = 1'



E4 Right elevation
Scale: 1/4" = 1'

MASTER DOOR SCHEDULE						
NUMBER	QTY	FLOOR	SIZE	DIMENSIONS	R/O	NUMBER
D01	2	1	2868 R IN	32"X80"X1 3/8" R IN	34"X82 1/2"	D01
D02	2	1	3068 L IN	36"X80"X1 3/8" L IN	38"X82 1/2"	D02
D03	8	2	2868 L IN	32"X80"X1 3/8" L IN	34"X82 1/2"	D03
D04	5	1	5068 L/R IN	(2) 30"X80"X1 3/8" L/R IN	62"X82 1/2"	D04
D05	3	1	2868 L IN	32"X80"X1 3/8" L IN	34"X82 1/2"	D05
D06	4	1	3068 L EX	36"X80"X1 3/4" L EX	38"X83"	D06
D07	6	1	3068 R EX	36"X80"X1 3/4" R EX	38"X83"	D07
D08	3	1	3068 R IN	36"X80"X1 3/8" R IN	38"X82 1/2"	D08
D09	5	1	16080	192"X96"X1 3/4"	194"X99"	D09
D10	3	2	2468 L IN	28"X80"X1 3/8" L IN	30"X82 1/2"	D10
D11	9	2	3068 L IN	36"X80"X1 3/8" L IN	38"X82 1/2"	D11
D12	7	2	2868 R IN	32"X80"X1 3/8" R IN	34"X82 1/2"	D12
D14	2	2	2468 R IN	28"X80"X1 3/8" R IN	30"X82 1/2"	D14
D16	5	1	3078	36"X92"	38"X92"	D16
D17	6	2	3068 R IN	36"X80"X1 3/8" R IN	38"X82 1/2"	D17
D29	7	2	4068 L/R IN	(2) 24"X80"X1 3/8" L/R IN	50"X82 1/2"	D29
D34	5	2	5068 L/R IN	(2) 30"X80"X1 3/8" L/R IN	62"X82 1/2"	D34

MASTER WINDOW SCHEDULE						
NUMBER	QTY	FLOOR	SIZE	DIMENSIONS	EGRESS	TEMPERED	QTY
W03	6	2	1616FX	18"X18"FX			6
W05	5	2	3050SH	36"X60"SH	YES		5
W06	5	2	5050LS	60"X60"LS	YES		5
W07	8	1	3068FX	36"X80"FX			8
W08	8	1	3034FX	36"X40"FX			8
W09	2	2	2036LS	24"X42"LS	YES		2
W10	5	2	6034LS	72"X40"LS	YES		5
W11	5	1	6268	74"X80"			5
W12	4	2	2056SH	24"X66"SH			4

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PROJECT FOR: CopperWood - II

TITLE: Elevations

DATE: 5/5/2021

PAGE # 6

07/07/2021

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PROJECT FOR:
CopperWood - II

TITLE:

DATE:
5/5/2021

PAGE #
7

DO NOT SCALE 11"X17" PRINTS
THEY ARE NOT TO SCALE

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PROJECT FOR:
CopperWood - II

TITLE:

DATE:
5/5/2021

PAGE #
8

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PROJECT FOR:

CopperWood - II

TITLE:

DATE:
5/5/2021

PAGE #
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DO NOT SCALE 11"X17" PRINTS THEY ARE NOT TO SCALE

Copperwood

4-plex

Harrisville, UT.

GENERAL NOTES:

1. ALL CONSTRUCTION AND DETAILS SHALL COMPLY WITH THE INTERNATIONAL RESIDENTIAL CODE AND STATE AND LOCAL CODES.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCURATE PLACEMENT OF THE BUILDING ON THE SITE. ALL DIMENSIONS SHALL BE VERIFIED IN THE FIELD BEFORE ANY WORK PROCEEDS.
3. GAS/PROPANE FORCED AIR HEAT THRU-OUT. SUBCONTRACTOR TO SUPPLY GENERAL CONTRACTOR WITH COMPLETE SHOP DRAWINGS AND HEAT LOSS CALCULATIONS. ALL WARM AIR DUCTS AND COLD AIR RETURNS SHOWN ARE FOR REFERENCE ONLY.
4. FLOOR JOISTS ARE TO BE AS PER FRAMING PLAN OR COMPATIBLE. FLOOR DEFLECTION MUST BE L/480 OR BETTER.
5. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL CONSTRUCTION DETAILS.
6. 5/8" TYPE "X" SHEET ROCK AT GARAGE WALLS CEILING AND BEARING WALLS COMMON TO HOUSE. INSULATE HOUSE WALLS.
7. WIRE FOR TELEPHONE AND TELEVISION JACKS (UL LISTED) GENERAL CONTRACTOR TO COORDINATE LOCATIONS WITH OWNER. ALL ELECTRICAL PARTS SHOWN ARE FOR REFERENCE ONLY. CHECK WITH OWNER FOR EXACT LOCATION.
8. CONTRACTOR SHALL VERIFY ALL BEAM AND JOISTS SIZES AND SPACING.
9. GENERAL CONTRACTOR TO VERIFY WITH OWNER ON ALL EXTERIOR DOOR AND WINDOW TYPES AND MANUFACTURER PRIOR TO THE STARTING OF ANY FRAMING.
10. SEE FOUNDATION PLAN FOR LOCATIONS OF FOUNDATION STRAPS.
11. ALL HEADERS & BEAMS ARE TO BE 2X10 DF #2 BTR UNLESS NOTED OTHER WISE.
12. ALL WINDOWS TO BE DOUBLE PANE LOW-E GRADE
13. ALL EXTERIOR BASEMENT WALLS TO HAVE A MINIMUM OF R-11 INSULATIONS
14. ALL EXTERIOR ABOVE GRADE WALLS TO HAVE A MINIMUM OF R-21 INSULATION UNLESS NOTED OTHER WISE.
15. ALL ATTIC SPACES TO HAVE A MINIMUM OF R-50 INSULATION UNLESS NOTED OTHER
16. ALL DOORS SEPARATING GARAGE FROM LIVING SPACE AND FURNACE ROOM TO MEET OR EXCEED CODE R302.5.1. (20-MINUTE FIRE-RATED DOORS, EQUIPPED WITH A SELF-CLOSING DEVICE.)
17. COMBUSTION AIR FOR FURNACE AND WATER HEATERS TO MEET OR EXCEED G2407
18. CLOTHES DRYER EXHAUST VENTS TO MEET OR EXCEED M1502 (VENTING CANNOT PENETRATE FIRE RATED CONSTRUCTION MATERIALS).
19. ARC FAULT PROTECTION TO BE PROVIDED AS PER 3802.12, AND BE COMBINATION TYPE.
20. TAMPER RESISTANT OUTLETS ARE TO BE INSTALLED THROUGHOUT THE ENTIRE PROJECT.
21. EXTERIOR OUTLETS WILL BE REQUIRED TO HAVE COVERS OVER THEM TO CONFORM WITH SECTION E3902.8 THROUGH E3902.10

CONTENTS:

MASTER DOOR SCHEDULE

NUMBER	QTY	FLOOR	SIZE	DIMENSIONS	R/O	NUMBER
D01	4	1	16080	192"X96"X1 3/4"	194"X98"	D01
D02	4	1	3078	36"X42"	36"X42"	D02
D03	2	1	1868 R IN	20"X80"X1 3/8" R IN	22"X82 1/2"	D03
D04	2	1	2668 L IN	30"X80"X1 3/8" L IN	32"X82 1/2"	D04
D05	2	1	2668 R IN	30"X80"X1 3/8" R IN	32"X82 1/2"	D05
D07	2	2	2068 L IN	24"X80"X1 3/8" L IN	26"X82 1/2"	D07
D08	2	1	3068 L EX	36"X80"X1 3/4" L EX	38"X83"	D08
D09	2	1	3068 R EX	36"X80"X1 3/4" R EX	38"X83"	D09
D10	2	2	2868 R IN	32"X80"X1 3/8" R IN	34"X82 1/2"	D10
D11	4	1	5068 L/R EX	(2) 30"X80"X1 3/8" L/R EX	62"X83"	D11
D13	2	2	2068 R IN	24"X80"X1 3/8" R IN	26"X82 1/2"	D13
D14	2	2	2468 L IN	28"X80"X1 3/8" L IN	30"X82 1/2"	D14
D16	1	1	1868 L IN	20"X80"X1 3/8" L IN	22"X82 1/2"	D16
D17	2	2	2468 R IN	28"X80"X1 3/8" R IN	30"X82 1/2"	D17
D19	2	2	2868 L IN	32"X80"X1 3/8" L IN	34"X82 1/2"	D19
D20	8	2	3068 L IN	36"X80"X1 3/8" L IN	38"X82 1/2"	D20
D21	4	2	5068 L/R IN	(2) 30"X80"X1 3/8" L/R IN	62"X82 1/2"	D21
D23	8	2	3068 R IN	36"X80"X1 3/8" R IN	38"X82 1/2"	D23
D26	8	2	4068 L/R IN	(2) 24"X80"X1 3/8" L/R IN	50"X82 1/2"	D26
D27	4	2	6068 L/R IN	(2) 36"X80"X1 3/8" L/R IN	74"X82 1/2"	D27

MASTER WINDOW SCHEDULE

NUMBER	QTY	FLOOR	SIZE	DIMENSIONS	EGRESS	TEMPERED	QTY
W01	12	1	1616FX	18"X18"FX			12
W02	4	1	4646LS	54"X54"LS			4
W03	14	2	1616FX	18"X18"FX			14
W04	4	2	2030DH	24"X36"DH			4
W05	4	2	3050SH	36"X60"SH	YES		4
W06	10	2	5050LS	60"X60"LS	YES		10
W08	1	1	5046LS	60"X54"LS	YES		1

DO NOT SCALE 11"X17" PRINTS THEY ARE NOT TO SCALE

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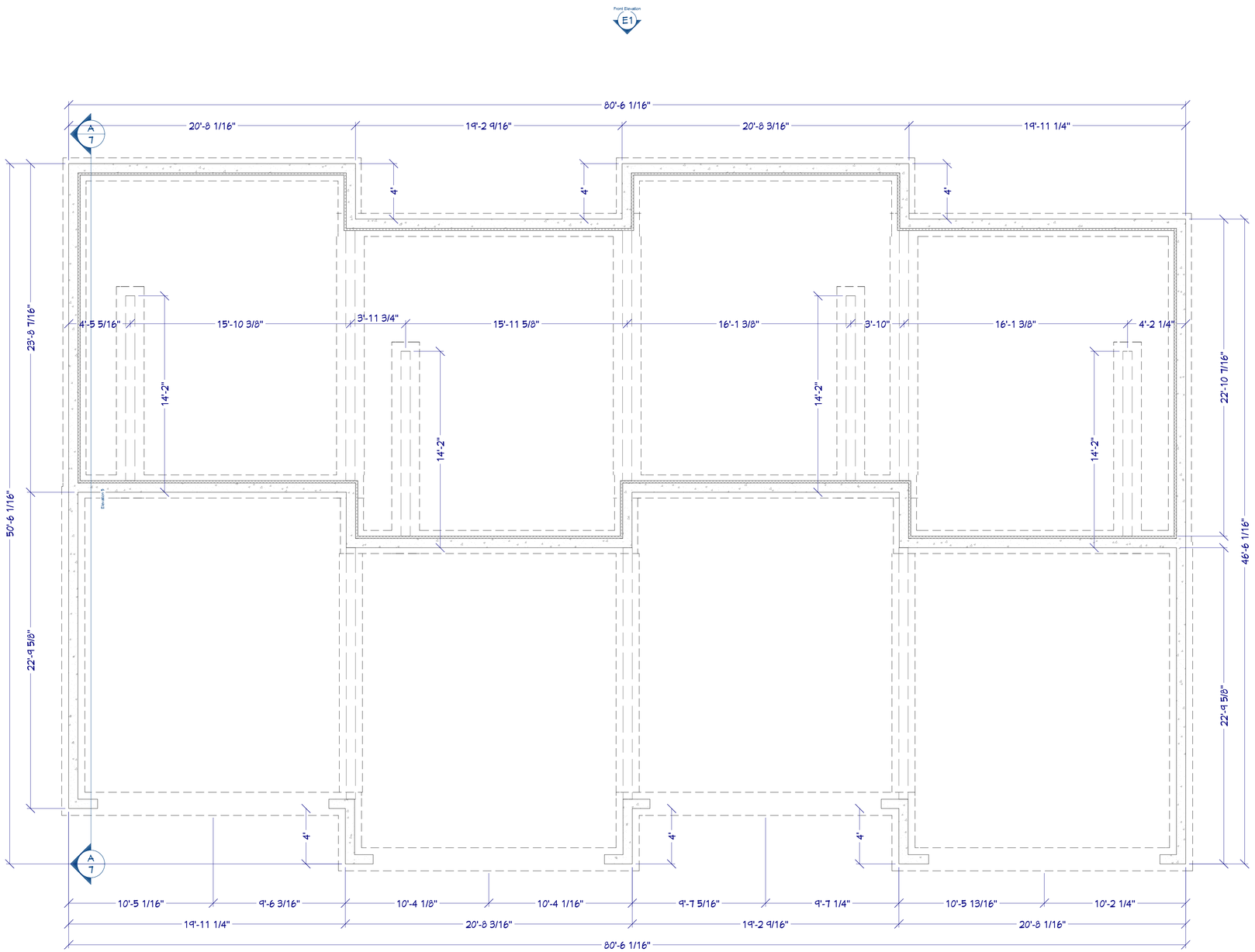
PROJECT FOR: CopperWood

TITLE: Cover Page

DATE: 5/6/2021

PAGE # 1

07/07/2021



Foundation plan
Scale: 1/4 = 1'

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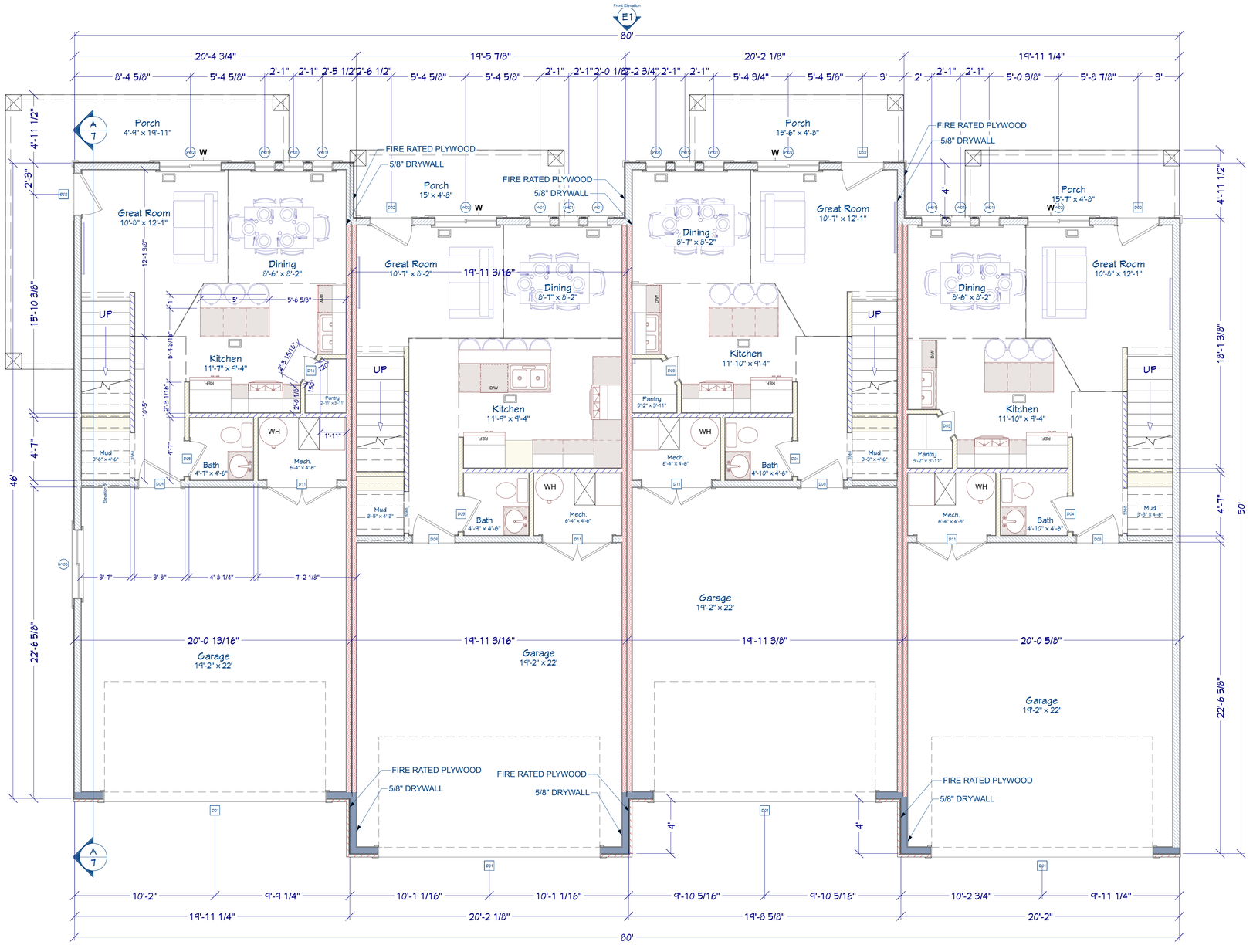
PROJECT FOR: CopperWood

TITLE: Foundation plan

DATE: 5/6/2021

PAGE # 2

DO NOT SCALE 11"X17" PRINTS THEY ARE NOT TO SCALE



MASTER DOOR SCHEDULE						
NUMBER	QTY	FLOOR	SIZE	DIMENSIONS	R/O	NUMBER
D01	4	1	16080	192"X96"X1 3/4"	194"X99"	D01
D02	4	1	3078	36"X92"	36"X92"	D02
D03	2	1	1868 R IN	20"X80"X1 3/8" R IN	22"X82 1/2"	D03
D04	2	1	2668 L IN	30"X80"X1 3/8" L IN	32"X82 1/2"	D04
D05	2	1	2668 R IN	30"X80"X1 3/8" R IN	32"X82 1/2"	D05
D07	2	2	2068 L IN	24"X80"X1 3/8" L IN	26"X82 1/2"	D07
D08	2	1	3068 L EX	36"X80"X1 3/4" L EX	38"X83"	D08
D09	2	1	3068 R EX	36"X80"X1 3/4" R EX	38"X83"	D09
D10	2	2	2868 R IN	32"X80"X1 3/8" R IN	34"X82 1/2"	D10
D11	4	1	5068 L/R EX	(2) 30"X80"X1 3/8" L/R EX	62"X83"	D11
D13	2	2	2068 R IN	24"X80"X1 3/8" R IN	26"X82 1/2"	D13
D14	2	2	2468 L IN	28"X80"X1 3/8" L IN	30"X82 1/2"	D14
D16	1	1	1868 L IN	20"X80"X1 3/8" L IN	22"X82 1/2"	D16
D17	2	2	2468 R IN	28"X80"X1 3/8" R IN	30"X82 1/2"	D17
D19	2	2	2868 L IN	32"X80"X1 3/8" L IN	34"X82 1/2"	D19
D20	8	2	3068 L IN	36"X80"X1 3/8" L IN	38"X82 1/2"	D20
D21	4	2	5068 L/R IN	(2) 30"X80"X1 3/8" L/R IN	62"X82 1/2"	D21
D23	8	2	3068 R IN	36"X80"X1 3/8" R IN	38"X82 1/2"	D23
D26	8	2	4068 L/R IN	(2) 24"X80"X1 3/8" L/R IN	50"X82 1/2"	D26
D27	4	2	6068 L/R IN	(2) 36"X80"X1 3/8" L/R IN	74"X82 1/2"	D27

MASTER WINDOW SCHEDULE						
NUMBER	QTY	FLOOR	SIZE	DIMENSIONS	EGRESS	TEMPERED	QTY
W01	12	1	1616FX	18"X18"FX			12
W02	4	1	4646LS	54"X54"LS			4
W03	14	2	1616FX	18"X18"FX			14
W04	4	2	2030DH	24"X36"DH			4
W05	4	2	3050SH	36"X60"SH	YES		4
W06	10	2	5050LS	60"X60"LS	YES		10
W08	1	1	5046LS	60"X54"LS	YES		1

(1,748 sq. ft. main floor total)
Main floor plan
Scale: 1/4" = 1'

437 sq. ft. each unit

SYMBOLS:

- **W** WATER FAUCET
- HEAT VENT
- FLOOR DRAIN
- BEARING WALLS

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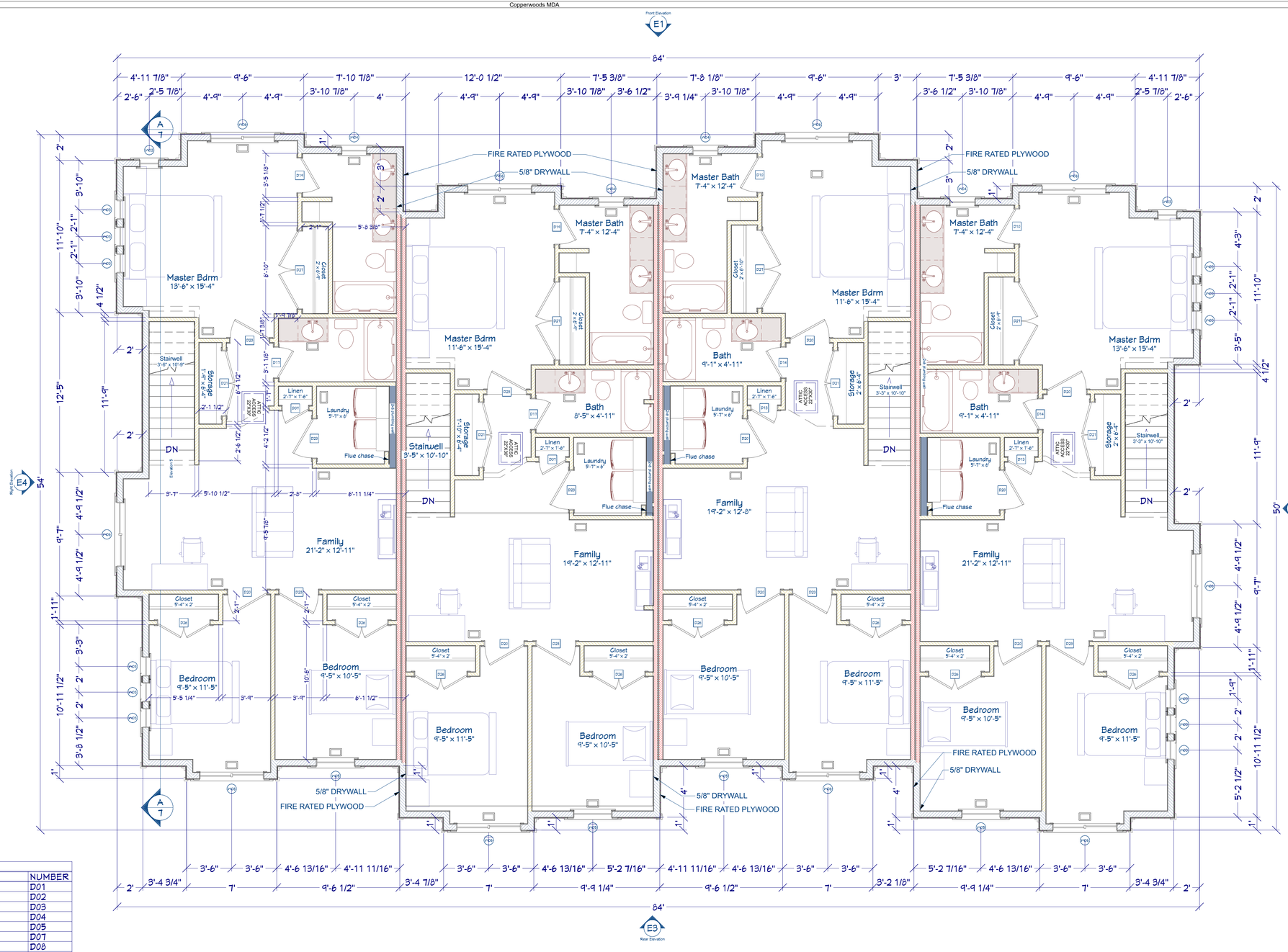
PROJECT FOR: CopperWood

TITLE: Main floor plan

DATE: 5/6/2021

PAGE # 3

07/07/2021



MASTER DOOR SCHEDULE						
NUMBER	QTY	FLOOR	SIZE	DIMENSIONS	R/O	NUMBER
D01	4	1	16080	192"X96"X1 3/4"	194"X99"	D01
D02	4	1	3078	36"X82"	36"X82"	D02
D03	2	1	1868 R IN	20"X80"X1 3/8" R IN	22"X82 1/2"	D03
D04	2	1	2668 L IN	30"X80"X1 3/8" L IN	32"X82 1/2"	D04
D05	2	1	2668 R IN	30"X80"X1 3/8" R IN	32"X82 1/2"	D05
D07	2	2	2068 L IN	24"X80"X1 3/8" L IN	26"X82 1/2"	D07
D08	2	1	3068 L EX	36"X80"X1 3/4" L EX	38"X83"	D08
D09	2	1	3068 R EX	36"X80"X1 3/4" R EX	38"X83"	D09
D10	2	2	2868 R IN	32"X80"X1 3/8" R IN	34"X82 1/2"	D10
D11	4	1	5068 L/R EX	(2) 30"X80"X1 3/8" L/R EX	62"X83"	D11
D13	2	2	2068 R IN	24"X80"X1 3/8" R IN	26"X82 1/2"	D13
D14	2	2	2468 L IN	28"X80"X1 3/8" L IN	30"X82 1/2"	D14
D16	1	1	1868 L IN	20"X80"X1 3/8" L IN	22"X82 1/2"	D16
D17	2	2	2468 R IN	28"X80"X1 3/8" R IN	30"X82 1/2"	D17
D19	2	2	2868 L IN	32"X80"X1 3/8" L IN	34"X82 1/2"	D19
D20	6	2	3068 L IN	36"X80"X1 3/8" L IN	38"X82 1/2"	D20
D21	4	2	5068 L/R IN	(2) 30"X80"X1 3/8" L/R IN	62"X82 1/2"	D21
D23	6	2	3068 R IN	36"X80"X1 3/8" R IN	38"X82 1/2"	D23
D26	6	2	4068 L/R IN	(2) 24"X80"X1 3/8" L/R IN	50"X82 1/2"	D26
D27	4	2	6068 L/R IN	(2) 36"X80"X1 3/8" L/R IN	74"X82 1/2"	D27

MASTER WINDOW SCHEDULE						
NUMBER	QTY	FLOOR	SIZE	DIMENSIONS	EGRESS	TEMPERED	QTY
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W04	4	2	2030DH	24"X36"DH			4
W05	4	2	3050SH	36"X60"SH	YES		4
W06	10	2	5050LS	60"X60"LS	YES		10
W08	1	1	5046LS	60"X54"LS	YES		1

972 sq. ft. middle units

(3,982 sq. ft. 2nd floor total)
2nd floor plan
Scale: 1/4" = 1'

1,019 sq. ft. end units

SYMBOLS:

- W — WATER FAUCET
- HEAT VENT
- FLOOR DRAIN
- BEARING WALLS

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PROJECT FOR: CopperWood

TITLE: 2nd floor plan

DATE: 5/6/2021

PAGE # 4

Front elevation
Scale: 1/4' = 1'

Rear elevation
Scale: 1/4' = 1'

MASTER DOOR SCHEDULE

NUMBER	QTY	FLOOR	SIZE	DIMENSIONS	R/O	NUMBER
D01	4	1	16080	192"X96"X1 3/4"	194"X99"	D01
D02	4	1	3078	36"X82"	36"X82"	D02
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D05	2	1	2668 R IN	30"X80"X1 3/8" R IN	32"X82 1/2"	D05
D07	2	2	2068 L IN	24"X80"X1 3/8" L IN	26"X82 1/2"	D07
D08	2	1	3068 L EX	36"X80"X1 3/4" L EX	38"X83"	D08
D09	2	1	3068 R EX	36"X80"X1 3/4" R EX	38"X83"	D09
D10	2	2	2868 R IN	32"X80"X1 3/8" R IN	34"X82 1/2"	D10
D11	4	1	5068 L/R EX	(2) 30"X80"X1 3/8" L/R EX	62"X83"	D11
D13	2	2	2068 R IN	24"X80"X1 3/8" R IN	26"X82 1/2"	D13
D14	2	2	2468 L IN	28"X80"X1 3/8" L IN	30"X82 1/2"	D14
D16	1	1	1868 L IN	20"X80"X1 3/8" L IN	22"X82 1/2"	D16
D17	2	2	2468 R IN	28"X80"X1 3/8" R IN	30"X82 1/2"	D17
D19	2	2	2868 L IN	32"X80"X1 3/8" L IN	34"X82 1/2"	D19
D20	8	2	3068 L IN	36"X80"X1 3/8" L IN	38"X82 1/2"	D20
D21	4	2	5068 L/R IN	(2) 30"X80"X1 3/8" L/R IN	62"X82 1/2"	D21
D23	8	2	3068 R IN	36"X80"X1 3/8" R IN	38"X82 1/2"	D23
D26	8	2	4068 L/R IN	(2) 24"X80"X1 3/8" L/R IN	50"X82 1/2"	D26
D27	4	2	6068 L/R IN	(2) 36"X80"X1 3/8" L/R IN	74"X82 1/2"	D27

MASTER WINDOW SCHEDULE

NUMBER	QTY	FLOOR	SIZE	DIMENSIONS	EGRESS	TEMPERED	QTY
W01	12	1	1616FX	16"X16"FX			12
W02	4	1	4646LS	54"X54"LS			4
W03	14	2	1616FX	16"X16"FX			14
W04	4	2	2030DH	24"X36"DH			4
W05	4	2	3050SH	36"X60"SH	YES		4
W06	10	2	5050LS	60"X60"LS	YES		10
W08	1	1	5046LS	60"X54"LS	YES		1

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PROJECT FOR:
CopperWood

TITLE:
Elevations

DATE:
5/6/2021

PAGE #
5

DO NOT SCALE 11"X17" PRINTS
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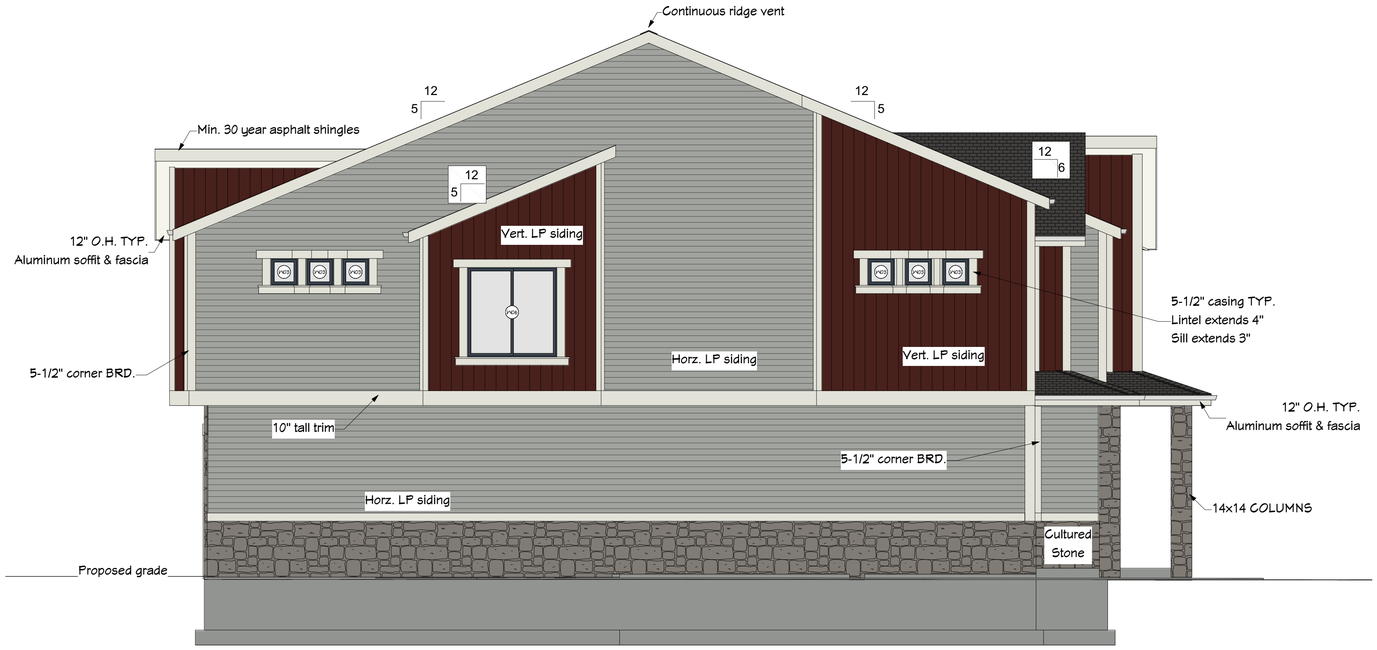
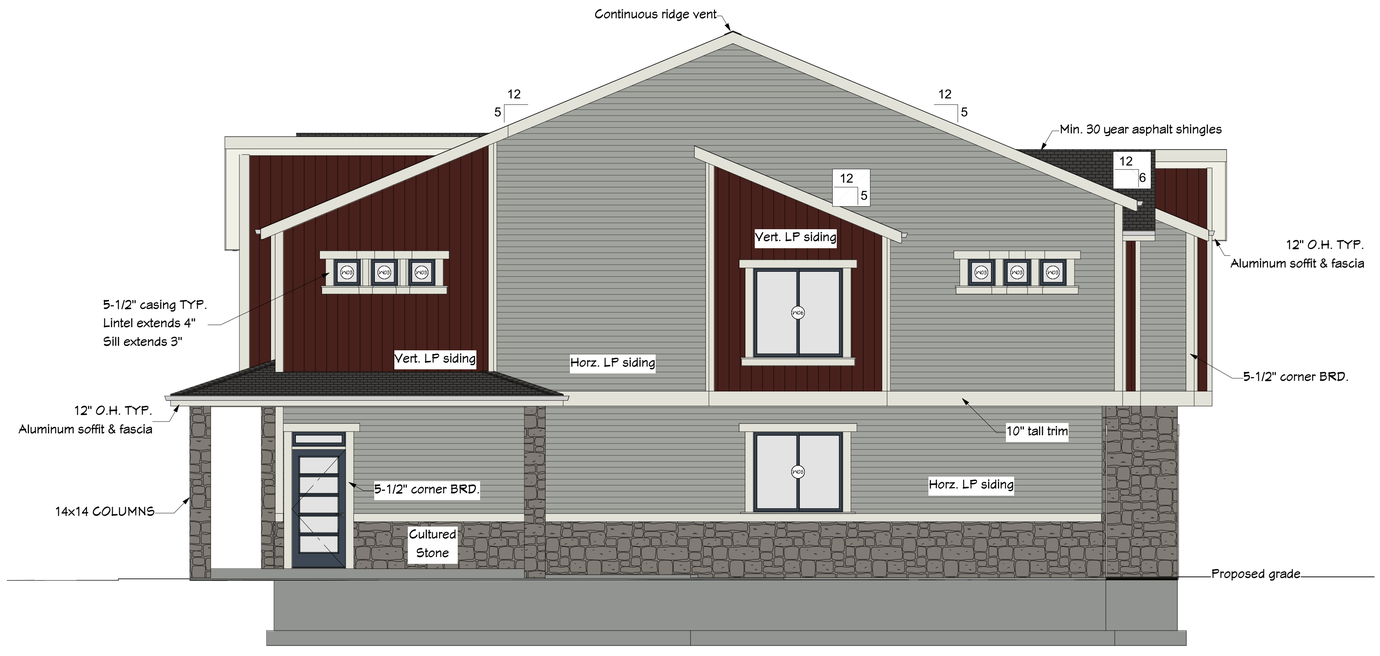


Left elevation
Scale: 1/4" = 1'



Right elevation
Scale: 1/4" = 1'

MASTER DOOR SCHEDULE

NUMBER	QTY	FLOOR	SIZE	DIMENSIONS	R/O	NUMBER
D01	4	1	16080	192"X96"X1 3/4"	194"X99"	D01
D02	4	1	3078	36"X92"	36"X92"	D02
D03	2	1	1868 R IN	20"X80"X1 3/8" R IN	22"X82 1/2"	D03
D04	2	1	2668 L IN	30"X80"X1 3/8" L IN	32"X82 1/2"	D04
D05	2	1	2668 R IN	30"X80"X1 3/8" R IN	32"X82 1/2"	D05
D07	2	2	2068 L IN	24"X80"X1 3/8" L IN	26"X82 1/2"	D07
D08	2	1	3068 L EX	36"X80"X1 3/4" L EX	38"X83"	D08
D09	2	1	3068 R EX	36"X80"X1 3/4" R EX	38"X83"	D09
D10	2	2	2868 R IN	32"X80"X1 3/8" R IN	34"X82 1/2"	D10
D11	4	1	5068 L/R EX	(2) 30"X80"X1 3/8" L/R EX	62"X83"	D11
D13	2	2	2068 R IN	24"X80"X1 3/8" R IN	26"X82 1/2"	D13
D14	2	2	2468 L IN	28"X80"X1 3/8" L IN	30"X82 1/2"	D14
D16	1	1	1868 L IN	20"X80"X1 3/8" L IN	22"X82 1/2"	D16
D17	2	2	2468 R IN	28"X80"X1 3/8" R IN	30"X82 1/2"	D17
D19	2	2	2868 L IN	32"X80"X1 3/8" L IN	34"X82 1/2"	D19
D20	8	2	3068 L IN	36"X80"X1 3/8" L IN	38"X82 1/2"	D20
D21	4	2	5068 L/R IN	(2) 30"X80"X1 3/8" L/R IN	62"X82 1/2"	D21
D23	8	2	3068 R IN	36"X80"X1 3/8" R IN	38"X82 1/2"	D23
D26	8	2	4068 L/R IN	(2) 24"X80"X1 3/8" L/R IN	50"X82 1/2"	D26
D27	4	2	6068 L/R IN	(2) 36"X80"X1 3/8" L/R IN	74"X82 1/2"	D27

MASTER WINDOW SCHEDULE

NUMBER	QTY	FLOOR	SIZE	DIMENSIONS	EGRESS	TEMPERED	QTY
W01	12	1	1616FX	18"X18"FX			12
W02	4	1	4646LS	54"X54"LS			4
W03	14	2	1616FX	18"X18"FX			14
W04	4	2	2030DH	24"X36"DH			4
W05	4	2	3050SH	36"X60"SH	YES		4
W06	10	2	5050LS	60"X60"LS	YES		10
W08	1	1	5046LS	60"X54"LS	YES		1

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PROJECT FOR: CopperWood

TITLE: Elevations

DATE: 5/6/2021

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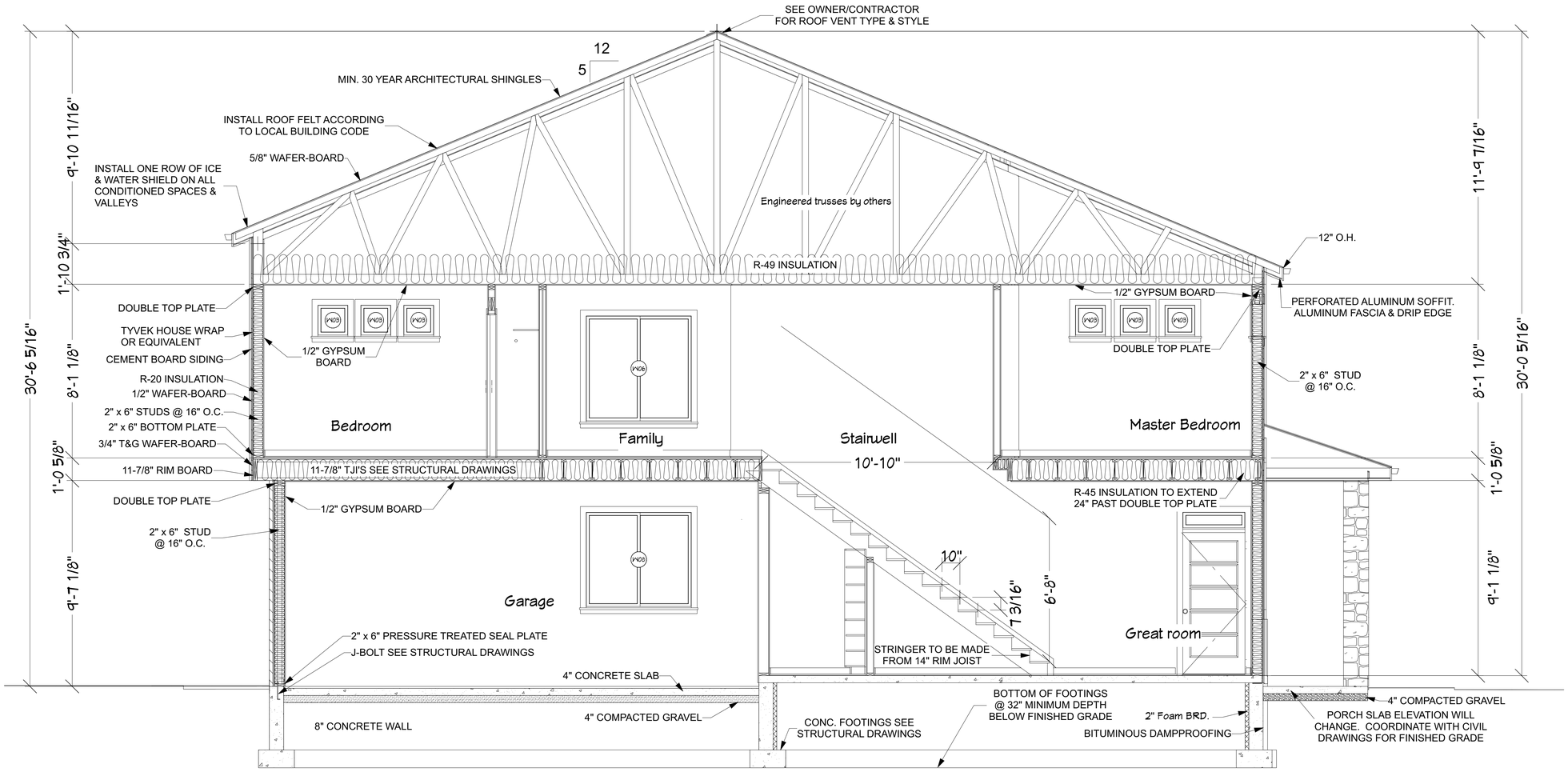
DO NOT SCALE 11"X17" PRINTS THEY ARE NOT TO SCALE



A7 Building section
Scale: 3/8" = 1'

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PROJECT FOR:
CopperWood

TITLE:
Building section

DATE:
5/6/2021

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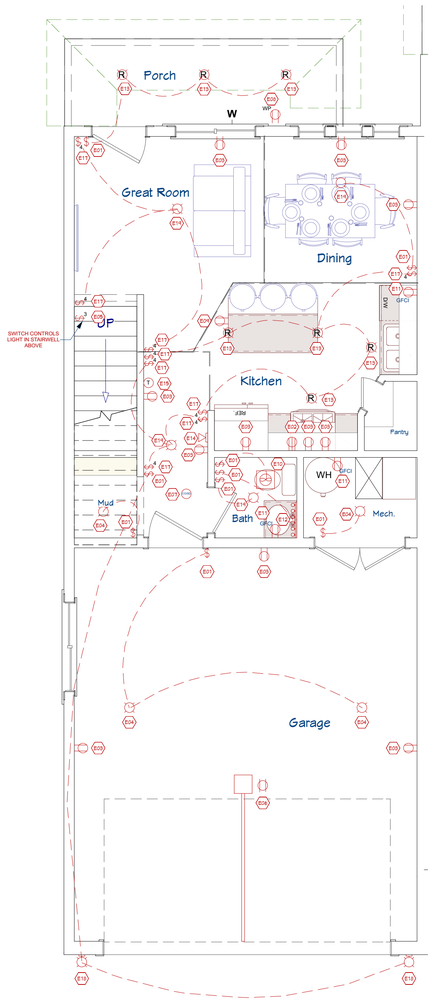


Main floor electrical plan
Scale: 1/4" = 1'

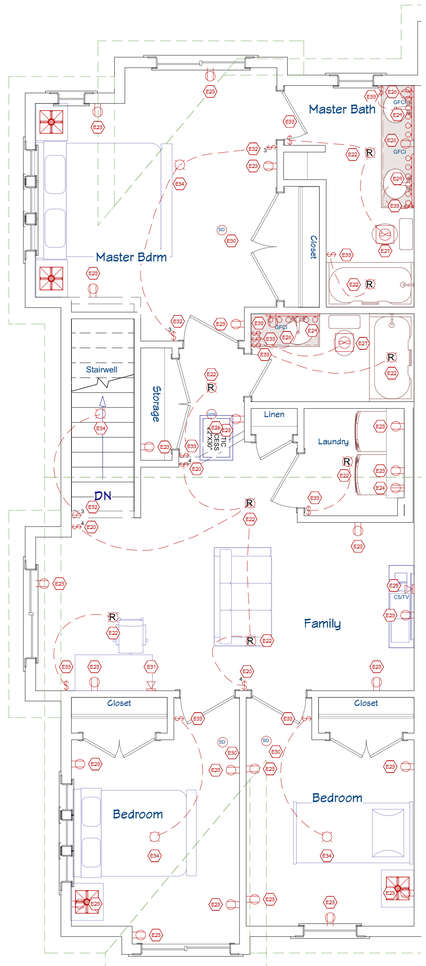
COORDINATE WITH OWNER THE POSSIBLE INSTALLATION OF SECURITY SYSTEMS, INTERCOM, CABLE TV, COMPUTER, SPEAKERS, OR OTHER SPECIALTY ITEMS NOT INDICATED ON THE DRAWINGS, BUT CURRENT WITH THE INDUSTRY. ALL OUTLET SPACING IS CONCEPTUAL IN NATURE AND WILL BE FIELD VERIFIED. ELECTRICIAN WILL BE RESPONSIBLE FOR PROPER INSTILLATION OF ALL EXTERIOR PENETRATIONS OF STRUCTURE. ARC FAULT PROTECTION TO BE PROVIDED AS PER 3802.12, AND BE COMBINATION TYPE. TAMPER RESISTANT OUTLETS ARE TO BE INSTALLED THROUGHOUT THE ENTIRE PROJECT. EXTERIOR OUTLETS WILL BE REQUIRED TO HAVE COVERS OVER THEM TO CONFORM WITH SECTION E3902.8 THROUGH E3902.10 OUTLET SPACING MUST CONFORM TO IRC 3901.2.1

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	LIGHT FIXTURE
R	RECESSED LIGHT
	EYEBALL (ROTATED)
	CEILING FAN (LIGHTS)
	CHANDELIER
	FLUORESCENT LIGHTS (SEE PLAN FOR SIZE)
	DUAL SPOTLIGHT
EXT	EXTERIOR LIGHT
	LIGHT BAR W/MIRROR
	LIGHT HALF CONE
	BATHROOM EXHAUST FAN
SD	SMOKE DETECTOR
	TELEVISION
	TELEPHONE
CAT5TV	CAT5 w/ TV
	INTERCOM
	SINGLE POLE SWITCH
3	THREE WAY SWITCH
4	FOUR WAY SWITCH
	110V /DUPLEX OUTLET
	110V /QUADRUPLEX
	110V /FLOOR DUPLEX OUTLET
GFCI	GFCI OUTLET
WP	DUPLEX (WEATHERPROOF)
	220V OUTLET
T	THERMOSTAT
	BREAKER PANEL

MASTER ELECTRICAL SCHEDULE

NUMBER	QTY	FLOOR	ATTACHED TO	DESCRIPTION	NUMBER
E01	9	1	WALL	SINGLE POLE	E01
E02	1	1	WALL	220V	E02
E03	11	1	WALL	DUPLEX	E03
E04	4	1	CEILING	BARE BULB	E04
E05	1	1	WALL	THREE WAY	E05
E06	1	1	CEILING	CEILING DUPLEX	E06
E07	1	1	CEILING	CO/SMOKE DETECTOR	E07
E08	1	1	WALL	DUPLEX (WEATHERPROOF)	E08
E09	1	1	CABINET	DUPLEX	E09
E10	1	1	CEILING	EXHAUST	E10
E11	3	1	WALL	GFCI	E11
E12	1	1	WALL	LIGHT BAR (MIRROR)	E12
E13	7	1	CEILING	RECESSED DOWN LIGHT	E13
E14	1	1	WALL	TELEPHONE JACK	E14
E15	1	1	WALL	THERMOSTAT	E15
E17	9	1	WALL	FOUR WAY	E17
E18	2	1	WALL	CAGED LANTERN SCONCE	E18
E19	4	1	CEILING	TRADITIONAL FLUSH DOME	E19
E20	3	2	WALL	FOUR WAY	E20
E22	8	2	CEILING	RECESSED DOWN LIGHT	E22
E23	24	2	WALL	DUPLEX	E23
E24	1	2	WALL	220V	E24
E25	1	2	WALL	CAT5 W/ TV	E25
E26	1	2	CEILING	CO/SMOKE DETECTOR	E26
E27	2	2	CEILING	EXHAUST	E27
E28	3	2	WALL	GFCI	E28
E29	5	2	WALL	LIGHT BAR (MIRROR)	E29
E30	3	2	CEILING	SMOKE DETECTOR	E30
E31	1	2	WALL	TELEPHONE JACK	E31
E32	3	2	WALL	THREE WAY	E32
E33	12	2	WALL	SINGLE POLE	E33
E34	4	2	CEILING	TRADITIONAL FLUSH DOME	E34



2nd floor electrical plan
Scale: 1/4" = 1'

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PROJECT FOR:
CopperWood

TITLE:
Electrical plans

DATE:
5/6/2021

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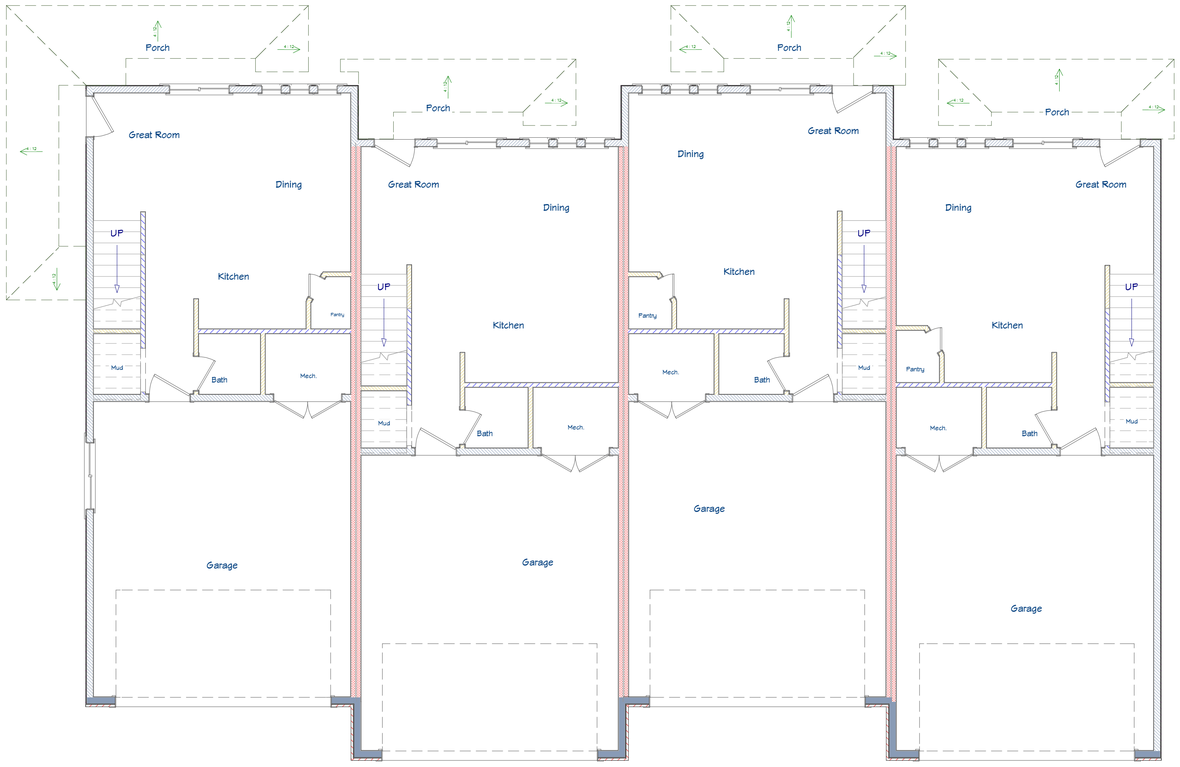
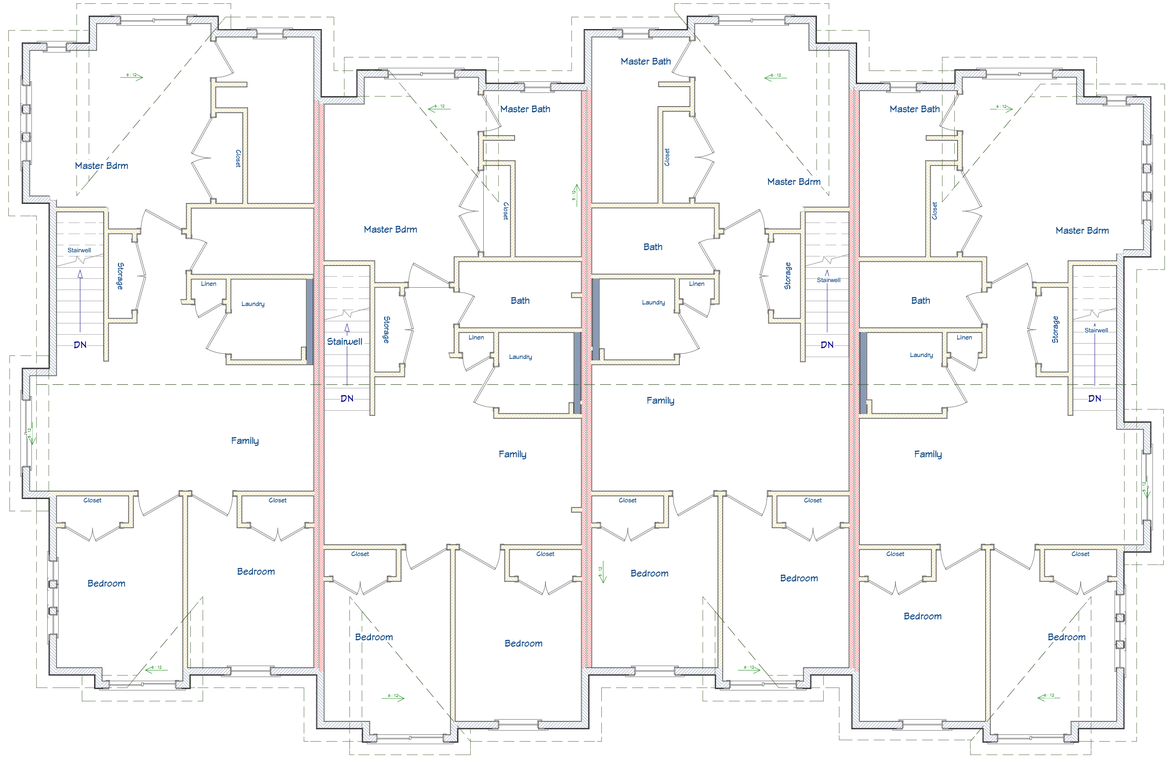


Main floor roof planes
Scale: 3/16" = 1'



2nd floor roof planes
Scale: 3/16" = 1'

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PROJECT FOR: CopperWood

TITLE: Roof planes

DATE: 5/6/2021

PAGE # 9

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PROJECT FOR:
CopperWood

TITLE:

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10

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PROJECT FOR:
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12

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CopperWood

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13

DO NOT SCALE 11"X17" PRINTS
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Exhibit F
HOA Organizational Documents and CC&R's

After Recording Return To:
Copperwoods L.L.C.
c/o
Jake Thompson
2990 North 1600 East
North Logan, Utah 84341

COPPERWOODS HOMEOWNERS' ASSOCIATION

DECLARATION OF PROTECTIVE COVENANTS, CONDITIONS AND RESTRICTIONS

The owners of the following described real property, to wit:

INSERT LEGAL

This Declarant as the owner of certain Land/Subdivision in Harrisville City, Weber County, State of Utah, (hereinafter "the Subdivision"), established pursuant to a plat recorded _____ , as Entry Number _____ , in Book , _____ , at Page _____ , of the records of Weber County, Utah, makes the following declaration as to convents, conditions, limitations, restrictions, agreements (collectively referred to as the CC&Rs) as covenants to run with the above described land and be binding on all present and future Owner(s) thereof, for their mutual benefit and protection.

PURPOSE:
The purpose of these Covenants, Conditions, and Restrictions (CC&Rs) is to conform the perpetual operation of the residential Lots consistent with the Master Development Agreement, and administer other matters for the collective health, safety, and welfare of the development and community.

ENFORCEMENT OF CODES, COVENANTS AND RESTRICTIONS:
If any member of the Subdivision shall be found in violation of these CC&Rs, a member may advise said non-conforming lot owner, and advise of possible legal action by private legal remedies. The remaining lot owners are not obliged to be participatory in the legal action but may be adjoining in the process. A congenial, neighborly resolution is advanced as the first step towards resolution. The City means Harrisville City, or its successor and the City does not enforce these CC&Rs.

Every owner is required to provide occupants names and contact information within one week of occupancy. Every owner is required to provide Investment Fee within 7 days of occupancy, if applicable. Every owner is required to provide Transfer Fee upon recording. Monthly HOA dues will apply based on the 1st day the unit is occupied and is due within 7 days of occupancy.

1. DUES. HOA assessments are due on the 1st day of each month for that month. Late fees are applied within 7 days and 18% interest per annum will be assessed on outstanding balances after the 7th of the month. Statements will only be sent out if dues are not paid. Dues for units under construction with building permits will only pay the water portion of the dues.
2. Initiation Fee: Each new owner who purchases a unit from the developer shall pay an investment fee of $350.

3. Transfer: Each new owner who purchases a unit from a seller who is not the developer shall pay a transfer fee of $50.
4. Insurance: Copperwoods HOA carries an Insurance policy for the Common Area and building exteriors for both the townhomes and commercial structures. Each unit owner or occupant(s) shall be required to carry his/her own liability insurance naming Copperwoods as additional insured. The amount of the liability insurance policy shall be no less than $1,000,000 per occurrence.
5. Common Areas will be kept clean. Occupants are required to remove personal items and personal items will not be left in the common area overnight.
6. There are no alterations allowed on the exterior of the buildings or in the common areas.
7. Pets are limited to 1 dog (weighing less than 70 pounds) or 1 cat per Unit. Pets cannot be housed outside or in garages. All pets to be registered with the HOA Manager. Pet owners must clean up after their animals immediately. Pets are to be leashed at all times to a person. Animal Control should be called if a dog is seen un-leashed. Pets cannot disturb the peace and will not be acceptable after more than 3 valid complaints. No breeding of animals allowed in the community. Fines will be assessed after first warning.
8. No flammable, hazardous or illegal materials to be kept on the Property.
9. Landlords are responsible for their tenants' adherence to the rules and are required to deliver HOA Rules and Regs to their tenants and incorporate pertinent rules and regs in their lease agreements, if applicable. The Unit Owners are to provide Tenant contact information to the HOA Manager. Any changes to occupancy to be reported within (7) days.
10. Winterizing. Outside water taps are front free valves to prevent freezing. All hoses must be removed in the fall. If a unit is vacant in the winter, the Owner is responsible and liable for freezing pipes and the Owner is required to have the unit winterized or to leave the heat on.
11. Littering. Unit Owners to take large items or toxic items to be disposed of off-site. Christmas trees to be taken off-site.
12. A satellite dish is allowed per Unit upon approval by the HOA Manager regarding placement.
13. No smoking or vaping within 20 feet outside of any Unit.
14. No Hazardous or Illegal Activities shall be conducted on the Property, which are unsafe or hazardous to any person, including but not limited to fireworks.
15. Live here/work here businesses must be registered with Harrisville City.

The Rules and Regulation violations will begin with a letter addressing the issue with a given time to cure the infraction. If the violation is not remedied in the given time frame, fines shall be levied as follows:

1st Letter of Warning, or personal contact
2nd Offense $25
3rd Offense $50
4th Offense $50/Day

USES:

1. Non-Residential Use: These CC&Rs do not apply to any non-residential use. No commercial enterprises shall be conducted in or upon any Lot, except for Lots approved as such on the Master Development Map. Specifically, the following uses are prohibited at all times, including but not limited to: automobile or vehicle repair of any kind, kennel or cattery, and any enterprise that constitutes a public nuisance. Owners shall only conduct those activities permitted by Code as a home occupation that do not interfere with the residential character of the neighborhood.

2. No Mining, Extraction, or Drilling Uses. The property within the Subdivision shall be used for residential purposes only and no mining, drilling, prospecting, mineral exploration, extraction of any resources or material, or quarrying activity shall be permitted at any time, except for a state approved water source.

3. No Transient Lodging Uses. The Lots are to be used for residential housing purposes only, and shall not be rented, in whole or in part, for transient lodging purposes such as Airbnb, boarding house, bed and breakfast, or other uses for providing accommodations to travelers or renters. No lease of any Dwelling on a Lot shall be for a period of less than 30 days. No Dwelling on a Lot shall be subjected to time interval ownership.

ARTICLE I

PROPERTY SUBJECT TO THIS DECLARATION

1.1 Submitted Property. The real property which is, and shall be, transferred, held, sold, conveyed and occupied subject to this Declaration is located in Harrisville, Utah, Weber County, also known as the "Subdivision". Declarant declares that all of the property shall be owned, conveyed, hypothecated, used, occupied and improved subject to this Declaration. The easements, covenants, conditions and restrictions described in this Declaration shall run with the property and shall be binding upon all parties having or acquiring any right, title or interest in such property or any part thereof and shall inure to the benefit of each Owner.

ARTICLE II

DRAINAGE

2.1 Erosion Control. Each owner in the Subdivision, including any subsequent phases, shall be responsible to ensure that no erosion or water drainage shall take place from their lot which may adversely affect neighboring properties and/or any roads. Draining shall be sloped as provided by applicable codes.

2.2 Drainage. No Owner shall alter the direction of natural drainage from their lot, nor shall any Owner permit accelerated storm run-off to leave their lot without first using reasonable means to dissipate the flow.

ARTICLE III

STRUCTURE CONTROLS

3.1 Master Development Agreement. Each Lot in the Subdivision shall be maintained in accordance with the Master Development Agreement for as applicable to residential Lots. Building permits and fees for the same, are required for all construction as required by Code.

3.2 Occupancy and Limitations. No Dwelling may be occupied prior to its completion and the issuance of a Certificate of Occupancy by the City. No more than one (1) dwelling per Lot is allowed. No pool

house, apartment of any kind, secondary dwelling, or any other structure that may be used for occupation. An accessory building is allowed only for storage on single-family Lots where the Code permits. Accessory buildings must be minimal and approved through the HOA.

3.3 Temporary Structures and Parking: No temporary structure of any kind such as a trailer, recreational vehicle, bus, shack, or structure of a temporary nature shall be used or occupied on any Lot. All parking must be on an impervious surface. Landscaping shall not be converted to future parking area on any single-family Lot.

3.4 Easements. Easements and rights of way are reserved on and over the Subdivision, as shown on the recorded plat, and no construction shall occur on the same except for the utilities and services set forth in the easement for drainage pipes or conduits, pipes, manholes, poles, wires and other means of conveying to and from each Lot in the Subdivision. Such easements and rights of way may also include gas, electricity, water, telephone, cable, sewage, and other services for the convenience of Lot owners in the Subdivision. The City may enforce this paragraph and prohibit the construction of any structures or accessory buildings within designated easements and setbacks.

3.5 Balconies and Decks. All balconies and decks are to be maintained in good repair and may not be added to encroach on any setback under the Code.

3.6 Satellite Dishes. All satellite dishes must be installed in a non-obtrusive location. No dishes are allowed on roof. Any damages accrued will be at owners expensive. Any installation hardware must be secure and minimal of any visual defects. Any dish installed in Common Area; the owner will be responsible for any damages to property and liable for any injuries incurred.

3.7 Solar Panels. Solar panels shall only be allowed on single-family Lots and shall lie flat against the roof and be similar in color to the roof surface on which they are mounted.

ARTICLE IV

PARKING, LANDSCAPING, FENCING, ANIMALS

4.1 On-Street Parking**:** On-street parking is allowed as permitted by the City. On-street parking is generally prohibited between December 15 through March 15 to allow for snow removal. No on-street parking of any semi-truck, dump truck, heavy equipment, trailers, recreational vehicle, boat, or other equipment of any kind is permitted, except during construction of a dwelling or as part of a delivery.

4.2 Parking and storage of vehicles: Vehicle storage detracts from the overall appearance of the area. Unregistered, inoperable, are not allowed. Unattended vehicles must be licensed and registered and parked inside garage at all times. Guests must park in designated/labeled parking stalls. All quests must adhere to parking enforcement rules. No RV, Boat or Trailer storage of any kind is permitted. No storage is permitted inside garages except for its intended use.

4.3 Landscaping. Front yards, side yard, and rear yard landscaping shall be completed within twelve (12) months following issuance to Owner of an occupancy permit.

4.4 Fencing: Owner may not remove or modify fencing installed by the Developer in any manner. Owner may maintain fencing as similar to that installed by Developer.

4.5 Obstructions and Vegetation. No fence, wall, hedge, or shrub planting shall be in the front yard and any corner Lot shall comply with standard traffic sight distance requirements. Landscaping or fencing in violation of this paragraph may be removed by the City at the expense of the Owner. Any tree or vegetation that causes any pipe, utility, curb, gutter, sidewalk, drive approach, to lift, heave, crack, break, or be damaged is subject to abatement at the expense of the Lot owner where such is occurring.

4.6 Animals: Only dog, cats, and other typical household pets may be kept on any Lot.

4.7 Kennels and Dog Runs. No kennels or dog runs are permitted.

ARTICLE V

NUISANCE MATTERS

5.1 Nuisance. It shall be the responsibility of each Lot Owner to prevent the development of any unclean, unhealthy, unsightly, unkempt, or similar condition on Owner's Lot. No Lot shall be used, in whole or in party, for the storage of any property, thing, or item that will cause such Lot to appear to be in an unclean or untidy condition or that may be obnoxious or offensive to the reasonable eye; nor shall any substance, thing, material, or item, be kept in, around, or upon any Lot that may emit foul or obnoxious odors of that may cause any noise or other condition that will or might disturb the peace, quite, safety, comfort or serenity of the occupants for the surrounding property. No noxious or offensive activity shall be permitted in or around any Lot, nor shall anything be done thereon which might cause embarrassment, discomfort, annoyance, or nuisance to any person rightfully using any property adjacent to the Lot. The burning of household waste or construction debris is not authorized within the Subdivision. The City may define any nuisance as set forth in the Code.

5.2 Trash, Garbage, Weed, Refuse Disposal: No Lot shall be used or maintained as an illicit discharge as defined by Code. Trash, garbage, waste, or other pollutants shall not be kept or permitted to remain on any lot except in sanitary containers and as allowed by Code. No materials shall be kept or stored on any lot that would be unsightly or pose a fire hazard. Each Lot and its abutting roadway shall be kept free of trash and noxious weeds by the Owner.

5.3 No Hazardous Activity. No activity may be conducted on any Lot that is, or would be considered by a reasonable person to be unreasonably dangerous or hazardous, or which would cause the cancellation of a conventional homeowner's insurance policy. This includes, without limitation, the storage of caustic, toxic, flammable, explosive or hazardous materials in excess of those reasonable and customary for household uses. No outdoor fire pits are allowed, except where fueled by propane or natural gas. No firearms may be used for recreation or target practice.

5.4 Construction. Construction or renovations must be made timely, and may require a building permit. Debris from any construction or renovation shall be removed regularly. Any dirt, mud or debris resulting from construction shall not be allowed to be carried onto any other Lot, roadway (includes right-of-way and sidewalk), or common area. It shall be the responsibility of each Owner during construction to clean and repair, if needed, at his or her own cost any area affected by the construction or renovation process in excess of normal wear and tear.

5.5 Maintenance of Property. All Lots, and related Improvements, shall be maintained in a clean, sanitary, attractive and marketable condition at all times. No Owner shall permit his Lot or the Improvements on it to fall into disrepair.

5.6 Repair Following Damage. In the event of casualty loss or damage to the Improvements, the Owner will be entitled to reconstruct the Improvements as they existed prior to the damage or loss, provided however that alterations or deviations from the originally approved plans will comply with applicable Code. Nothing in these CC&Rs is intended to prevent an Owner who has suffered property damage or loss from taking temporary measures to secure the property and prevent further damage, or to prevent Injury or dangerous conditions following loss or damage, before re-construction begins. No damaged structure will be permitted to remain on any Lot for more than ninety (90) days without repairs commencing, and any damaged structure which does remain unrepaired after one-hundred eighty (180) days following the occurrence of damage shall be deemed a nuisance until necessary repairs are completed or the nuisance is remedied.

5.7 Lighting Restriction. Dark-sky compliant outdoor lighting is required for all out-door lighting.

5.8 Live Here/Work Here. All Live Here/ Work Here residence will maintain reasonable hours of operations. All signage must be approved through the HOA. Any noise not consistent with regular operating hours will not be allowed. All business must register by applicable city codes and register with HOA before operation.

ARTICLE VI

UTILITIES & SPECIAL SERVICE DISTRICT

6.1 Sewer Connection Required. All Lots are served and shall remain served at all times by the Owner by a Code approved sanitary sewer service. No cesspools, septic tanks, or other types of waste disposal systems are permitted on any Lot. All dwelling units must be connected to the sanitary sewer system at all times. Each Lot owner shall pay monthly sewer fees imposed by any governmental authority or owner's association.

6.2 Changes to infrastructure: No Owner shall alter or change or impede any utility lines, water mains, power supply, drainage flow, or drainage culverts at any time without a permit from the owner of the utility being altered. Connecting onto any utilities also requires permission.

6.3 Fire hydrants: The use of all fire hydrants is restricted to emergency response and fire district crews. Fire hydrants may also be used for appropriate construction-related needs as allowed by the City and/or Bona Vista Water Improvement District after all permits are obtained and applicable fees paid.

6.4 Special District, Irrigation, and Open Space. The Subdivision may be part of one or more a Special Service Districts ("Special District") that provide, among other things, secondary irrigation water system for the Subdivision. Upon availability, the Special District will provide secondary irrigation to each Lot owner who shall pay a monthly utility fee and other duly imposed taxes or assessments. Lot owners in the Subdivision hereby and forever acknowledge and accept that such are subject to taxes, assessments, connection fees, monthly user fees, utility fees, and other fees as may be imposed by the Special District, any other special district, or an affected entity where the Subdivision is located. The secondary water system may contain debris, material, moss, bromides, or other aquatic life forms and each Owner is required to install, operate, and maintain a filtration system on each Lot Each Owner shall hold any irrigation company, the Special District, and the City harmless for any damage or other inconvenience of any kind from operation of the secondary water system. It is understood that secondary water is a valuable and shall not be wasted by any Owner or on any Lot, and that the City may enforce drought restrictions or rationing as appropriate. There is no public access to any storm water or irrigation pond, basin, line, or

facility of any kind, violators will be cited for trespassing. Phases of this or other Subdivision(s) may contain Open Space. All Open Space dedicated as Common Area shall be held in a Perpetual Conservation Easement. Lot owners hereby acknowledge and agree that no Owners shall use any of the Open Space for individual use, personal use, off-highway vehicle use, unauthorized camping, storage, parking, littering, dumping of any kind, or other unauthorized use or activity. Owners hereby acknowledge, agree, and consent that storm water, flood control, and open space related activities may occur on any Common Area at any time.

ARTICLE VII

ENFORCEMENT / REMEDIES

7.1 Enforcement of Covenants. Any violation of these CC&Rs on any Lot is deemed a nuisance, and is subject to abatement by any other owner, regardless the amount of time the nuisance activity has occurred or the duration of the violation.

7.2 Acceptance of Restrictions. All purchasers of Lots in the Subdivision shall, by entering into contracts to purchase and accepting deeds for such Lot, be conclusively deemed to have consented and agreed to these CC&Rs.

7.3 Remedies: Any single or continuing violation of the CC&Rs contained herein may be enjoined in an action brought by the owner of any Lot or by the Declarant (for so long as the Declarant is the Owner of any Lot). In any action brought to enforce these CC&Rs, the prevailing party shall be entitled to recover as part of its judgment the reasonable costs of enforcement, including attorney's fees and costs of court. Nothing in these CC&Rs shall be construed as limiting the rights and remedies that may exist at common law or under applicable federal, state, local laws, or Code for the abatement of nuisances, health and safety, or other matters. These CC&Rs are to be construed as being in addition to other remedies available at law or equity. The remedies available under these CC&Rs Declaration, and at law or equity, generally are not to be considered as exclusive, but rather cumulative. The failure to take enforcement action shall not be construed as a waiver of the CC&Rs contained herein in the future or against other similar violations.

7.4 Invalidity. Invalidation of any of the CC&Rs herein, in whole or in part, by judgment or court other shall in no way affect any of the other provisions hereof, which shall remain in full force and effect.

7.5 Master Development Agreement. The Master Development Agreement as recorded on the property is also binding on each Owner for the applicable parts thereof.

ARTICLE VIII

DECLARANT RIGHTS AND CONTROL

8.1 Other Rights. In addition to any other rights under this Declaration, Declarant: (a) Sales Office and Model. Shall have the right to maintain sales offices and models on one or more of the Lots which Declarant owns. Declarant and prospective purchasers and their agents shall have the right to use and occupy the sales office(s) and model(s) at Copperwoods, L.L.C. during reasonable hour(s) any day(s) of the week. Furthermore, Declarant shall have the right to assign such right(s) to Builders within the Property. (b) "For Sale Signs." May maintain a reasonable number of "For Sale" signs, the size of which may be determined by Declarant. Declarant may assign such rights to Builders within the Property. (c)

Right to Add Property. Declarant reserves the right to unilaterally annex additional property to the Property in its sole discretion.

8.2 Easements Reserved to Declarant. (a) An easement for the installation, construction, maintenance, reconstruction and repair of public and private utilities to serve the Property and the Lots therein, including but not limited to the mains, conduits, lines, meters and other facilities for water, storm sewer, sanitary sewer, gas electric, telephone, cable television, and other public or private services or utilities deemed by Declarant necessary or advisable to provide service to any Lot, is hereby expressly granted. (b) The Declarant further reserves unto itself, and its successors and assigns, the right to grant easements, rights-of-way and licenses to any person, individual, corporate body or municipality, to install and maintain pipelines, underground or above-ground lines, with the appurtenances necessary thereto for irrigation, public utilities, or quasi-public utilities or to grant such other licenses or permits as the Declarant may deem necessary for the improvement of the Community in, over, through, upon and across any and all of the roads, streets avenues, and alleys and in, over, through, upon and across each and every Lot in any easement area set forth in this Declaration or as shown on the Plat Map.

8.3 Declarant Control. Notwithstanding anything to the contrary contained in this Declaration, the Declarant is in full complete control of the Property and HOA to the earlier of, the Declarant turns control over to the HOA or until one (1) year after all Townhome and Commercial Lots have been sold and/or conveyed out beyond the control of Declarant or its assignee(s).

ARTICLE IX

INSURANCE

9.1 Property Insurance. Copperwoods HOA shall maintain blanket property insurance or guaranteed replacement cost insurance on the physical structure of the Townhome/Live/Work Units as well as the Commercial structures and Common Areas, insuring against all risks of direct physical loss commonly insured against, including fire and extended coverage perils. The total amount of coverage provided by blanket property insurance or guaranteed replacement cost insurance may not be less than 100% of the full replacement cost of the insured property at the time the insurance is purchased and at each renewal date, excluding items normally excluded from property insurance policies. The cost of that property insurance or guaranteed replacement cost insurance shall be allocated and assessed against the Members as determined by the Board.

The property insurance required under this Article shall include coverage for any fixture, improvement, or betterment installed at any time to a Dwelling or Common Area, whether installed in the original construction or in any remodel or later alteration, including a floor covering, cabinet, light fixture, electrical fixture, heating or plumbing fixture, paint, wall covering, window covering, window, and any other item permanently part of or affixed to the Dwelling or Common Area.

If a loss occurs that is covered by a property insurance policy in the name of Copperwoods HOA and another property insurance policy in the name of an Owner: (i) the Association’s policy provides primary insurance coverage; (ii) the Owner is responsible for the Association’s policy deductible; and (iii) building property coverage, often referred to as coverage A, of the Owner’s policy applies to that portion of the loss attributable to the Association’s policy deductible.

An Owner who has suffered damage on the Owner's Lot as part of a covered loss is responsible for an amount calculated by applying the damage percentage for that Lot to the amount of the deductible under the Association's property insurance policy. If an Owner does not pay the amount required under this subsection within 30 days after substantial completion of the repairs to, as applicable, the Lot, a Dwelling on the Lot, the Association may levy an assessment against an Owner for that amount.

The Association shall provide notice to each Owner of the Owner's obligation under Section 12.01(d) and any change in the amount of the deductible. The Board of Director may comply with the above requirements by the purchase of said policies and may elect such "deductible" provisions as in the opinion of the Board of directors are consistent with good business practice.

The Association shall set aside an amount equal to the amount of the Association's property insurance policy deductible.

Each occupant of a Dwelling is responsible for any insurance to cover loss to personal property or other contents of any Dwelling.

9.2 Liability Insurance. The Association shall maintain liability insurance covering all occurrences commonly insured against for death, bodily injury, and property damage arising out of or in connection with the use, ownership, or maintenance of the Common Areas. Each unit owner shall be required to carry his/her own liability insurance naming Copperwoods HOA as additional insured.
The amount of the liability insurance policy shall be no less than $1,000,000 per occurrence.

9.3 Claims. Any claim filed for payment under the Umbrella Policy shall first be submitted to the Board of Directors, in their sole discretion, shall submit said claim to the underwriter.

9.4 Indemnity. All Unit Owners shall be responsible for any loss or damage not defined above and shall further indemnify the Association and its Board of Directors from any and all claims, demands causes of action including attorney's fees, arising out of any insurance matter; and the Owner shall be personally responsible for any loss or damage.

(a) Any loss or damage not specified above which is attributable to an individual Unit. Any deductible on the overall policy. The Owner is responsible for payment of the deductible even where paid out on any loss set forth in Section 11.

(b) Any loss of personal property, fixtures, or nonstructural improvements within an individual unit.

(c) Any loss incurred inside the exterior unfinished walls of an individual unit except those specified in Section 11.1.

(d) Any loss due to flooding or other water damage, earthquake or other disaster not specifically covered in the overall policy held by the Association.

(e) All losses or damage due to acts of war or nuclear disaster.

(f) Fidelity Bond. The Board of Directors may elect to purchase a fidelity bond if deemed necessary at their sole discretion.

ARTICLE X

AMENDMENT AND DURATION

10.1 Amendment(s). (a) Approval Required. This Declaration may be amended by the Declarant while in authority and control of the Property and HOA, and thereafter may be amended by the HOA if such amendment(s) is approved by two-thirds (2/3) of all of the Owners. (b) Additional Approval Requirements. (1) No amendment(s) may create, limit or diminish any special Declarant right(s), change the boundary of any Lot or uses to which any Lot is restricted unless the Owners of the affected Lots unanimously consent to the amendment(s). (c) Execution and Recordation. An amendment shall not be effective until the amendment is certified and recorded in the Recorder's Office of Weber County, Utah.

10.2 Duration. (a) Period. This Declaration perpetually shall run with the land and shall be and remain in full force and effect at all times with respect to all property included within the Property and the Owners thereof for an initial period of thirty (30) years commencing with the date on which this Declaration is recorded. Thereafter, this Declaration shall continue to run with the land and be and remain in full force and effect at all times with respect to all property within the Property and the Owners thereof for successive additional period of ten (10) years each. The continuation from the initial or any additional period into the next subsequent period shall be automatic and without the necessity of any notice, consent or other action whatsoever.

ARTICLE XI

MISCELLANEOUS PROVISIONS

11.1 Invalidity; Number; Captions. The invalidity of any part of this Declaration shall not impair or affect in any manner the validity, enforceability, or effect of the balance of this Declaration. As used herein, the singular shall include the plural and the singular. The masculine and neuter shall each include the masculine, feminine, and neuter, as the context requires. All captions used herein are intended solely for convenience of reference and shall in no way limit any of the provisions of this Declaration.

11.2 Lessees and Other Invitees. Lessees, invitees, contractors, family members and other persons entering the Property under rights derived from an Owner shall comply with all of the provisions of this Declaration, restricting or regulating the Owner's use, improvement or enjoyment of such Owner's Lot and other areas within the Property. The Owner shall be responsible for obtaining such compliance and shall be reliable for any failure of compliance by such persons in the same manner and to the same extent as if the failure had been committed by the Owner.

11.3 Non-waiver. Failure by Declarant or any Owner to enforce any covenant or restriction contained in this Declaration shall in no event be deemed a waiver of the right to do so thereafter.

11.4 Waiver, Precedent and Estoppel. No restriction, condition, obligation or provision contained in this Declaration or rules and regulations adopted pursuant hereto shall be deemed to have been abrogated or waived by the Declarant or any Owner by reason of any failure to enforce the same, irrespective of the number of violations or breaches thereof which may occur and any failure to enforce the same shall not be deemed to constitute precedent or estoppel impairing the right of the Declarant or Owner as to any similar matter.

END OF COVENANTS

IN WITNESS WHEREOF, Copperwoods has executed this Declaration this ___ day of _____,

2021

COPPERWOODS, L.L.C.

BY:_____

BY: _____

STATE OF UTAH ss: County of Weber
The foregoing instrument was acknowledged before me on this ____ day of _____, 2021
By

BYLAWS
OF
COPPERWOODS HOA,
A non-profit corporation
Weber County, Utah

ARTICLE 1 NAME AND LOCATION

1.1 The name of the Association is Copperwoods HOA, INC., hereafter referred to as the "HOA".

ARTICLE 2 DEFINITIONS

2.1 "Declarant" Copperwoods LLC, and any successor or assign thereof to whom it shall expressly (a) convey or otherwise transfer, in writing, all of its right, title and interest in the Property in its entirety, without reservation of any kind; or (b) transfer, set over and assign all of its right, title and interest under this Declaration, or any amendment or modification thereof.

2.2 "HOA" shall mean and refer to Copperwoods HOA, INC., its successors and assignees, a Utah nonprofit corporation.

2.2 "Common Areas" shall mean any real property owned by the HOA for the common use and enjoyment of the Owners.

2.3 "Declaration" shall mean and refer to the Declaration of Covenants, Conditions and Restrictions (CCR's) located in the Weber County Recorder's Office at Entry _____, recorded _____, as amended by which Copperwoods Subdivision was established as a Mixed Use Subdivision on the Plat Map attached to CCR's.

2.4 “Member” shall mean and refer to those persons and entities entitled to membership in the Association as provided in the Declaration.

2.5 “Owner” shall mean and refer to the record owner, whether one or more persons or entitles, of the fee simple title to any unit on the Property, as more fully described in the Declaration. The term “Owner” shall include contract sellers but exclude those having such interest merely as security for the performance of an obligation. Every Owner is a Member of the Association, and every Member is an Owner.

2.6 “Property” shall mean and refer to that certain real property in Harrisville, Utah more fully described in the Declaration.

2.7 “Unit” shall mean and refer to one of the separate residential units, owned by a Unit Owner, intended for independent use, consisting of rooms or spaces located in a building designated on the map and the percentage interest appurtenant thereto.

ARTICLE 3 BOARD OF DIRECTORS

Except as otherwise provided by the Declaration:

3.1 Number. The affairs of this HOA shall be managed by a Board of Directors of five (5) persons, who must be Members or officers or agents of Members of the HOA, as provided in the Declaration.

3.2 Term of Office. At the initial meeting, the Members shall elect five (5) Directors for the term of one year and at each annual meeting thereafter, the Members shall elect five (5) Directors to fill vacancies. Directors can serve more than one term, if re-elected.

3.3 Removal. Any Director may be removed from the Board of Directors, with or without cause, by a majority vote of a quorum of the Members of the HOA. In the event of the death, resignation, or removal of a Director, his or her successor shall be elected by the remaining members of the Board and shall serve for the unexpired term of his or her predecessor.

3.4 Compensation. No Director shall receive compensation of any service rendered to the HOA. However, any Director may be reimbursed for actual expenses incurred in the performance of his or her duties.

3.5 Action without Meeting. The Board of Directors shall have the right to take any action in the absence of a meeting which they could take at a meeting by obtaining the written approval of all the Directors. Any action so approved shall have the same effect as though taken at a meeting of the Directors.

3.6 Regular Meetings. Regular meetings at the Board of Directors shall be held at least annually without notice, at such place and hour as may be fixed from time to time by resolution of the Committee. Should said meeting fall upon a legal holiday or a Sunday, then that meeting shall be held at the same time on the next day which is not a legal holiday or a Sunday.

3.7 Special Meetings. Special meetings of the Board of Directors shall be held when called by the President of the HOA, or by any three Directors, after not less than three (3) days notice to each Director.

3.8 Quorum. A majority of the number of Directors shall constitute a quorum for the transaction of business. Every act or decision done or made by a majority of the Directors present at a duly held meeting at which a quorum is present shall be regarded as the act of the Board.

ARTICLE 4 POWERS AND DUTIES OF THE BOARD OF DIRECTORS

4.1 Powers. The Board of Directors shall have the power to:

a. Adopt and publish rules and regulations for the HOA and to establish penalties for the infraction thereof;

b. Create an HOA budget to pay for Property expenses and create a reserve account.

c. Exercise for the HOA all powers, duties and authority vested in or delegated to this Association and not reserved to the Members by other provisions of these Bylaws, or the Declaration;

d. Declare the office of a Director of the Board of Directors to be vacant in the event such member shall be absent from three (3) consecutive regular meetings of the Board of Directors; and

e. Employ assets or employees as they deem necessary, to accomplish and fulfill the purposes of the HOA.

f. Provide such maintenance and improvements as provided for or allowed by the Declaration.

4.2 Duties. It shall be the duty of the Board of Directors to:

a. Cause to be kept a complete record of all its acts and corporate affairs and to make the same available for inspection by Members upon reasonable request;

b. Supervise all officers, agents and employees of this HOA, and to see that their duties are properly performed;

c. As more fully provided in the Declaration, to:

(i) Fix the amount of assessments against each Unit at least thirty (30) days in advance of each special assessment due date; and

(ii) Send written notice of each special assessment to every Owner subject thereto at least thirty (30) days in advance of each special assessment due date; and

(iii) Enforce claims and obligations, including foreclose the lien against any Unit for which assessments are not paid within thirty (30) days after due date or to bring an action at law against the Owner personally obligated to pay the same.

d. Issue, or to cause an appropriate officer to issue, upon demand by any person, a certificate setting forth whether or not any assessment has been paid. A reasonable charge may be made by the committee for the issuance of these certificates. If a certificate states an assessment has been paid, such certificate shall be conclusive evidence of such payment.

e. Procure and maintain adequate liability and hazard insurance on property owned by the HOA, if any;

f. Cause all officers or employees having fiscal responsibilities to be bonded, if the board of Directors determines it to be in the best interest of the Association.

g. Cause the Common Areas to be maintained.

ARTICLE 5 OFFICERS AND THEIR DUTIES

Except as otherwise provided by the Declaration:

5.1 Enumeration of Offices. The officers of this HOA shall be a President, Vice President, and Secretary, who shall at all times be members of the Board of Directors. The HOA may elect to have more officers if deemed necessary at their sole discretion and create by resolution.

5.2 Election of Officers. The election of officers shall take place at the first meeting of the Board of Directors following each annual meeting of the Members.

5.3 Term. The officers of this Association shall be elected annually by the Board of Directors and each shall hold office for one (1) year unless he or she shall sooner resign, or shall be removed, or otherwise disqualified to serve.

5.4 Special Appointments. The Board of Directors may elect such other officers as the affairs of the Association may require each of whom shall hold office for such period, have such authority, and perform such duties as a Board of Directors may, from time to time, determine.

5.5 Resignation and Removal. Any officer may be removed from office with or without cause by the Board of Directors. Any officer may resign at any time giving written notice to the Board of Directors. Such resignation shall take effect on the date of receipt of such notice or at any later time specified therein, and unless otherwise specified therein, the acceptance of such resignation shall not be necessary to make it effective.

5.7 Multiple Offices. The offices of Secretary/Treasurer may be held by the same person. No person shall simultaneously hold more than one (1) of any of the other officers except in the case of special officers created pursuant to Section 6.4.

5.8 Duties. The duties of the officers are as follows:

a. President. The President shall preside at all meetings of the Board of Directors; shall see that orders and resolutions of the Board of Directors are carried out; and shall sign all written contracts. The President may sign checks, as may any other officer of the HOA.

b. Vice President. The Vice President shall act in the place and stead of the President in the event of his or her absence, inability or refusal to act, and shall exercise and discharge such other duties as may be required of him or her by the Board of Directors.

c. Secretary/Treasurer. The Secretary/Treasurer shall record the votes and keep the minutes of all proceedings of the Board of Directors and of the Members; serve notice of meetings of the Board of Directors and of the Members; keep appropriate current records showing the Members of the HOA together with their addresses; shall receive and deposit in appropriate bank accounts off monies of the HOA, keep proper books of account; shall cause an annual audit of the HOA books to be made public at the completion of each fiscal year; shall prepare an annual budget and a statement of income and expenses to be presented to the membership at its regular annual

meeting and deliver a copy of each to the Members. Secretary/Treasurer duties may be delegated to an HOA manager if agreed upon by the Board of Directors.

d. Officers. The Officers shall participate in HOA decisions and each officer will have one (1) vote per decision.

e. Any officer may be authorized to sign checks for the HOA and two signatures may be required if agreed upon by the Board of Directors.

Exhibit G
Sensitive Lands Map

U.S. Fish and Wildlife Service
National Wetlands Inventory

CopperWoods Wetland mapper

May 6, 2021

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

07/07/2021
National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Exhibit H
Maintenance/Conservation Plan

ALLIANCE CONSULTING ENGINEERS, INC.

150 EAST 200 NORTH
SUITE P
LOGAN, UTAH 84321
(435) 755-5121

MAINTENANCE PLAN

ALL WATER AND SEWER MAINLINES WILL BE DEDICATED TO THE CITY. THE WATER SERVICES, SEWER SERVICES, STORM SEWER LINES AND DETENTION AREAS WITHIN THE PUD WILL BE OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION.

ALL COMMON AREAS, TRAILS, LANDSCAPING, RECREATIONAL FACILITIES, PRIVATE ROADWAYS /PARKING AREAS WILL BE MAINTAINED BY THE HOA.

HARRISVILLE CITY SHALL HAVE THE RIGHT, BUT NOT THE DUTY, TO REQUIRE, AND IF NECESSARY, PERFORM OR CAUSE TO BE PERFORMED, AT THE EXPENSE OF THE OWNER OF THE OPEN SPACE AND OTHER PRIVATE AREA(S), INCLUDING RECREATION FACILITIES, (HOA, HEREAFTER), ALL LANDSCAPING, SNOW REMOVAL, AND OTHER UPKEEP AND MAINTENANCE SERVICES, AS APPLICABLE, WITHIN THE OPEN SPACE AREA(S), IF THE HOA FAILS ADEQUATELY TO PERFORM SUCH TASKS. THE CITY MAY TAKE THESE ACTIONS WHEN ASKED TO ASSUME RESPONSIBILITY FOR SUCH UPKEEP AND MAINTENANCE TASKS BY THE HOA AND THE CITY COUNCIL MAY ALSO TAKE SUCH ACTIONS WHEN IT DETERMINES THE NEED BASED ON A PATTERN OF NEGLECT AND LACK OF MAINTENANCE AND AFTER MEETING THE PROCEDURES OUTLINED IN THE COVENANTS, CONDITIONS AND RESTRICTIONS (CC&RS), RECORDED CONCURRENTLY WITH THIS FINAL PLAT. IN THE EVENT HARRISVILLE CITY EXERCISES THIS RIGHT, THE CITY SHALL BE ENTITLED TO ASSESS AND COLLECT THE NECESSARY HOA FEES AND RECOVER ANY ASSOCIATED COSTS AND ATTORNEY FEES. THIS NOTATION SHALL NOT BE AMENDED OR DELETED WITHOUT THE APPROVAL OF HARRISVILLE CITY.

ALLIANCE CONSULTING ENGINEERS, INC.

150 EAST 200 NORTH
SUITE P
LOGAN, UTAH 84321
(435) 755-5121

CONSERVATION PLAN

THE FOLLOWING PLAN WAS CREATED IN ORDER TO PROTECT AND ENHANCE THE NATURAL RESOURCES ON THE LAND BEING DEVELOPED.
THE RESOURCES ANALYZED IN THE PLAN ARE AS FOLLOWS: ENDANGERED SPECIES, WETLANDS, & WATER RESOUCES.

ENDANGERED SPECIES-
PER THE UTAH DNR UTAH SPECIIES OF GREATEST CONSERVATION NEED MAP THE FOLLOWING SPECIES WERE LISTED AS THREATENED, ENDANGERED OR SENSITIVE IN THE GENERAL AREA OF THE PROJECT: NORTHERN GOSHAWK, PEREGRIN FALCON, BLUEHEAD SUCKER, DESERT MOUNTAINSNAIL, WIDELIP PONDSNAIL, FLAMMULATED OWL, GRAY WOLF, BONNEVILLE CUTTHROAT TROUT, UTE LADIES TRESSES, LYRATE MOUNTAINSNAIL, & WESTERN YELLOW-BILLED CUCKOO.
THERE WERE NO ENDANAGERED SPECIES ENCOUNTERED ON SITE AT THE TIME OF ANY VISIT. DUE TO THE LOCATION AND LACK OF SIGNIFICANT VEGETATION ON THE SITE IT IS HIGHLY UNLIKELY THAT ENDANGERED FISH, MAMMALS OR BIRDS WOULD EVER BE FOUND. WHILE NOT SEEN, THE POSSIBILITY OF SNAILS DOES EXIST. AS SUCH THE DEVELOP IS CHOOSING TO KEEP A SECTION OF THE EXISTING IRRIGATION DITCH OPEN, THUS PRESERVING SOME NATURAL HABITAT. IN ADDITION, THE NUMBER AND VARIETY OF PROPOSED TREES/SHRUBS AS PART OF THE LANDSCAPE PLAN WILL ENHANCE THE SITE AND PROVIDE ADDITION HABITAT FOR WILDLIFE. IN THE EVENT THAT ANY ARE ENCOUNTERED DURING THE CONSTRUCTION OF THE PROJECT, THE U.S. FISH AND WILDLIFE SERVICE WILL BE CONTACTED.

WETLANDS-
PER THE NATIONAL WETLANDS INVENTORY WETLANDS MAPPER THERE ARE NO WETLANDS ON THE SITE. AS SUCH NO MEASURES WILL BE TAKEN.

WATER RESOURCES-
WHILE NOT A CITY UTILITY THE DEVELOPER REALIZES THE IMPORTANCE OF WATER CONSERVATION AND SOURCE PROTECTION IN UTAH. THE WATER DISTRICT SERVICING THE PROJECT OBTAINS ITS WATER FROM BOTH SURFACE AND GROUNDWATER SOURCES. THE PROPOSED PROJECT IS NOT LOCATED WITHIN A SOURCE PROTECTION ZONE.
IN ORDER TO MINIMUM THE CONSUMPTION OF CULINARY WATER THE PROJECT WILL USE THE LOCAL IRRIGATION SYSTEM FOR ALL OUTSIDE WATERING.
PER THE UTAH DIVISION OF WATER RIGHTS, THERE ARE THREE POINTS OF DIVERSION FOR WATER RIGHTS ON THE PARCEL (WATER RIGHT 35-377, 35-462/35-2244). A WELL WAS FOUND ALONG THE NORTH BANK OF THE IRRIGATION CANAL CROSSING THE PROPERTY. THIS WELL APPEARS TO COORESPOND WITH RIGHT 35-377. THIS WELL WILL BE CAPPED AS PART OF THE DEVELOPMENT. NONE OF THE ABOVE WATER RIGHTS WERE SOLD WITH THE PROPERTY.

Exhibit I
Geotechnical Report

REPORT
GEOTECHNICAL STUDY
PROPOSED THE COPPERWOODS
AT HARRISVILLE
750 WEST HIGHWAY 89
HARRISVILLE, UTAH

Submitted To:

Direct Homes, Inc.
2990 North 1600 East
Logan, Utah 84341

Submitted By:

GSH Geotechnical, Inc.
473 West 4800 South
Salt Lake City, Utah 84123

June 1, 2021

Job No. 2656-002-21

June 1, 2021
Job No. 2656-002-21

Mr. Jake Thompson
Direct Homes, Inc.
2990 North 1600 East
Logan, Utah 84341

Mr. Thompson:

Re: Report
Geotechnical Study
Proposed The Copperwoods at Harrisville
750 West Highway 89
Harrisville, Utah

1. INTRODUCTION

1.1 GENERAL

This report presents the results of our geotechnical study performed at the site of the proposed The Copperwoods at Harrisville to be located at 750 West Highway 89 in Harrisville, Utah. The general location of the site with respect to existing roadways, as of 2021, is presented on Figure 1, Vicinity Map. A more detailed layout of the site showing proposed facilities, existing roadways, and the borings drilled in conjunction with this study is presented on Figure 2, Site Plan.

1.2 OBJECTIVES AND SCOPE

The objectives and scope of the study were planned in discussions between Mr. Jake Thompson of Direct Homes, Inc., and Mr. Robert Gifford of GSH Geotechnical, Inc. (GSH).

In general, the objectives of this study were to:

1. Define and evaluate the subsurface soil and groundwater conditions across the site.

2. Provide appropriate foundation, earthwork, pavement, and geoseismic recommendations to be utilized in the design and construction of the proposed facilities.

In accomplishing these objectives, our scope has included the following:

1. A field program consisting of the exploration, logging, and sampling of 11 borings.

2. A laboratory testing program.

3. An office program consisting of the correlation of available data, engineering analysis, and the preparation of this summary report.

1.3 AUTHORIZATION

Authorization was provided by returning a signed copy of the Professional Services Agreement No. 21-0522 dated May 10, 2021.

1.4 PROFESSIONAL STATEMENTS

Supporting data upon which our recommendations are based are presented in subsequent sections of this report. Recommendations presented herein are governed by the physical properties of the soils encountered in the exploration borings, projected groundwater conditions, and the layout and design data discussed in Section 2, Proposed Construction. If subsurface conditions other than those described in this report are encountered and/or if design and layout changes are implemented, GSH must be informed so that our recommendations can be reviewed and amended, if necessary.

Our professional services have been performed, our findings developed, and our recommendations prepared in accordance with generally accepted engineering principles and practices in this area at this time.

2. PROPOSED CONSTRUCTION

The project is to consist of the construction of multiple townhome and retail structures with associated pavements. The structures are anticipated to be 2-stories, placed slab-on-grade, with wood- or light steel-framing, and supported upon conventional spread and continuous wall footings.

Maximum real column and wall loads are anticipated to be on the order of up to 80 kips and 2 to 4 kips per lineal foot, respectively. Real loads are defined as the total of all dead plus frequently applied (reduced) live loads.

Paved parking areas and drive lanes are planned around the structures. Projected traffic in the parking areas is anticipated to consist of a light volume of automobiles and light trucks, occasional medium-weight trucks, and no heavy-weight trucks. Proposed traffic in the drive lanes is anticipated to consist of a moderate volume of automobiles and light trucks, a light volume of medium-weight trucks, and occasional heavy-weight trucks.

Site development will require some earthwork in the form of minor cutting and filling. At this time, we anticipate that maximum site grading cuts and fills, excluding utilities, will be on the order of 1 to 3 feet.

3. SITE INVESTIGATIONS

3.1 GENERAL

Subsurface conditions in unexplored locations or at other times may vary from those encountered at specific boring locations. If such variations are noted during construction or if project development plans are changed, GSH must review the changes and amend our recommendations, if necessary.

Boring locations were established by estimating distances and angles from site landmarks. If increased accuracy is desired by the client, we recommend that the boring locations and elevations be surveyed.

3.2 FIELD PROGRAM

To define and evaluate the subsurface soil and groundwater conditions across the site, 11 borings were completed within the accessible areas. These borings were completed to depths ranging from 11 to 46 feet with a truck-mounted drill rig equipped with hollow-stem augers. The approximate locations of the borings are presented on Figure 2.

The field portion of our study was under the direct control and continual supervision of an experienced member of our geotechnical staff. During the course of the drilling operations, a continuous log of the subsurface conditions encountered was maintained. In addition, samples of the typical soils encountered were obtained for subsequent laboratory testing and examination. The soils were classified in the field based upon visual and textural examination. These classifications were supplemented by subsequent inspection and testing in our laboratory. Graphical representation of the subsurface conditions encountered is presented on Figures 3A through 3K, Boring Logs. Soils were classified in accordance with the nomenclature described on Figure 4, Key to Boring Log (USCS).

A 3.0-inch outside diameter, 2.42-inch inside diameter (Dames & Moore) and a 2.0-inch outside diameter, 1.38-inch inside diameter drive sampler (SPT) were utilized at select locations and depths. The blow counts recorded on the boring logs were those required to drive the sampler 12 inches with a 140-pound hammer dropping 30 inches.

Following completion of exploration operations, 1.25-inch diameter slotted PVC pipe was installed in Borings B-1, B-2, B-5, B-6, B-8, B-10, and B-11 to provide a means of monitoring the groundwater fluctuations. The borings were backfilled with auger cuttings.

3.3 LABORATORY TESTING

To provide data necessary for our engineering analysis, a laboratory testing program is currently being performed. This program includes moisture, density, Atterberg limits, consolidation, and chemical tests. Detailed results of the tests are maintained within our files and can be transmitted to you, upon your request.

4. SITE CONDITIONS

4.1 SURFACE

The site is located at 750 West Highway 89 in Harrisville, Utah. The site is currently vacant/undeveloped brush/grass land. The topography of the site is relatively flat, grading down to the east with a total relief of approximately 5 to 7 feet. Site vegetation consists of various weeds and brush/grass throughout with sparse mature trees in the southern portion of the site.

The site is bounded to the north by 2150 North Street followed by single-family residential structures along with 700 West Street and 650 West Street; to the east by single-family residential structures along with 650 West Street and 600 West Street; to the south by 2000 North Street followed by single-family residential structures along with vacant/undeveloped brush/grass land; and to the west by U.S. Highway 89 along with 750 West Street followed by commercial and residential structures along with vacant/undeveloped brush/grass land.

4.2 SUBSURFACE SOIL

The following paragraphs provide generalized descriptions of the subsurface profiles and soil conditions encountered within the borings conducted during this study. As previously noted, soil conditions may vary in unexplored locations.

The borings were completed to depths ranging from 11 to 46 feet. The soil conditions encountered in each of the borings, to the depths completed, were generally similar across the boring locations.

- Approximately 6 inches of topsoil was encountered in Borings B-1 through B-8. Topsoil thickness is frequently erratic and thicker zones of topsoil should be anticipated.

- Non-engineered fill soils were encountered in Borings B-9 through B-11, to depths of up to 2 feet beneath the existing ground surface. The non-engineered fill soils contained primarily consisted of gravel with varying silt, sand, and cobble content.

- Natural soils were encountered below the non-engineered fill or the ground surface in each boring. The natural soils consisted primarily of clay with varying silt and sand content.

The natural clay soils were soft to stiff, moist to saturated, brown in color, and moderately over-consolidated. The natural clay soils are anticipated to exhibit moderate strength and compressibility characteristics under the anticipated loading.

For a more descriptive interpretation of subsurface conditions, please refer to Figures 3A through 3K, Boring Logs. The lines designating the interface between soil types on the boring logs generally represent approximate boundaries. In situ, the transition between soil types may be gradual.

4.3 GROUNDWATER

On May 28, 2021 (8 days following drilling), groundwater was measured within the PVC pipes installed as tabulated below:

Boring No.	Groundwater Depth (feet)
	May 28, 2021
B-1	10.9
B-2	12.4
B-5	8.8
B-6	8.8
B-8	8.9
B-10	9.3
B-11	9.6

Groundwater levels vary with changes in season and rainfall, construction activity, irrigation, snow melt, surface water run-off, and other site-specific factors.

5. DISCUSSIONS AND RECOMMENDATIONS

5.1 SUMMARY OF FINDINGS

The proposed structures may be supported upon conventional spread and continuous wall foundations supported upon suitable natural soils and/or structural fill extending to suitable natural soils.

The most significant geotechnical aspects at the site are:

1. The existing non-engineered fills encountered at the site.

2. The relatively shallow depth to groundwater.

Prior to proceeding with construction, removal of any existing debris, surface vegetation, root systems, topsoil, non-engineered fill, and any deleterious materials from beneath an area extending out at least 5 feet from the perimeter of the proposed structure footprints and 3 feet beyond rigid pavements and exterior flatwork areas will be required. All existing utility locations should be reviewed to assess their impact on the proposed construction and abandoned and/or relocated as appropriate.

Due to the developed nature of this site and the surrounding area, additional non-engineered fills may exist in unexplored areas of the site. Based on our experience, non-engineered fills are frequently erratic in composition and consistency. All surficial loose/disturbed soils and non-engineered fills must be removed below all footings, floor slabs, and rigid pavements. The in situ, non-engineered fills may remain below flexible pavements if free of any deleterious materials, of limited thickness, and if properly prepared, as discussed later in this report.

On-site non-engineered fill soils encountered were primarily granular. On-site granular soils, including existing non-engineered fills, may be re-utilized as structural site grading fill if they meet the criteria for such, as stated later in this report.

Groundwater was measured as shallow as 8.8 feet below the ground surface. GSH recommends placing floor slabs no closer than 4 feet from the highest groundwater elevation.

Proof rolling of the natural clay subgrade must not be completed if cuts extend to within 1 foot of the groundwater surface. In areas where cuts are to extend to within 1 foot of the groundwater surface, stabilization must be anticipated.

To reduce disturbance of the natural soils during excavation, it is recommended that low-impact, track-mounted equipment with smooth edge buckets/blades be utilized.

Detailed discussions pertaining to earthwork, foundations, pavements, and the geoseismic setting of the site are presented in the following sections.

5.2 EARTHWORK

5.2.1 Site Preparation

Initial site preparation will consist of the removal of any existing debris, non-engineered fills, surface vegetation, root systems, topsoil, and any deleterious materials from beneath an area extending out at least 5 feet from the perimeter of the proposed structure footprint and 3 feet

beyond rigid pavements and exterior flatwork areas. All existing utility locations should be reviewed to assess their impact on the proposed construction and abandoned and/or relocated as appropriate.

In situ, non-engineered fills may remain below flexible pavements if free of debris and deleterious materials, less than 3 feet in thickness, and if properly prepared. Proper preparation below pavements will consist of the scarification of the upper 12 inches below the asphalt pavement sequence, followed by moisture preparation and re-compaction to the requirements of structural fill. Even with proper preparation, pavements established overlying non-engineered fills may encounter some long-term movements unless the non-engineered fills are completely removed.

It must be noted that from a handling and compaction standpoint, soils containing high amounts of fines (silts and clays) are inherently more difficult to rework and are very sensitive to changes in moisture content, requiring very close moisture control during placement and compaction. This will be very difficult, if not impossible, during wet and cold periods of the year. Additionally, the on-site soils are likely above optimum moisture content for compacting at present and would require some drying prior to re-compacting.

Subsequent to stripping and prior to the placement of floor slabs, foundations, structural site grading fills, exterior flatwork, and pavements, the exposed subgrade must be proof rolled by passing moderate-weight rubber tire-mounted construction equipment over the surface at least twice. If excessively soft or otherwise unsuitable soils are encountered beneath footings, they must be completely removed. If removal depth required is greater than 2 feet below footings, GSH must be notified to provide further recommendations. In pavement, floor slab, and outside flatwork areas, unsuitable natural soils should be removed to a maximum depth of 2 feet and replaced with compacted granular structural fill.

Subgrade preparation as described must be completed prior to placing overlying structural site grading fills.

Due to the relatively high groundwater, site grading cuts should be kept to a minimum. Cuts extending to within 1 foot of the groundwater elevation will likely disturb the natural clay soils and proof rolling must not be completed. Stabilization must be anticipated in areas where cuts are to extend to within 1 foot of the groundwater surface.

To reduce disturbance of the natural soils during excavation, it is recommended that low-impact, track-mounted equipment with smooth edge buckets/blades be utilized.

GSH must be notified prior to the placement of structural site grading fills, floor slabs, footings, and pavements to verify that all loose/disturbed soils and non-engineered fills have been completely removed and/or properly prepared.

5.2.2 Temporary Excavations

Temporary excavations up to 8 feet deep in fine-grained cohesive soils, above or below the water table, may be constructed with sideslopes no steeper than one-half horizontal to one vertical (0.5H:1.0V). Excavations deeper than 8 feet are not anticipated at the site.

For granular (cohesionless) soils, construction excavations above the water table, not exceeding 4 feet, should be no steeper than one-half horizontal to one vertical (0.5H:1.0V). For excavations up to 8 feet, in granular soils and above the water table, the slopes should be no steeper than one horizontal to one vertical (1H:1V). Excavations encountering saturated cohesionless soils will be very difficult and will require very flat sideslopes and/or shoring, bracing, and dewatering.

To reduce disturbance of the natural soils during excavation, it is recommended that low-impact, track-mounted equipment with smooth edge buckets/blades be utilized.

The static groundwater table was encountered as shallow as 8.8 feet below the existing surface and may be shallower with seasonal fluctuations. Consideration for dewatering of utility trenches, excavations for the removal of non-engineered fill, and other excavations below this level should be incorporated into the design and bidding process.

All excavations must be inspected periodically by qualified personnel. If any signs of instability or excessive sloughing are noted, immediate remedial action must be initiated.

5.2.3 Structural Fill

Structural fill is defined as all fill which will ultimately be subjected to structural loadings, such as imposed by footings, floor slabs, pavements, etc. Structural fill will be required as backfill over foundations and utilities, as site grading fill, and as replacement fill below footings. All structural fill must be free of surface vegetation, root systems, rubbish, topsoil, frozen soil, and other deleterious materials.

Structural site grading fill is defined as structural fill placed over relatively large open areas to raise the overall grade. For structural site grading fill, the maximum particle size shall not exceed 4 inches; although, occasional larger particles, not exceeding 8 inches in diameter, may be incorporated if placed randomly in a manner such that “honeycombing” does not occur, and the desired degree of compaction can be achieved. The maximum particle size within structural fill placed within confined areas shall be restricted to 2 inches.

On-site soils, including existing non-engineered fills, may be re-utilized as structural site grading fill if they do not contain construction debris or deleterious material and meet the requirements of structural fill. Fine-grained soils will require very close moisture control and may be very difficult, if not impossible, to properly place and compact during wet and cold periods of the year.

Imported structural fill below foundations and floor slabs shall consist of a well graded sand and gravel mixture with less than 30 percent retained on the three-quarter-inch sieve and less than 20 percent passing the No. 200 Sieve (clays and silts).

To stabilize soft subgrade conditions (if encountered) or where structural fill is required to be placed closer than 2.0 feet above the water table at the time of construction, a mixture of coarse angular gravels and cobbles and/or 1.5- to 2.0-inch gravel (stabilizing fill) should be utilized. It may also help to utilize a stabilization fabric, such as Mirafi 600X or equivalent, placed on the natural ground if 1.5- to 2.0-inch gravel is used as stabilizing fill.

5.2.4 Fill Placement and Compaction

All structural fill shall be placed in lifts not exceeding 8 inches in loose thickness. Structural fills shall be compacted in accordance with the percent of the maximum dry density as determined by the AASHTO[1] T180 (ASTM[2] D1557) compaction criteria in accordance with the following table:

Location	Total Fill Thickness (feet)	Minimum Percentage of Maximum Dry Density
Beneath an area extending at least 5 feet beyond the perimeter of the structure	0 to 10	95
Site grading fills outside area defined above	0 to 5	90
Site grading fills outside area defined above	5 to 10	95
Utility trenches within structural areas	--	96
Road base	--	96

Structural fills greater than 10 feet thick are not anticipated at the site.

Subsequent to stripping and prior to the placement of structural site grading fill, the subgrade shall be prepared as discussed in Section 5.2.1, Site Preparation, of this report. In confined areas, subgrade preparation should consist of the removal of all loose or disturbed soils.

Coarse angular gravel and cobble mixtures (stabilizing fill), if utilized, shall be end dumped, spread to a maximum loose lift thickness of 15 inches, and compacted by dropping a backhoe bucket onto the surface continuously at least twice. As an alternative, the stabilizing fill may be compacted by passing moderately heavy construction equipment or large self-propelled compaction equipment over the surface at least twice. Subsequent fill material placed over the coarse gravels and cobbles

[1] American Association of State Highway and Transportation Officials
[2] American Society for Testing and Materials

shall be adequately compacted so that the "fines" are "worked into" the voids in the underlying coarser gravels and cobbles. Where soil fill materials are to be placed directly over more than about 18 inches of clean gravel, a separation geofabric, such as Mirafi 140N or equivalent, is recommended to be placed between the gravel and subsequent soil fills.

Non-structural fill may be placed in lifts not exceeding 12 inches in loose thickness and compacted by passing construction, spreading, or hauling equipment over the surface at least twice.

5.2.5 Utility Trenches

All utility trench backfill material below structurally loaded facilities (footings, floor slabs, flatwork, pavements, etc.) shall be placed at the same density requirements established for structural fill. If the surface of the backfill becomes disturbed during the course of construction, the backfill shall be proof rolled and/or properly compacted prior to the construction of any exterior flatwork over a backfilled trench. Proof rolling shall be performed by passing moderately loaded rubber tire-mounted construction equipment uniformly over the surface at least twice. If excessively loose or soft areas are encountered during proof rolling, they shall be removed to a maximum depth of 2 feet below design finish grade and replaced with structural fill.

Many utility companies and City-County governments are now requiring that Type A-1a or A-1b (AASHTO Designation – granular soils with limited fines) soils be used as backfill over utilities. These organizations are also requiring that in public roadways, the backfill over major utilities be compacted over the full depth of fill to at least 96 percent of the maximum dry density as determined by the AASHTO T180 (ASTM D1557) method of compaction. GSH recommends that as the major utilities continue onto the site that these compaction specifications are followed.

Fine-grained soils, such as silts and clays, are not recommended for utility trench backfill in structural areas.

The static groundwater table was encountered as shallow as 8.8 feet below the existing surface and may be shallower with seasonal fluctuations. Dewatering of utility trenches and other excavations below this level should be anticipated.

To reduce disturbance of the natural soils during excavation, it is recommended that low-impact, track-mounted equipment with smooth edge buckets/blades be utilized.

5.3 GROUNDWATER

On May 28, 2021 (8 days following drilling), groundwater was measured within the PVC pipes installed as tabulated on the following page:

Boring No.	Groundwater Depth (feet)
	May 28, 2021
B-1	10.9
B-2	12.4
B-5	8.8
B-6	8.8
B-8	8.9
B-10	9.3
B-11	9.6

Based on the anticipated cuts necessary to reach design subgrades, we do not anticipate significant groundwater control problems during mass grading operations. However, temporary dewatering may be required for deeper excavations, such as those for utility construction.

The groundwater measurements presented are conditions at the time of the field exploration and may not be representative of other times or locations. Groundwater levels may vary seasonally and with precipitation, as well as other factors including irrigation. Evaluation of these factors is beyond the scope of this study. Groundwater levels may, therefore, be at shallower or deeper depths than those measured during this study, including during construction and over the life of the structure.

The extent and nature of any dewatering required during construction will be dependent on the actual groundwater conditions prevalent at the time of construction and the effectiveness of construction drainage to prevent run-off into open excavations.

5.4 SPREAD AND CONTINUOUS WALL FOUNDATIONS

5.4.1 Design Data

The results of our analysis indicate that the proposed structures may be supported upon conventional spread and continuous wall foundations established upon suitable natural soils and/or structural fill extending to suitable natural soils. Under no circumstances shall foundations be established over non-engineered fills, loose or disturbed soils, topsoil, surface vegetation, root

systems, rubbish, construction debris, other deleterious materials, frozen soils, or within ponded water. For design, the following parameters are provided:

Minimum Recommended Depth of Embedment for Frost Protection	-	30 inches
Minimum Recommended Depth of Embedment for Non-frost Conditions	-	15 inches
Recommended Minimum Width for Continuous Wall Footings	-	18 inches
Minimum Recommended Width for Isolated Spread Footings	-	24 inches
Recommended Net Bearing Capacity for Real Load Conditions	-	2,500 pounds per square foot
Bearing Capacity Increase for Seismic Loading	-	50 percent

The term “net bearing capacity” refers to the allowable pressure imposed by the portion of the structure located above lowest adjacent final grade. Therefore, the weight of the footing and backfill to lowest adjacent final grade need not be considered. Real loads are defined as the total of all dead plus frequently applied live loads. Total load includes all dead and live loads, including seismic and wind.

5.4.2 Installation

Under no circumstances shall the footings be installed upon non-engineered fills, loose or disturbed soils, topsoil, surface vegetation, root systems, rubbish, construction debris, or other deleterious materials. If unsuitable soils are encountered, they must be removed and replaced with compacted granular fill. If granular soils become loose or disturbed, they must be recompacted prior to pouring the concrete.

The width of structural replacement fill below footings should be equal to the width of the footing plus one foot for each foot of fill thickness.

5.4.3 Settlements

Based on column loadings, soil bearing capacities, and the foundation recommendations as discussed above, we expect primary total settlement beneath individual foundations to be less than one inch.

The amount of differential settlement is difficult to predict because the subsurface and foundation loading conditions can vary considerably across the site. However, we anticipate differential settlement between adjacent foundations could vary from 0.5 to 0.75 inch. The final deflected shape of the structure will be dependent on actual foundation locations and loading.

5.5 LATERAL RESISTANCE

Lateral loads imposed upon foundations due to wind or seismic forces may be resisted by the development of passive earth pressures and friction between the base of the footings and the supporting soils. In determining frictional resistance, a coefficient of friction of 0.35 may be utilized for the footing interface with in situ natural clay soils and 0.40 for footing interface with granular structural fill. Passive resistance provided by properly placed and compacted granular structural fill above the water table may be considered equivalent to a fluid with a density of 300 pounds per cubic foot. Below the water table, this granular soil should be considered equivalent to a fluid with a density of 150 pounds per cubic foot.

A combination of passive earth resistance and friction may be utilized provided that the friction component of the total is divided by 1.5.

5.6 FLOOR SLABS

Floor slabs may be established upon suitable natural subgrade soils or structural fill extending to suitable natural soils. Under no circumstances shall floor slabs be established directly over non-engineered fills, loose or disturbed soils, sod, rubbish, construction debris, other deleterious materials, frozen soils, or within ponded water.

Additionally, GSH recommends that floor slabs be constructed a minimum of 4.0 feet from the stabilized groundwater elevation.

To facilitate curing of the concrete and to provide a capillary moisture break, it is recommended that floor slabs be directly underlain by at least 4 inches of "free-draining" fill, such as "pea" gravel or three-quarters to one inch minus clean gap-graded gravel.

Settlement of lightly loaded floor slabs designed according to previous recommendations (average uniform pressure of 200 pounds per square foot or less) is anticipated to be less than one-quarter of an inch.

5.7 PAVEMENTS

The natural clay soils and non-engineered fills will exhibit poor pavement support characteristics when saturated. All pavement areas must be prepared as previously discussed (see Section 5.2.1, Site Preparation). Under no circumstances shall pavements be established over unprepared non-engineered fills, loose or disturbed soils, topsoil, surface vegetation, root systems, rubbish, construction debris, other deleterious materials, frozen soils, or within ponded water. With the subgrade soils and the projected traffic as discussed in Section 2, Proposed Construction, the following pavement sections are recommended:

Parking Areas

(Light Volume of Automobiles and Light Trucks,
Occasional Medium-Weight Trucks,
and No Heavy-Weight Trucks)
[1-3 equivalent 18-kip axle loads per day]

Flexible Pavements:
(Asphalt Concrete)

3.0 inches	Asphalt concrete
8.0 inches	Aggregate base
Over	Properly prepared fills, natural subgrade soils, and/or structural site grading fill extending to properly prepared fills and/or natural subgrade soils

Rigid Pavements:
(Non-reinforced Concrete)

5.0 inches	Portland cement concrete (non-reinforced)
5.0 inches	Aggregate base
Over	Properly prepared natural subgrade soils, and/or structural site grading fill extending to properly prepared natural subgrade soils

Drive Lanes

(Moderate Volume of Automobiles and Light Trucks,
Light Volume of Medium-Weight Trucks,
and Occasional Heavy-Weight Trucks)
[6 equivalent 18-kip axle loads per day]

Flexible Pavements:
(Asphalt Concrete)

3.0 inches	Asphalt concrete
9.0 inches	Aggregate base
Over	Properly prepared fills, natural subgrade soils, and/or structural site grading fill extending to properly prepared fills and/or natural subgrade soils

Rigid Pavements:
(Non-reinforced Concrete)

6.0 inches	Portland cement concrete (non-reinforced)
5.0 inches	Aggregate base
Over	Properly prepared natural subgrade soils, and/or structural site grading fill extending to properly prepared natural subgrade soils

For dumpster pads, we recommend a pavement section consisting of 8.0 inches of Portland cement concrete, 12.0 inches of aggregate base, over properly prepared natural subgrade or site grading structural fills. Dumpster pads should not be constructed overlying non-engineered fills under any circumstances.

These above rigid pavement sections are for non-reinforced Portland cement concrete. Concrete should be designed in accordance with the American Concrete Institute (ACI) and joint details should conform to the Portland Cement Association (PCA) guidelines. The concrete should have a minimum 28-day unconfined compressive strength of 4,000 pounds per square inch and contain 6 percent ±1 percent air-entrainment.

The crushed stone should conform to applicable sections of the current Utah Department of Transportation (UDOT) Standard Specifications. All asphalt material and paving operations should meet applicable specifications of the Asphalt Institute and UDOT. A GSH technician shall observe placement and perform density testing of the base course material and asphalt.

Please note that the recommended pavement section is based on estimated post-construction traffic loading. If the pavement is to be constructed and utilized by construction traffic, the above pavement section may prove insufficient for heavy truck traffic, such as concrete trucks or tractor-trailers used for construction delivery. Unexpected distress, reduced pavement life, and/or premature failure of the pavement section could result if subjected to heavy construction traffic and the owner should be made aware of this risk. If the estimated traffic loading stated herein is not correct, GSH must review actual pavement loading conditions to determine if revisions to these recommendations are warranted.

5.8 CEMENT TYPES

A representative soil sample was collected and sent for laboratory analysis for pH and sulfate content. As of the date of this report, results are still pending and will be transmitted when available and with corresponding cement recommendations, if applicable.

5.9 GEOSEISMIC SETTING

5.9.1 General

Utah municipalities have adopted the International Building Code (IBC) 2018. The IBC 2018 code refers to ASCE 7-16 Minimum Design Loads and Associated Criteria for Buildings and Other Structures (ASCE 7-16) determines the seismic hazard for a site based upon mapping of bedrock accelerations prepared by the United States Geologic Survey (USGS) and the soil site class. The USGS values are presented on maps incorporated into the IBC code and are also available based on latitude and longitude coordinates (grid points).

5.9.2 Faulting

Based on our review of available literature, no active faults pass through or immediately adjacent to the site. The nearest active mapped fault consists of the Weber Section of the Wasatch Fault, located about 2.6 miles to the east-southeast of the site.

5.9.3 Site Class

For dynamic structural analysis, the Site Class D – Default Soil Profile as defined in Chapter 20 of ASCE 7-16 (per Section 1613.3.2, Site Class Definitions, of IBC 2018) can be utilized. If a measured site class is desired based on the project structural engineer's evaluation and recommendations, additional testing and analysis can be completed by GSH to determine the measured site class. Please contact GSH for additional information.

5.9.4 Ground Motions

The IBC 2018 code is based on USGS mapping, which provides values of short and long period accelerations for average bedrock values for the Western United States and must be corrected for local soil conditions. The following table summarizes the peak ground and short and long period accelerations for the MCE event and incorporates the appropriate soil amplification factor for a Site Class D – Default* Soil Profile. Based on the site latitude and longitude (41.2963 degrees north and 111.9953 degrees west, respectively) and Risk Category I, the values for this site are tabulated below:

Spectral Acceleration Value, T	Bedrock Boundary [mapped values] (% g)	Site Coefficient	Site Class D - Default* [adjusted for site class effects] (% g)	Design Values** (% g)
0.2 Seconds (Short Period Acceleration)	S_S = 150.1	F_a = 1.200	S_{MS} = 180.2	S_{DS} = 120.1
1.0 Second (Long Period Acceleration)	S_1 = 54.6	F_v = 1.754	S_{M1} = 95.8	S_{D1} = 63.9

* If a measured site class in accordance with IBC 2018/ASCE 7-16 is beneficial based on the project structural engineer's review, please contact GSH for additional options for obtaining this measured site class.

**IBC 2018/ASCE 7-16 may require a site-specific study based on the project structural engineer's evaluation and recommendations. If needed, GSH can provide additional information and analysis including a complete site-specific study in accordance with Chapter 21 of ASCE 7-16.

5.9.5 Liquefaction

The site is located in an area that has been identified by the Utah Geological Survey (UGS) as being a "high" liquefaction potential zone. Liquefaction is defined as the condition when saturated, loose, granular soils lose their support capabilities because of excessive pore water pressure, which develops during a seismic event. Clayey soils, even if saturated, will generally not liquefy during a major seismic event.

Due to the clayey nature of the soils, liquefaction is not anticipated to occur within the soils encountered at this site.

5.10 SITE VISITS

GSH must verify that all topsoil/disturbed soils and any other unsuitable soils have been removed, that non-engineered fills have been removed and/or properly prepared, and that suitable soils have been encountered prior to placing site grading fills, footings, slabs, and pavements. Additionally, GSH must observe fill placement and verify in-place moisture content and density of fill materials placed at the site.

6. CLOSURE

If you have any questions or would like to discuss these items further, please feel free to contact us at (801) 685-9190.

Respectfully submitted,

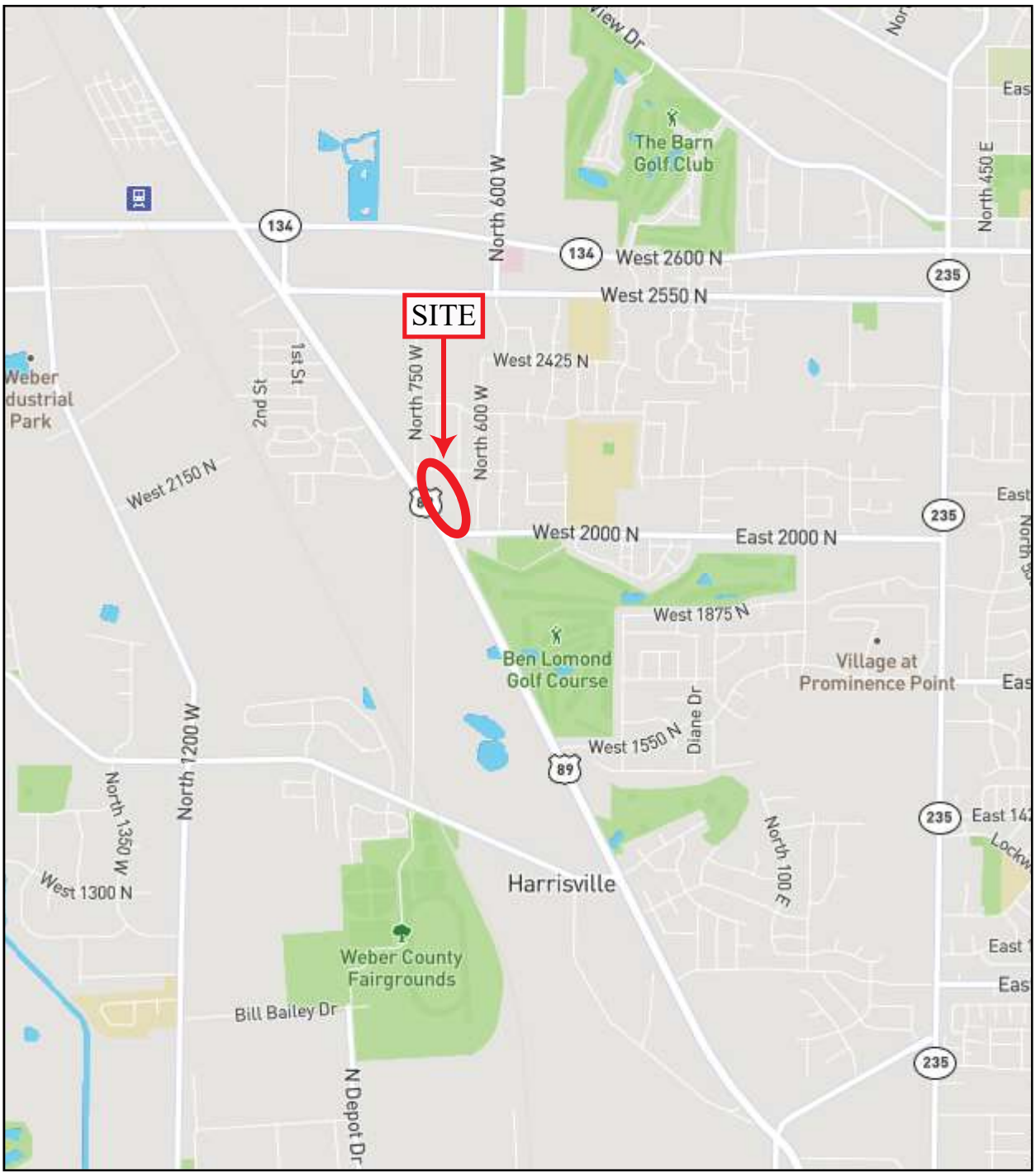
GSH Geotechnical, Inc.

Alan D. Spilker, P.E.
State of Utah No. 334228
President/Senior Geotechnical Engineer

ADS:sp

Encl. Figure 1, Vicinity Map
Figure 2, Site Plan
Figures 3A through 3K, Boring Logs
Figure 4, Key to Boring Log (USCS)

Addressee (email)



0.5 0 0.5 1 KM 1.5

0.2 0 0.2 0.4 0.6 0.8 1 MI 1.2

FIGURE 1
VICINITY MAP

REFERENCE:
ALL TRAILS - NATIONAL GEOGRAPHIC TERRAIN
DATED 2021

GSH

DIRECT HOMES, INC.
JOB NO. 2656-002-21

REFERENCE:
ADAPTED FROM DRAWING ENTITLED
"THE COPPERWOODS AT HARRISVILLE"
BY ALLIANCE CONSULTING ENGINEERS, DATED MAY 2021

FIGURE 2
SITE PLAN

GSH

07/07/2021

GSH

BORING LOG

Page: 1 of 2

BORING: B-1

CLIENT: Direct Homes, Inc. PROJECT NUMBER: 2656-002-21

PROJECT: Proposed The Copperwoods at Harrisville DATE STARTED: 5/20/21 DATE FINISHED: 5/20/21

LOCATION: 750 West Highway 89, Harrisville, Utah GSH FIELD REP.: NLW

DRILLING METHOD/EQUIPMENT: 3-3/4" ID Hollow-Stem Auger HAMMER: Automatic WEIGHT: 140 lbs DROP: 30"

GROUNDWATER DEPTH: 10.9' (5/28/21) ELEVATION: ---

WATER LEVEL	USCS	DESCRIPTION	DEPTH (FT.)	BLOW COUNT	SAMPLE SYMBOL	MOISTURE (%)	DRY DENSITY (PCF)	% PASSING 200	LIQUID LIMIT (%)	PLASTICITY INDEX	REMARKS
		Ground Surface	0								
	CL	SILTY CLAY with some fine to medium sand; major roots (topsoil) to 6"; light brown		31							dry hard
			5	50							
▼			10	15							slightly moist stiff saturated
		grades with layers of fine sand up to 1/2" thick	15	7							medium stiff
			20	8							
		grades with trace fine sand; gray	25								

See Subsurface Conditions section in the report for additional information.

FIGURE 3A

GSH

BORING LOG

Page: 2 of 2

BORING: B-1

CLIENT: Direct Homes, Inc. PROJECT NUMBER: 2656-002-21

PROJECT: Proposed The Copperwoods at Harrisville DATE STARTED: 5/20/21 DATE FINISHED: 5/20/21

WATER LEVEL	USCS	DESCRIPTION	DEPTH (FT.)	BLOW COUNT	SAMPLE SYMBOL	MOISTURE (%)	DRY DENSITY (PCF)	% PASSING 200	LIQUID LIMIT (%)	PLASTICITY INDEX	REMARKS
		grades with trace fine sand; gray	25	3							soft
			30	3							
			35	4							medium stiff
			40	7							
			45	6							
		End of Exploration at 46.0'. No groundwater encountered at time of drilling. Installed 1.25" diameter slotted PVC pipe to 46.0'.	50								

See Subsurface Conditions section in the report for additional information.

FIGURE 3A
(continued)

GSH

BORING LOG

Page: 1 of 1

BORING: B-2

CLIENT: Direct Homes, Inc. PROJECT NUMBER: 2656-002-21

PROJECT: Proposed The Copperwoods at Harrisville DATE STARTED: 5/20/21 DATE FINISHED: 5/20/21

LOCATION: 750 West Highway 89, Harrisville, Utah GSH FIELD REP.: NLW

DRILLING METHOD/EQUIPMENT: 3-3/4" ID Hollow-Stem Auger HAMMER: Automatic WEIGHT: 140 lbs DROP: 30"

GROUNDWATER DEPTH: 12.4' (5/28/21) ELEVATION: ---

WATER LEVEL	USCS	DESCRIPTION	DEPTH (FT.)	BLOW COUNT	SAMPLE SYMBOL	MOISTURE (%)	DRY DENSITY (PCF)	% PASSING 200	LIQUID LIMIT (%)	PLASTICITY INDEX	REMARKS
		Ground Surface	0								
	CL	SILTY CLAY with fine to medium sand; major roots (topsoil) to 6"; light brown									dry very stiff
		grades with trace fine sand	5	39							slightly moist
		grades brown	10	25							
▼											saturated
			15	21							stiff
		End of Exploration at 16.0'. No groundwater encountered at time of drilling. Installed 1.25" diameter slotted PVC pipe to 16.0'.	20								
			25								

See Subsurface Conditions section in the report for additional information.

FIGURE 3B

GSH

BORING LOG

Page: 1 of 1

BORING: B-3

CLIENT: Direct Homes, Inc. PROJECT NUMBER: 2656-002-21

PROJECT: Proposed The Copperwoods at Harrisville DATE STARTED: 5/20/21 DATE FINISHED: 5/20/21

LOCATION: 750 West Highway 89, Harrisville, Utah GSH FIELD REP.: NLW

DRILLING METHOD/EQUIPMENT: 3-3/4" ID Hollow-Stem Auger HAMMER: Automatic WEIGHT: 140 lbs DROP: 30"

GROUNDWATER DEPTH: Not Encountered (5/20/21) ELEVATION: ---

WATER LEVEL	USCS	DESCRIPTION	DEPTH (FT.)	BLOW COUNT	SAMPLE SYMBOL	MOISTURE (%)	DRY DENSITY (PCF)	% PASSING 200	LIQUID LIMIT (%)	PLASTICITY INDEX	REMARKS
		Ground Surface	0								
	CL	SILTY CLAY with fine sand; major roots (topsoil) to 6"; light brown									dry very stiff
				29	X						
			5								
				37	X						slightly moist
			10	28	X						
		End of Exploration at 11.0'. No groundwater encountered at time of drilling.									
			15								
			20								
			25								

See Subsurface Conditions section in the report for additional information.

FIGURE 3C

GSH

BORING LOG

Page: 1 of 1

BORING: B-4

CLIENT: Direct Homes, Inc. PROJECT NUMBER: 2656-002-21

PROJECT: Proposed The Copperwoods at Harrisville DATE STARTED: 5/20/21 DATE FINISHED: 5/20/21

LOCATION: 750 West Highway 89, Harrisville, Utah GSH FIELD REP.: NLW

DRILLING METHOD/EQUIPMENT: 3-3/4" ID Hollow-Stem Auger HAMMER: Automatic WEIGHT: 140 lbs DROP: 30"

GROUNDWATER DEPTH: Not Encountered (5/20/21) ELEVATION: ---

WATER LEVEL	USCS	DESCRIPTION	DEPTH (FT.)	BLOW COUNT	SAMPLE SYMBOL	MOISTURE (%)	DRY DENSITY (PCF)	% PASSING 200	LIQUID LIMIT (%)	PLASTICITY INDEX	REMARKS
		Ground Surface	0								
	CL	SILTY CLAY with trace fine sand; major roots (topsoil) to 6"; light brown									dry stiff
			5	46							slightly moist hard
			10	26							very stiff
		End of Exploration at 11.0'. No groundwater encountered at time of drilling.	15								
			20								
			25								

See Subsurface Conditions section in the report for additional information.

FIGURE 3D

GSH

BORING LOG

Page: 1 of 1

BORING: B-5

CLIENT: Direct Homes, Inc. PROJECT NUMBER: 2656-002-21

PROJECT: Proposed The Copperwoods at Harrisville DATE STARTED: 5/20/21 DATE FINISHED: 5/20/21

LOCATION: 750 West Highway 89, Harrisville, Utah GSH FIELD REP.: NLW

DRILLING METHOD/EQUIPMENT: 3-3/4" ID Hollow-Stem Auger HAMMER: Automatic WEIGHT: 140 lbs DROP: 30"

GROUNDWATER DEPTH: 8.8' (5/28/21) ELEVATION: ---

WATER LEVEL	USCS	DESCRIPTION	DEPTH (FT.)	BLOW COUNT	SAMPLE SYMBOL	MOISTURE (%)	DRY DENSITY (PCF)	% PASSING 200	LIQUID LIMIT (%)	PLASTICITY INDEX	REMARKS
		Ground Surface	0								
	CL	SILTY CLAY with trace fine sand; major roots (topsoil) to 6"; light brown									dry hard
				87							
			5								
				25							slightly moist very stiff
▼			10								saturated
			15	8							medium stiff
		End of Exploration at 16.0'. No groundwater encountered at time of drilling. Installed 1.25" diameter slotted PVC pipe to 16.0'.	20								
			25								

See Subsurface Conditions section in the report for additional information.

FIGURE 3E

GSH

BORING LOG

Page: 1 of 1

BORING: B-6

CLIENT: Direct Homes, Inc. PROJECT NUMBER: 2656-002-21

PROJECT: Proposed The Copperwoods at Harrisville DATE STARTED: 5/20/21 DATE FINISHED: 5/20/21

LOCATION: 750 West Highway 89, Harrisville, Utah GSH FIELD REP.: NLW

DRILLING METHOD/EQUIPMENT: 3-3/4" ID Hollow-Stem Auger HAMMER: Automatic WEIGHT: 140 lbs DROP: 30"

GROUNDWATER DEPTH: 8.8' (5/28/21) ELEVATION: ---

WATER LEVEL	USCS	DESCRIPTION	DEPTH (FT.)	BLOW COUNT	SAMPLE SYMBOL	MOISTURE (%)	DRY DENSITY (PCF)	% PASSING 200	LIQUID LIMIT (%)	PLASTICITY INDEX	REMARKS
		Ground Surface	0								
	CL	SILTY CLAY with trace fine sand; major roots (topsoil) to 6"; light brown									dry very stiff
		grades with some fine sand	5	37							slightly moist
▼											saturated
			10	31							
			15	17							stiff
		End of Exploration at 16.0'. No groundwater encountered at time of drilling. Installed 1.25" diameter slotted PVC pipe to 16.0'.	20								
			25								

See Subsurface Conditions section in the report for additional information.

FIGURE 3F

GSH

BORING LOG

Page: 1 of 1

BORING: B-7

CLIENT: Direct Homes, Inc. PROJECT NUMBER: 2656-002-21

PROJECT: Proposed The Copperwoods at Harrisville DATE STARTED: 5/20/21 DATE FINISHED: 5/20/21

LOCATION: 750 West Highway 89, Harrisville, Utah GSH FIELD REP.: NLW

DRILLING METHOD/EQUIPMENT: 3-3/4" ID Hollow-Stem Auger HAMMER: Automatic WEIGHT: 140 lbs DROP: 30"

GROUNDWATER DEPTH: Not Encountered (5/20/21) ELEVATION: ---

WATER LEVEL	USCS	DESCRIPTION	DEPTH (FT.)	BLOW COUNT	SAMPLE SYMBOL	MOISTURE (%)	DRY DENSITY (PCF)	% PASSING 200	LIQUID LIMIT (%)	PLASTICITY INDEX	REMARKS
		Ground Surface	0								
	CL	SILTY CLAY with trace fine sand; major roots (topsoil) to 6"; light brown									dry medium stiff
			5	36							slightly moist very stiff
			10	24							
		End of Exploration at 11.0'. No groundwater encountered at time of drilling.	15								
			20								
			25								

See Subsurface Conditions section in the report for additional information.

FIGURE 3G

GSH

BORING LOG

Page: 1 of 1

BORING: B-8

CLIENT: Direct Homes, Inc. PROJECT NUMBER: 2656-002-21

PROJECT: Proposed The Copperwoods at Harrisville DATE STARTED: 5/20/21 DATE FINISHED: 5/20/21

LOCATION: 750 West Highway 89, Harrisville, Utah GSH FIELD REP.: NLW

DRILLING METHOD/EQUIPMENT: 3-3/4" ID Hollow-Stem Auger HAMMER: Automatic WEIGHT: 140 lbs DROP: 30"

GROUNDWATER DEPTH: 8.9' (5/28/21) ELEVATION: ---

WATER LEVEL	USCS	DESCRIPTION	DEPTH (FT.)	BLOW COUNT	SAMPLE SYMBOL	MOISTURE (%)	DRY DENSITY (PCF)	% PASSING 200	LIQUID LIMIT (%)	PLASTICITY INDEX	REMARKS
		Ground Surface	0								
	CL	SILTY CLAY with some fine sand; major roots (topsoil) to 6"; light brown									dry very stiff
		grades with trace fine sand	5	15							slightly moist
▼											saturated
			10	11							stiff
			15	9							
		End of Exploration at 16.0'. No groundwater encountered at time of drilling. Installed 1.25" diameter slotted PVC pipe to 16.0'.	20								
			25								

See Subsurface Conditions section in the report for additional information.

FIGURE 3H

GSH

BORING LOG

Page: 1 of 1

BORING: B-9

CLIENT: Direct Homes, Inc. PROJECT NUMBER: 2656-002-21

PROJECT: Proposed The Copperwoods at Harrisville DATE STARTED: 5/20/21 DATE FINISHED: 5/20/21

LOCATION: 750 West Highway 89, Harrisville, Utah GSH FIELD REP.: NLW

DRILLING METHOD/EQUIPMENT: 3-3/4" ID Hollow-Stem Auger HAMMER: Automatic WEIGHT: 140 lbs DROP: 30"

GROUNDWATER DEPTH: Not Encountered (5/20/21) ELEVATION: ---

WATER LEVEL	USCS	DESCRIPTION	DEPTH (FT.)	BLOW COUNT	SAMPLE SYMBOL	MOISTURE (%)	DRY DENSITY (PCF)	% PASSING 200	LIQUID LIMIT (%)	PLASTICITY INDEX	REMARKS
		Ground Surface	0								
	GP FILL	FINE TO COARSE SANDY FINE AND COARSE GRAVEL, FILL with cobbles; light brown									dry medium dense
	CL	SILTY CLAY with trace fine sand; light brown									slightly moist stiff
			5	14							
			10	17							very stiff
		End of Exploration at 11.0'. No groundwater encountered at time of drilling.									
			15								
			20								
			25								

See Subsurface Conditions section in the report for additional information.

FIGURE 3I

GSH

BORING LOG

Page: 1 of 1

BORING: B-10

CLIENT: Direct Homes, Inc. PROJECT NUMBER: 2656-002-21

PROJECT: Proposed The Copperwoods at Harrisville DATE STARTED: 5/20/21 DATE FINISHED: 5/20/21

LOCATION: 750 West Highway 89, Harrisville, Utah GSH FIELD REP.: NLW

DRILLING METHOD/EQUIPMENT: 3-3/4" ID Hollow-Stem Auger HAMMER: Automatic WEIGHT: 140 lbs DROP: 30"

GROUNDWATER DEPTH: 9.3' (5/28/21) ELEVATION: ---

WATER LEVEL	USCS	DESCRIPTION	DEPTH (FT.)	BLOW COUNT	SAMPLE SYMBOL	MOISTURE (%)	DRY DENSITY (PCF)	% PASSING 200	LIQUID LIMIT (%)	PLASTICITY INDEX	REMARKS
		Ground Surface	0								
	GP FILL	FINE TO COARSE SANDY FINE AND COARSE GRAVEL, FILL with cobbles; light brown									dry loose
	CL	SILTY CLAY with layers of silty fine sand up to 1/2" thick; light brown		25							slightly moist very stiff
			5								
				19							
▼											saturated
			10								
				17							stiff
			15	22							very stiff
		End of Exploration at 16.0'. No groundwater encountered at time of drilling. Installed 1.25" diameter slotted PVC pipe to 16.0'.									
			20								
			25								

See Subsurface Conditions section in the report for additional information.

FIGURE 3J

GSH

BORING LOG

Page: 1 of 1

BORING: B-11

CLIENT: Direct Homes, Inc. PROJECT NUMBER: 2656-002-21

PROJECT: Proposed The Copperwoods at Harrisville DATE STARTED: 5/20/21 DATE FINISHED: 5/20/21

LOCATION: 750 West Highway 89, Harrisville, Utah GSH FIELD REP.: NLW

DRILLING METHOD/EQUIPMENT: 3-3/4" ID Hollow-Stem Auger HAMMER: Automatic WEIGHT: 140 lbs DROP: 30"

GROUNDWATER DEPTH: 9.6' (5/28/21) ELEVATION: ---

WATER LEVEL	USCS	DESCRIPTION	DEPTH (FT.)	BLOW COUNT	SAMPLE SYMBOL	MOISTURE (%)	DRY DENSITY (PCF)	% PASSING 200	LIQUID LIMIT (%)	PLASTICITY INDEX	REMARKS
		Ground Surface	0								
	GP/ GM FILL	FINE TO COARSE SANDY FINE AND COARSE GRAVEL, FILL with some silt and some cobbles; light brown									dry loose
	CL	SILTY CLAY with layers of fine sand up to 1/2" thick; brown									slightly moist stiff
			5	11							
▼		grades with some fine sand	10	7							saturated medium stiff
		grades with trace fine sand	15	12							slightly moist stiff
		End of Exploration at 16.0'. No groundwater encountered at time of drilling. Installed 1.25" diameter slotted PVC pipe to 16.0'.	20								
			25								

See Subsurface Conditions section in the report for additional information.

FIGURE 3K

CLIENT: Direct Homes, Inc.
PROJECT: Proposed The Copperwoods at Harrisville
PROJECT NUMBER: 2656-002-21

KEY TO BORING LOG

WATER LEVEL	USCS	DESCRIPTION	DEPTH (FT.)	BLOW COUNT	SAMPLE SYMBOL	MOISTURE (%)	DRY DENSITY (PCF)	% PASSING 200	LIQUID LIMIT (%)	PLASTICITY INDEX	REMARKS
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫

COLUMN DESCRIPTIONS

① **Water Level:** Depth to measured groundwater table. See symbol below.

② **USCS:** (Unified Soil Classification System) Description of soils encountered; typical symbols are explained below.

③ **Description:** Description of material encountered; may include color, moisture, grain size, density/consistency,

④ **Depth (ft.):** Depth in feet below the ground surface.

⑤ **Blow Count:** Number of blows to advance sampler 12" beyond first 6", using a 140-lb hammer with 30" drop.

⑥ **Sample Symbol:** Type of soil sample collected at depth interval shown; sampler symbols are explained below.

⑦ **Moisture (%):** Water content of soil sample measured in laboratory; expressed as percentage of dryweight of

⑧ **Dry Density (pcf):** The density of a soil measured in laboratory; expressed in pounds per cubic foot.

⑨ **% Passing 200:** Fines content of soils sample passing a No. 200 sieve; expressed as a percentage.

⑩ **Liquid Limit (%):** Water content at which a soil changes from plastic to liquid behavior.

⑪ **Plasticity Index (%):** Range of water content at which a soil exhibits plastic properties.

⑫ **Remarks:** Comments and observations regarding drilling or sampling made by driller or field personnel. May include other field and laboratory test results using the following abbreviations:

CEMENTATION:	MODIFIERS:	MOISTURE CONTENT (FIELD TEST):
Weakly: Crumbles or breaks with handling or slight finger pressure.	**Trace** <5%	**Dry:** Absence of moisture, dusty, dry to the touch.
Moderately: Crumbles or breaks with considerable finger pressure.	**Some** 5-12%	**Moist:** Damp but no visible water.
Strongly: Will not crumble or break with finger pressure.	**With** > 12%	**Saturated:** Visible water, usually soil below water table.

Descriptions and stratum lines are interpretive; field descriptions may have been modified to reflect lab test results. Descriptions on the logs apply only at the specific boring locations and at the time the borings were advanced; they are not warranted to be representative of subsurface conditions at other locations or times.

UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)

MAJOR DIVISIONS			USCS SYMBOLS	TYPICAL DESCRIPTIONS
COARSE-GRAINED SOILS More than 50% of material is larger than No. 200 sieve size.	GRAVELS More than 50% of coarse fraction retained on No. 4 sieve.	CLEAN GRAVELS (little or no fines)	GW	Well-Graded Gravels, Gravel-Sand Mixtures, Little or No Fines
			GP	Poorly-Graded Gravels, Gravel-Sand Mixtures, Little or No Fines
		GRAVELS WITH FINES (appreciable amount of fines)	GM	Silty Gravels, Gravel-Sand-Silt Mixtures
			GC	Clayey Gravels, Gravel-Sand-Clay Mixtures
	SANDS More than 50% of coarse fraction passing through No. 4 sieve.	CLEAN SANDS (little or no fines)	SW	Well-Graded Sands, Gravelly Sands, Little or No Fines
			SP	Poorly-Graded Sands, Gravelly Sands, Little or No Fines
		SANDS WITH FINES (appreciable amount of fines)	SM	Silty Sands, Sand-Silt Mixtures
			SC	Clayey Sands, Sand-Clay Mixtures
FINE-GRAINED SOILS More than 50% of material is smaller than No. 200 sieve size.	SILTS AND CLAYS Liquid Limit less than 50%		ML	Inorganic Silts and Very Fine Sands, Rock Flour, Silty or Clayey Fine Sands or Clayey Silts with Slight Plasticity
			CL	Inorganic Clays of Low to Medium Plasticity, Gravelly Clays, Sandy Clays, Silty Clays, Lean Clays
			OL	Organic Silts and Organic Silty Clays o f Low Plasticity
	SILTS AND CLAYS Liquid Limit greater than 50%		MH	Inorganic Silts, Micacious or Diatomacious Fine Sand or Silty Soils
			CH	Inorganic Clays of High Plasticity, Fat Clays
			OH	Organic Silts and Organic Clays of Medium to High Plasticity
HIGHLY ORGANIC SOILS			PT	Peat, Humus, Swamp Soils with High Organic Contents

Note: Dual Symbols are used to indicate borderline soil classifications.

STRATIFICATION:

DESCRIPTION	THICKNESS
Seam	up to 1/8"
Layer	1/8" to 12"

Occasional: One or less per 6" of thickness

Numerous; More than one per 6" of thickness

TYPICAL SAMPLER GRAPHIC SYMBOLS

- Bulk/Bag Sample
- Standard Penetration Split Spoon Sampler
- Rock Core
- No Recovery
- 3.25" OD, 2.42" ID D&M Sampler
- 3.0" OD, 2.42" ID D&M Sampler
- California Sampler
- Thin Wall

WATER SYMBOL

- Water Level

FIGURE 4

GSH 07/07/2021

Harrisville City Planning Commission
363 W. Independence Boulevard
7:00 p.m., June 9, 2021
Conducting: Chair Chad Holbrook

Commissioners: Chad Holbrook, Chair
Brenda Nelson
Bill Smith
Nathan Averill
Kevin Shakespeare

Staff: Bill Morris (City Administrator)
Jennie Knight (City Recorder)
Cynthia Benson (Deputy Recorder)
Glen Gammel (Public Works)

Visitors: Ronda Kippen, William Scott, Jerry Eddy, Steve Weiss, Kenny Loveland, Mayor Michelle Tait, Arnold Tait, Leslie Morton, Grover Wilhelmsen, Blair Christiansen, Eric Langvardt.

1. **Call to Order.**

Chair Holbrook called the meeting to order and welcomed all visitors.

2. **Consent Approval –** of Planning Commission minutes from May 12, 2021.

MOTION: Commissioner Smith motioned to approve the minutes of May 12, 2021 as presented. Commissioner Averill seconded the motion. Voting was unanimous.

3. **Work Session –** Presentation of Ben Lomond View Development.

Chair Holbrook explained that Eric Langvardt is here to present. Eric explained he will focus on the specific changes on parks, trails, and the open space plan or PTOS plan. Park "G" was not identified on the original submissions and is built around the existing pond. This Park will contain trails, but will not be a programed park with playground or swings. Millennium Park was also negotiated since that time. Discussions have been on-going but all the components are included. The other component details are the berms along Highway 89 running north to south. Through the design process, they pulled the collector road to the south-east allowing for another berm as a landscaping buffer.

Chair Holbrook asked for clarification on the south side of the road, and the details about moving the road. Eric clarified this road is the one road in their development shown on the master road plan for the city. Once that was positioned through, they moved the road south and east from the existing townhomes, and included a berm on the east side. Eric outlined the berm on the Highway 89 details. There are also no homes backing or fronting the highway, only one side will face the highway. They will also be placing the fence on the development lots in the side yard. The idea is that the fence will help to visually separate everybody. The idea is to keep kids inside the development area. The berm on the right, and the collector road with the drive lane on the other side. The existing townhomes were modeled to approximate height, with an approximate five- or six-foot berm. That should be a good solution for the residents and are additionally added items. Ronda said that covers the conditions for approval.

Eric explained the formalized park details. Chair Holbrook asked if they have decided on the fence design. Eric said they will work with the builder to match the architecture. They are also dealing with supply issues. But something that will be less of a visual impact to the citizens on the highway. More of an impact to the residents, not the public outside. The parks are all individualized. Those will be a big contributor to the city's current open space.

Chair Holbrook asked about the park on the farthest east, Park "F". Eric said this will be a simple shade pavilion, utilized by dogs or grandkids as a pass of lawn with a shade pavilion. Commissioner Averill asked for the previous motion to be referenced. Chair Holbrook asked for Commissioners Nelson and Shakespeare's' input. Ronda said there was language in the MDA that the committee would continue to work with the developer to address the commercial elements.

Chair Holbrook thanked the developer for their consideration with the feedback from the community. Chair Holbrook recognized Ronda.

Ronda said she condensed the 553-page MDA into six key components and they were meeting the conditions of approval from the last meeting. The one that was not addressed was the commercial component on Exhibit "F" – Phasing Plan Phase 3. "The design process will be linked to the design of the Town Center commercial areas including discussions with the Planning Commission and City work groups beginning in late summer or early fall depending upon the timing of the MDA approval and City scheduling of planning discussions. This section is how the developer is proposing to address that condition of approval tonight."
Rhonda continued with her summarization of the MDA by pointing out 3 of the 6 outlined in her staff report. The first was the density remains at 664 units which includes: 425 single family lots, 144 townhouses, 80 multi-family condo units and two 2-story commercial pads with an overall footprint of 40,836 sq ft. There are an additional 15 single family homes, provisionally planned for the flood plain. Page 3 of the staff report, item #5, Sensitive Lands Map, the current code does not allow the city to develop in the flood plain. The developers acknowledge this and originally the plan did not include these units. The developer added this area to their master plan as their intent to include in the development. If the applicant cannot successfully negotiate with FEMA this area would remain in the flood plain. If the Planning Commission grants the total 664 units, under the current MDA, they would be able to transfer those units to other density areas in the development with your approval of modified master plan areas. That is how this is currently drawn up. The Planning Commission has the right to not grant the 15 units, and require the developer to come back and amend the MDA to allow those units in the future. The flood plain clean up would be beneficial to the community. The recommendation to the City Council, on whether to include the total 664 units or whether you are reducing it by the sensitive land area. The PTOS plan has been covered by Eric. The Four-Mile Special Service District is across the board in the entire development. No questions were asked about this point.
The only thing that will be different outside of the regular building and land use permitting, are issues with the MDA to ensure the landscaping, architecture and HOA design standards are met. The developer is implementing a stamp on the building permit by the architectural design group, showing the plans are approved and show they do meet all requirements set forth in the MDA. She does not recommend a paper stamp that they have been approved, but an actual electronic stamp. Commissioner Averill clarified she was recommending the HOA has an actual stamp of approval with a possible representative from the HOA included in the approval process. This

section is actually highlighted in the HOA documents on page 21 of the CCR's, 8.2 Architectural Control, plan and design approval from Design Review Committee, as written in Exhibit J. "No Lot Owner or Builder shall submit to the City of Harrisville an application for a building permit without first having received plan and design approval from the Design Review Committee, proof of which approval shall be submitted to the City with the relevant permit application. The Design Committee shall use its best and reasonable efforts to review and either approve or reject all requests for plan and design approval within fifteen (15) business days after submission for such review. Any rejections shall be accompanied by notes or comments from the Design Committee explaining in reasonable detail the reasons for the rejection and an invitation for resubmission." That will ensure they are meeting our design standards, down to the landscaping plans, and simplify the building permit review process by having those site plans reviewed prior. Summarizing the consideration for application; last time there were some conditions. Ronda reviewed this section as written in her Staff Report. Does this proposal comply with the 2019 Harrisville General Plan? Does this proposal comply with the applicable MU-LP ordinance? In considering the proposed rezone, the planning commission shall review and consider the following, as applicable: The architectural design of buildings and their relationship on the site and development beyond the boundaries of the proposal. Proposed development standards for the various types of residential, commercial, retail office, or other uses proposed, including parking areas, dimensions, and setbacks. Proposed design standards addressing building height, massing and orientation, open space, natural resource protection, architectural design and materials, landscaping and buffering standards, parking, and signage. The landscaping and screening as related to the several uses within the development and as a means of its integration into its surroundings. The residential density of the proposed development and its distribution as compared with the residential density of the surrounding lands, either existing or as indicated on the zoning map or general plan proposals of the city as being a desirable future residential density. She gave a unanimous recommendation for approval "to the City Council for the request for approval of Harrisville Ordinance 515 and the final Master Development Agreement (MDA); Ben Lomond Views Zoning Map Amendment for approximately 130.80 acres being rezoned by an MDA from O-1 Zone and A-1 Zone to "MU-LP-Ben Lomond Zone." This recommendation is based on the following findings: The proposed rezone conforms to the 2019 Harrisville General Plan. The proposed MDA complies with the applicable City ordinances. The building uses, roads, street widths, locations, lot area, width, yard, height, and coverage regulations proposed are acceptable as shown on the attached MDA Exhibits showing the conceptual site plans, maps, and standards. The proposed master-planned development is in conformance and meets the MU-LP ordinance's purpose and intent. The proposed rezone will not be detrimental to public health, safety, or welfare. The proposed rezone will not deteriorate the environment of the general area so as to negatively impact surrounding properties and uses."

Chair Holbrook asked as part of the motion the number of houses included at 664 with the possibility of 15 more if flood plain is mitigated. Ronda said the 664 units include the 15 units in the flood plain. All of the reports and studies included the 664 units and up clarifying the commissioners can reduce the overall density if the flood plain cannot be mitigated. Chair Holbrook asked what the design of that area would be. Developer said the area would remain open as a natural space.

4. **Discussion/Action/Recommend –** finalization on various outstanding details relating to recommendation to adopt Harrisville Ordinance 515; Zoning Map Amendment Ben Lomond View.

Chair Holbrook said this is the time to finalize the details of the ordinance, asking if commissioners have questions or concerns, they want to address. Chair said it appears those conditions have been addressed.

MOTION: Commissioner Averill motioned to forward a positive recommendation to the City Council for approval of Harrisville Ordinance 515; Zoning Map Amendment Ben Lomond View for approximately 130.80 acres being rezoned by an MDA from O-1 Zone and A-1 Zone to MU-LP Ben Lomond Zone. This recommendation is based on the following findings: the proposed rezone conforms to the Harrisville General Plan, met the conditions, the proposed MDA complies with the applicable City ordinances, the building uses, roads, street widths, locations, lot area, width, yard, height, and coverage regulations proposed are acceptable as shown on the conceptual site plan attached MDA Exhibits showing the conceptual site plans, maps, and standards, the proposed master-planned development is in conformance and meets the MU-LP ordinance's purpose and intent, the proposed rezone will not be detrimental to public health, safety, or welfare. The proposed rezone will not deteriorate the environment of the general area so as to negatively impact surrounding properties and uses with the 664 units. Commissioner Shakespeare seconded the motion. Voting was unanimous.

5. **Commission/Staff Follow-Up.**

Commissioner Averill mentioned the mandatory training for the Commissioners. Bill said the league is putting this training together. Jennie Knight introduced Cynthia Benson, the new Deputy Recorder.

6. **Adjourn.**

Chair Holbrook declared the meeting adjourned at 7:43p.m.

Jennie Knight
City Recorder

Chad Holbrook
Chair

M E M O R A N D U M

JONES & ASSOCIATES CONSULTING ENGINEERS

TO: Harrisville City Planning Commission

FROM: Matthew L. Robertson, P.E.
City Engineer

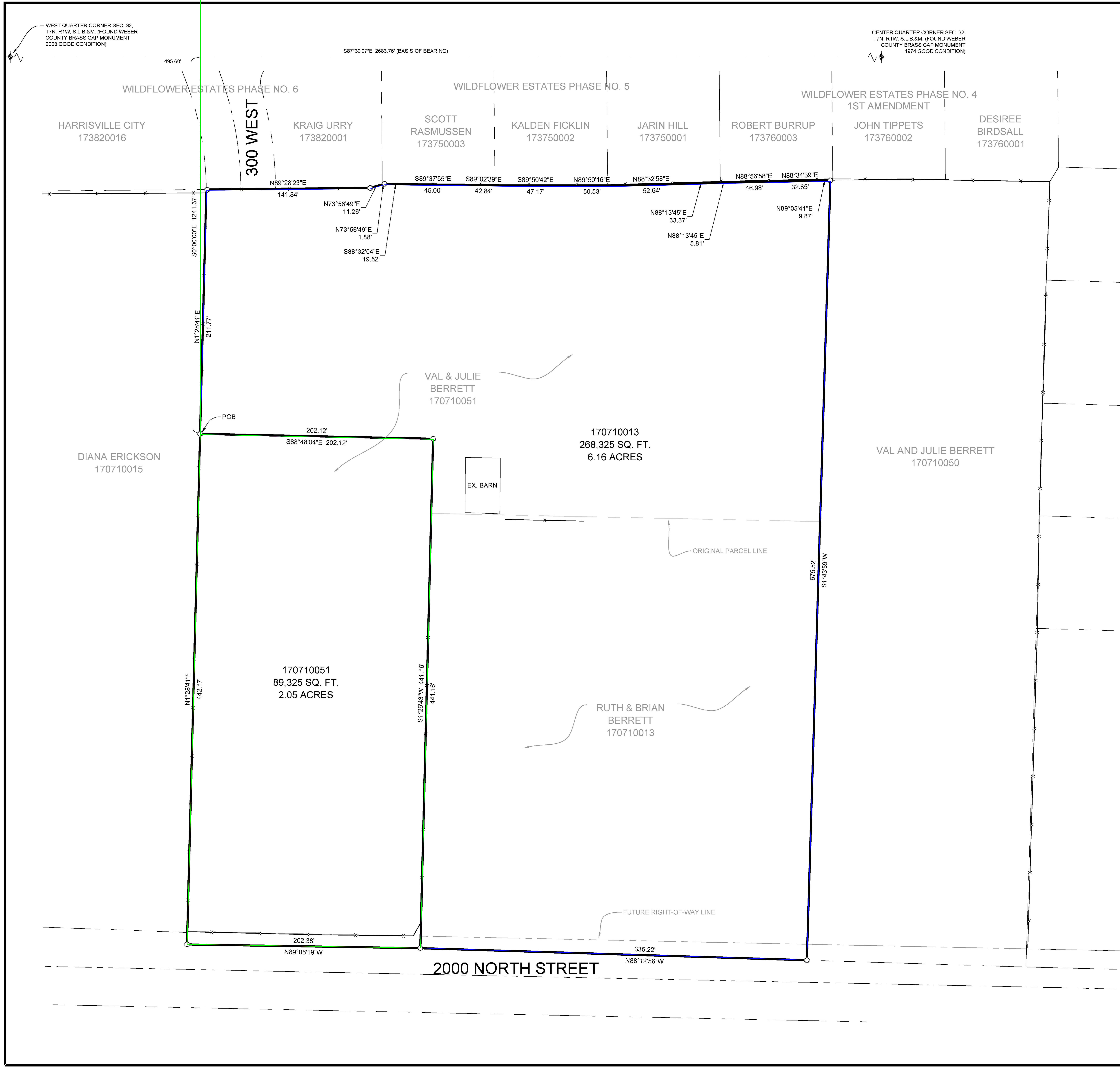
RE: BERRETT SUBDIVISION
Final Plat Submittal

Date: July 9, 2021

Our office has completed a review of the final plat and improvement plans for the Berrett Subdivision located at approximately 376 West 2000 North. This development is a 2-lot subdivision in the A-1 zone. The two new lots are one acre in size and are being split off of a larger parcel. A boundary line adjustment is being recorded to ensure that the remaining parcels are still compliant with the requirements of this zone. We have found the plans to be in conformance with applicable City standards and all previous comments and recommendations from our office have been addressed. We therefore recommend final approval of the plat and improvement drawings at this time. The following final approval processing items will need to be completed before construction begins:

1. The boundary line adjustment needs to be signed and recorded at the County prior to recording the subdivision plat.
2. A storm water SWPPP needs to be prepared and an NOI filed with the State and a Stormwater Activity Permit obtained from the City before any construction begins.
3. An engineer's estimate for the cost of the public improvements will need to be prepared by the Developer's engineer. This estimate will be reviewed by our office and will need to be approved before the pre-construction meeting and will be the basis for the developer's agreement and the associated construction guarantee.
4. Prior to construction, the Developer and the Contractor must hold a pre-construction meeting with City staff to review construction requirements.

Please let me know if you have any questions.



RECORD BOUNDARY DESCRIPTION (PARCEL 170710051)

PART OF THE WEST HALF QUARTER OF SECTION 32, TOWNSHIP 7 NORTH,RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN, U S SURVEY:BEGINNING AT A POINT SOUTH 1°41'45" EAST 1058.70 FEET ALONG THE SECTION LINE AND NORTH 88°18'15" EAST 459.60 FEET FROM THE WEST 1/4 CORNER OF SAID SECTION 32, RUNNING THENCE SOUTH 1°03'25" WEST 653.71 FEET, MORE OR LESS, TO THE NORTH RIGHT OF WAY FENCE OF 2000 NORTH STREET, THENCE SOUTH 88°53'25" EAST 202.08 FEET, THENCE NORTH 0°10' EAST 366 FEET, THENCE NORTH89°50' EAST 275 FEET, THENCE NORTH 1°11' EAST 297.61 FEET,MORE OR LESS, TO BONA VISTA WATER IMPROVEMENT DISTRICT LINE, THENCE SOUTH 89°10'15" WEST 472.24 FEET, MORE OR LESS, TO THE POINT OF BEGINNING. EXCEPTING THEREFROM: PART OF THE WEST HALF OF SECTION 32,TOWNSHIP 7 NORTH, RANGE 1 WEST, SALT LAKE BASE & MERIDIAN, U S SURVEY: BEGINNING AT A POINT ON THE EXISTING NORTH RIGHT OF WAY FENCE OF 2000 NORTH STREET, SAID POINT BEING SOUTH 1°41'45" EAST 1058.70 FEET ALONG THE SECTION LINE, NORTH 88°18'15" EAST 459.60 FEET AND SOUTH 1°03'25" WEST 653.71 FEET MORE OR LESS, FROM THE WEST QUARTER CORNER OF SAID SECTION 32 AND RUNNING THENCE NORTH 1°03'25" EAST 11.9 FEET TO THE PROPOSED NEW NORTH RIGHT OF WAY LINE OF SAID 2000 NORTH STREET THENCE SOUTH 88°34'08" EAST ALONG SAID PROPOSED NORTH LINE 201.78 FEET TO THE EAST LINE OF GRANTORS PROPERTY, THENCE SOUTH 0°10' WEST 15.6 FEET ALONG SAID EAST LINE TO A FENCE MARKING GRANTORS SOUTH PROPERTY LINE, THENCE NORTH 87°31'15"WEST ALONG SAID FENCE 202.08 FEET, MORE OR LESS, TO THE POINT OF BEGINNING. TOGETHER WITH THAT PORTION DESCRIBED WITHIN BOUNDARY LINE AGREEMENT E#2640348.

RECORD BOUNDARY DESCRIPTION PARCEL (170710013)

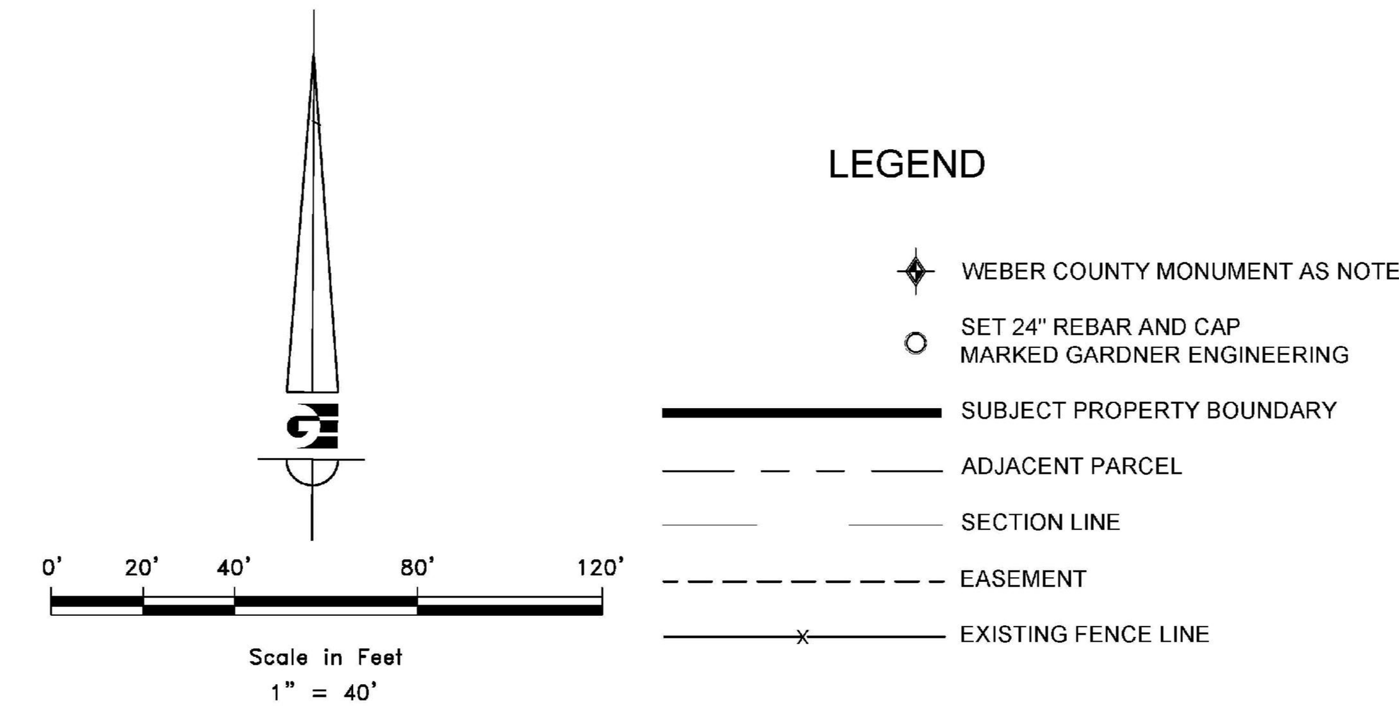
PART OF THE SOUTHWEST QUARTER OF SECTION 32, TOWNSHIP 7 NORTH,RANGE 1 WEST, SALT LAKE MERIDIAN, U.S. SURVEY: BEGINNING AT A POINT ON THE NORTH LINE OF COUNTY ROAD 1008.5 FEET SOUTH AND NORTH 87°50' EAST 728.80 FEET AND SOUTH 0°10' WEST 661 FEET TO THE NORTH LINE OF COUNTY ROAD FROM THE NORTHWEST CORNER OF SAID QUARTER SECTION, AND RUNNING THENCE NORTH 0D10' EAST 366FEET TO DITCH; THENCE NORTH 89°50' EAST 275 FEET; THENCE SOUTH 0°10' WEST 366 FEET TO NORTH LINE OF ROAD; THENCE SOUTH 89°50' WEST 275 FEET TO THE PLACE OF BEGINNING. EXCEPTING THEREFROM: PART OF THE SOUTHWEST QUARTER OF SECTION 32, TOWNSHIP 7 NORTH, RANGE 1 WEST, SALT LAKE BASE & MERIDIAN, U S SURVEY: BEGINNING AT A POINT ON A FENCE MARKING THE EXISTING NORTH LINE OF 2000 NORTH STREET, SAID POINT BEING SOUTH 1008.5 FEET NORTH 87°50' EAST 728.80 FEET,AND SOUTH 0°10' WEST 661 FEET, MORE OR LESS, FROM THE NORTHWEST CORNER OF SAID QUARTER SECTION AND RUNNING THENCE NORTH 0°10' EAST 15.6 FEET TO THE PROPOSED NEW NORTH RIGHT OF WAY LINE OF SAID 2000 NORTH, THENCE SOUTH 88°34'08" EAST ALONG SAID PROPOSED RIGHT OF WAY LINE 275 FEET TO THE EAST LINE OF GRANTORS PROPERTY, THENCE SOUTH 0°10' WEST 11.3 FEET ALONG SAID EAST LINE TO A FENCE MARKING GRANTORS SOUTH LINE, THENCE NORTH 89°27'53" WEST ALONG SAID FENCE 274.94 FEET, MORE OR LESS, TO THE POINT OF BEGINNING.

ADJUSTED BOUNDARY DESCRIPTION PARCEL (170710051)

A PART OF THE SOUTHWEST QUARTER OF SECTION 32, TOWNSHIP 7 NORTH, RANGE 1 WEST, OF THE SALT LAKE BASE AND MERIDIAN.
BEGINNING AT A POINT BEING LOCATED SOUTH 87°39'07" EAST 495.60 FEET ALONG THE NORTH LINE OF SAID SOUTHWEST QUARTER AND SOUTH 00°00'00" EAST 1241.37 FEET FROM THE WEST QUARTER CORNER OF SAID SECTION 32; RUNNING THENCE SOUTH 88°48'04" EAST 202.12 FEET; THENCE SOUTH 01°26'43" WEST 441.16 FEET; THENCE NORTH 89°05'19" WEST 202.38 FEET; THENCE NORTH 01°28'41" EAST 442.17 FEET TO THE POINT OF BEGINNING. CONTAINING 89,325 SQUARE FEET OR 2.05 ACRES MORE OR LESS.

ADJUSTED BOUNDARY DESCRIPTION PARCEL (170710013)

A PART OF THE SOUTHWEST QUARTER OF SECTION 32, TOWNSHIP 7 NORTH, RANGE 1 WEST, OF THE SALT LAKE BASE AND MERIDIAN.
~~BEGINNING AT A POINT BEING LOCATED~~ BEGINNING AT A POINT BEING LOCATED SOUTH 87°39'07" EAST 495.60 FEET ALONG THE NORTH LINE OF SAID SOUTHWEST QUARTER AND SOUTH 00°00'00" EAST 1241.37 FEET FROM THE WEST QUARTER CORNER OF SAID SECTION 32; RUNNING THENCE NORTH 1°28'41" EAST 211.77 FEET TO THE SOUTHERLY BOUNDARY LINE OF WILDFLOWER ESTATES PHASE NO. 6; THENCE ALONG THE SOUTHERLY BOUNDARY LINE OF WILDFLOWER ESTATES PHASE NO. 6 WILDFLOWER ESTATES PHASE NO. 5 AND WILDFLOWER ESTATES PHASE NO. 4 1ST AMENDMENT THE FOLLOWING FOURTEEN (14) COURSES: (1) NORTH 89°28'23" EAST 141.84 FEET; (2) NORTH 73°56'49" EAST 11.26 FEET (3) NORTH 73°56'49" EAST 1.88 FEET; (4) SOUTH 88°32'04" EAST 19.52 FEET; (5) SOUTH 89°37'55" EAST 45.00 FEET; (6) SOUTH 89°02'39" EAST 42.84 FEET; (7) SOUTH 89°50'42" EAST 47.17 FEET; (8) NORTH 89°50'16" EAST 50.53 FEET; (9) NORTH 88°32'58" EAST 52.64 FEET; (10) NORTH 88°13'45" EAST 33.37 FEET; (11) NORTH 88°13'45" EAST 5.81 FEET; (12) NORTH 88°56'58" EAST 46.98 FEET; (13) NORTH 88°34'39" EAST 32.85 FEET; (14) NORTH 89°05'41" EAST 9.87 FEET; THENCE SOUTH 1°43'59" WEST 675.52 FEET TO THE NORTH RIGHT-OF-WAY LINE OF 2000 NORTH STREET; THENCE ALONG SAID NORTH RIGHT-OF-WAY LINE NORTH 88°12'56" WEST 335.22 FEET; THENCE NORTH 1°26'43" EAST 441.16 FEET; THENCE NORTH 88°48'04" WEST 202.12 FEET TO THE POINT OF BEGINNING. CONTAINING 268,325 SQUARE FEET OR 6.16 ACRES MORE OR LESS.



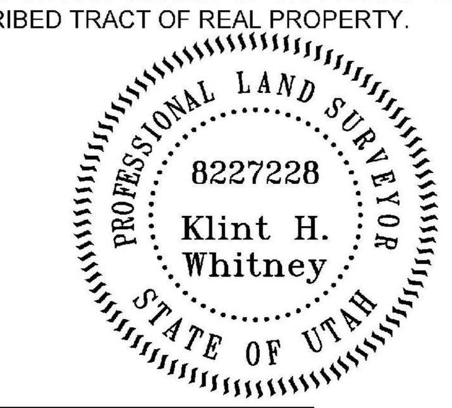
NARRATIVE

THE PURPOSE OF THIS SURVEY WAS TO DO A BOUNDARY ADJUSTMENT OF THE PARCEL(S) AS SHOWN AND DESCRIBED HEREON. THE SURVEY WAS ORDERED BY MARK WILSON. THE BASIS OF BEARING IS THE NORTH LINE OF THE SOUTHWEST QUARTER OF SECTION 32, TOWNSHIP 7 NORTH, RANGE 1 WEST, OF THE SALT LAKE BASE AND MERIDIAN WHICH BEARS SOUTH 87°39'07" EAST, WEBER COUNTY, UTAH NORTH, NAD 83 STATE PLANE GRID BEARING. THE BOUNDARY WAS DETERMINED BY WARRANTY DEED(S) RECORDED AS ENTRY NUMBER 2438469 AND 3142577, AND DEEDS OF ADJOINING PROPERTY OWNERS. THE DEDICATED PLATS OF WILDFLOWER PHASE NO. 6, WILDFLOWER PHASE NO. 5 AND WILDFLOWER PHASE NO. 4 1ST AMENDMENT WERE ALSO USED TO DETERMINE BOUNDARY LOCATION ALONG WITH THE FOUND MONUMENTS AS SHOWN AND DESCRIBED HEREON.

SURVEYOR'S CERTIFICATE

I, KLINT H. WHITNEY, DO HEREBY CERTIFY THAT I AM A LICENSED PROFESSIONAL LAND SURVEYOR IN THE STATE OF UTAH AND THAT I HOLD CERTIFICATE NO. 8227228 IN ACCORDANCE WITH TITLE 58, CHAPTER 22, OF THE PROFESSIONAL ENGINEERS AND LAND SURVEYORS ACT; I FURTHER CERTIFY THAT BY AUTHORITY OF THE OWNERS I HAVE COMPLETED A SURVEY OF THE PROPERTY DESCRIBED ON THIS RECORD OF SURVEY PLAT IN ACCORDANCE WITH SECTION 17-23-20 AND HAVE VERIFIED ALL MEASUREMENTS; THAT THE REFERENCE MONUMENTS SHOWN ON THIS RECORD OF SURVEY PLAT ARE LOCATED AS INDICATED AND ARE SUFFICIENT TO RETRACE OR REESTABLISH THIS SURVEY; AND THAT THE INFORMATION SHOWN HEREIN IS SUFFICIENT TO ACCURATELY ESTABLISH THE LATERAL BOUNDARIES OF THE HEREIN DESCRIBED TRACT OF REAL PROPERTY.

SIGNED THIS ________ DAY OF ______________________, 2021.



KLINT H. WHITNEY, PLS NO. 8227228

SCALE: 1:40_XREF
DATE: 7/1/20
DESIGN: ----
DRAWN: KHW
CHECKED: KHW

REVISIONS

DATE	DESCRIPTION

PROPERTY SURVEY FOR MARK WILSON
HARRISVILLE, UTAH
LOCATED IN THE SOUTHWEST QUARTER OF SECTION 32,
TOWNSHIP 7 NORTH, RANGE 1 WEST, S.L.B. AND M.

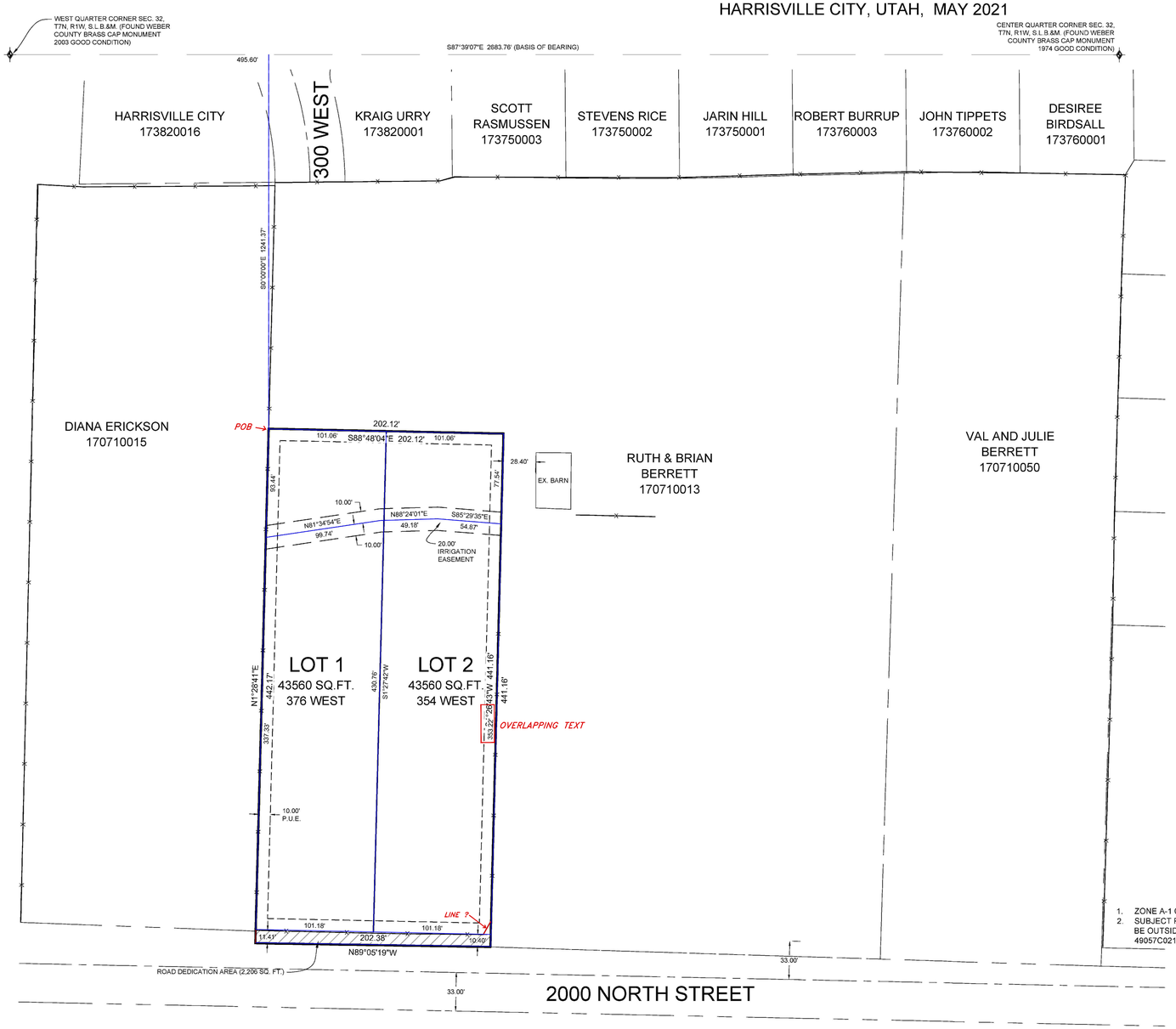
GARDNER ENGINEERING
CIVIL • LAND PLANNING
MUNICIPAL • LAND SURVEYING
5150 SOUTH 375 EAST OGDEN, UT
OFFICE: 801.476.0202 FAX: 801.476.0066

S1

1

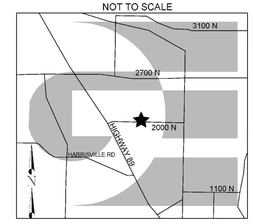
BERRETT SUBDIVISION

LOCATED IN THE SOUTHWEST QUARTER OF SECTION 32, TOWNSHIP 7 NORTH, RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN, HARRISVILLE CITY, UTAH, MAY 2021



VICINITY MAP

NOT TO SCALE



0' 25' 50' 100' 150'

Scale in Feet
1" = 50'

LEGEND

- WEBER COUNTY MONUMENT AS NOTED
- SET 24" REBAR AND CAP MARKED GARDNER ENGINEERING
- SUBDIVISION BOUNDARY
- LOT LINE
- ADJACENT PARCEL
- SECTION LINE
- PUBLIC UTILITY EASEMENT
- IRRIGATION EASEMENT
- EXISTING FENCE LINE
- ROAD DEDICATION AREA (2,206 SQ. FT.)

NOTES

1. ZONE A-1 CURRENT YARD SETBACKS: FRONT 30, SIDE 12, REAR 30
2. SUBJECT PROPERTY FALLS WITHIN FEMA FLOOD ZONE "X" - AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN. PER FEMA MAP NO. 49057C0211E WITH AN EFFECTIVE DATE OF DECEMBER 16, 2005.

BOUNDARY DESCRIPTION

A PART OF THE SOUTHWEST QUARTER OF SECTION 32, TOWNSHIP 7 NORTH, RANGE 1 WEST, OF THE SALT LAKE BASE AND MERIDIAN.
BEGINNING AT A POINT BEING LOCATED SOUTH 87°39'07" EAST 495.60 FEET ALONG THE NORTH LINE OF SAID SOUTHWEST QUARTER AND SOUTH 00°00'00" EAST 1241.37 FEET FROM THE WEST QUARTER CORNER OF SAID SECTION 32; RUNNING THENCE SOUTH 88°48'04" EAST 202.12 FEET; THENCE SOUTH 01°26'43" WEST 441.16 FEET; THENCE NORTH 89°05'19" WEST 202.38 FEET; THENCE NORTH 01°28'41" EAST 442.17 FEET TO THE POINT OF BEGINNING. CONTAINING 89,325 SQUARE FEET.

43560+43560+2206 = 89326

SURVEYOR'S CERTIFICATE

I, KLINT H. WHITNEY, DO HEREBY CERTIFY THAT I AM A LICENSED PROFESSIONAL LAND SURVEYOR IN THE STATE OF UTAH AND THAT I HOLD CERTIFICATE NO. 8227228 IN ACCORDANCE WITH TITLE 58, CHAPTER 22, OF THE PROFESSIONAL ENGINEERS AND LAND SURVEYORS ACT; I FURTHER CERTIFY THAT BY AUTHORITY OF THE OWNERS I HAVE COMPLETED A SURVEY OF THE PROPERTY AS SHOWN AND DESCRIBED ON THIS PLAT, AND HAVE SUBDIVIDED SAID PROPERTY INTO LOTS AND STREETS, TOGETHER WITH EASEMENTS, HEREAFTER TO BE KNOWN AS BERRETT SUBDIVISION IN ACCORDANCE WITH SECTION 17-23-17 AND HAVE VERIFIED ALL MEASUREMENTS; THAT THE REFERENCE MONUMENTS SHOWN HEREON ARE LOCATED AS INDICATED AND ARE SUFFICIENT TO RETRACE OR REESTABLISH THIS SURVEY; THAT ALL LOTS MEET THE REQUIREMENTS OF THE LAND USE CODE; AND THAT THE INFORMATION SHOWN HEREIN IS SUFFICIENT TO ACCURATELY ESTABLISH THE LATERAL BOUNDARIES OF THE HEREIN DESCRIBED TRACT OF REAL PROPERTY.

SIGNED THIS _____ DAY OF _____, 2021.

PROFESSIONAL LAND SURVEYOR 8227228 Klint H. Whitney STATE OF UTAH

KLINT H. WHITNEY, PLS NO. 8227228

OWNER'S DEDICATION

WE THE UNDERSIGNED OWNERS OF THE HEREON DESCRIBED TRACT OF LAND, HEREBY SET APART AND SUBDIVIDE THE SAME INTO LOTS, PARCELS AND STREETS AS SHOWN ON THIS PLAT AND NAME SAID TRACT:

BERRETT SUBDIVISION

AND HEREBY DEDICATE, GRANT AND CONVEY TO HARRISVILLE CITY, UTAH ALL THOSE PARTS OR PORTIONS OF SAID TRACT OF LAND DESIGNATED AS STREETS, THE SAME TO BE USED AS PUBLIC THOROUGHFARES FOREVER, AND ALSO GRANT AND DEDICATE A PERPETUAL EASEMENT OVER, UPON AND UNDER THE LANDS DESIGNATED ON THE PLAT AS PUBLIC UTILITY, THE SAME TO BE USED FOR THE INSTALLATION, MAINTENANCE AND OPERATION OF PUBLIC UTILITY SERVICE LINES, STORM DRAINAGE FACILITIES OR FOR THE PERPETUAL PRESERVATION OF WATER DRAINAGE CHANNELS IN THEIR NATURAL STATE WHICHEVER IS APPLICABLE AS MAY BE AUTHORIZED BY HARRISVILLE CITY, UTAH, WITH NO BUILDINGS OR STRUCTURES BEING ERECTED WITHIN SUCH EASEMENTS.

SIGNED THIS ___ DAY OF _____ 2021.

_____
BY: VAL S. BERRETT

_____
BY: JULIE J. BERRETT

ACKNOWLEDGEMENT

STATE OF UTAH)
§
COUNTY OF WEBER)

On this_____day of_____2021, before me _____, A Notary Public, personally appeared VAL S BERRETT, Proved on the basis of satisfactory evidence to be the person(s) whose name(s) (is/are) subscribed to this instrument, and acknowledged (he/she/they) executed the same. Witness my hand and official seal.

STAMP _____ NOTARY PUBLIC

ACKNOWLEDGEMENT

STATE OF UTAH)
§
COUNTY OF WEBER)

On this_____day of_____2021, before me _____, A Notary Public, personally appeared JULIE J BERRETT, Proved on the basis of satisfactory evidence to be the person(s) whose name(s) (is/are) subscribed to this instrument, and acknowledged (he/she/they) executed the same. Witness my hand and official seal.

STAMP _____ NOTARY PUBLIC

HARRISVILLE CITY ATTORNEY

I HAVE EXAMINED THE FOREGOING PLAT AND DESCRIPTION OF BERRETT SUBDIVISON AND IN MY OPINION, THEY CONFORM WITH THE CITY ORDINANCES APPLICABLE THERETO AND NOW IN FORCE AND EFFECT

SIGNED THIS___DAY OF _____, 2021.

_____
CITY ATTORNEY

HARRISVILLE CITY ENGINEER AND COMMUNITY DEVELOPMENT

THIS PLAT WAS APPROVED BY THE CITY ENGINEER AND THE PLANNING COMMMSION.

_____, 2021
DATE

_____
CITY ENGINEER

_____, 2021
DATE

_____
PLANNING COMMISSION CHAIR

HARRISVILLE CITY APPROVAL AND ACCEPTANCE

THIS IS TO CERTIFY THAT THIS PLAT AND THE DEDICATION OF THIS PLAT, ALONG WITH THE DEDICATION OF ALL STREETS, EASEMENTS AND OTHER PUBLIC IMPROVEMENTS GUARANTEE WERE DULY APPROVED AND ACCEPTED BY THE CITY COUNCIL OF HARRISVILLE CITY, UTAH.

SIGNED THIS___DAY OF _____, 2021.

_____ ATTEST: _____
MAYOR CITY RECORDER

NARRATIVE

THE PURPOSE OF THIS SURVEY WAS TO CREATE A TWO LOT SUBDIVISION ON THE PROPERTY AS SHOWN AND DESCRIBED HEREON. THE SURVEY WAS ORDERED BY MARK WILSON. THE CONTROL USED TO ESTABLISH THE BOUNDARY WAS THE EXISTING WEBER COUNTY SURVEY MONUMENTATION AS SHOWN AND NOTED HEREON.THE BASIS OF BEARING IS THE NORTH LINE OF THE SOUTHWEST QUARTER OF SECTION 32, TOWNSHIP 7 NORTH, RANGE 1 WEST, OF THE SALT LAKE BASE AND MERIDIAN WHICH BEARS SOUTH 87°39'07" EAST WEBER COUNTY, UTAH NORTH, NAD 83 STATE PLANE GRID BEARING. THE RIGHT-OF-WAY OF 2000 NORTH STREET WAS ESTABLISHED BY HONORING THE PROJECTED RIGHT-OF-WAY DEDICATION OF THE WILDFLOWER ESTATES PHASE NUMBER 1.

DEVELOPER:
MARK WILSON
md.wilson.2@hotmail.com
801-726-1917

S1 / 1

GARDNER ENGINEERING
CIVIL • LAND PLANNING
MUNICIPAL • LAND SURVEYING
5150 SOUTH 375 EAST OGDEN, UT
OFFICE: 801.476.0202 FAX: 801.476.0066

COUNTY RECORDER

ENTRY NO. _____ FEE PAID _____

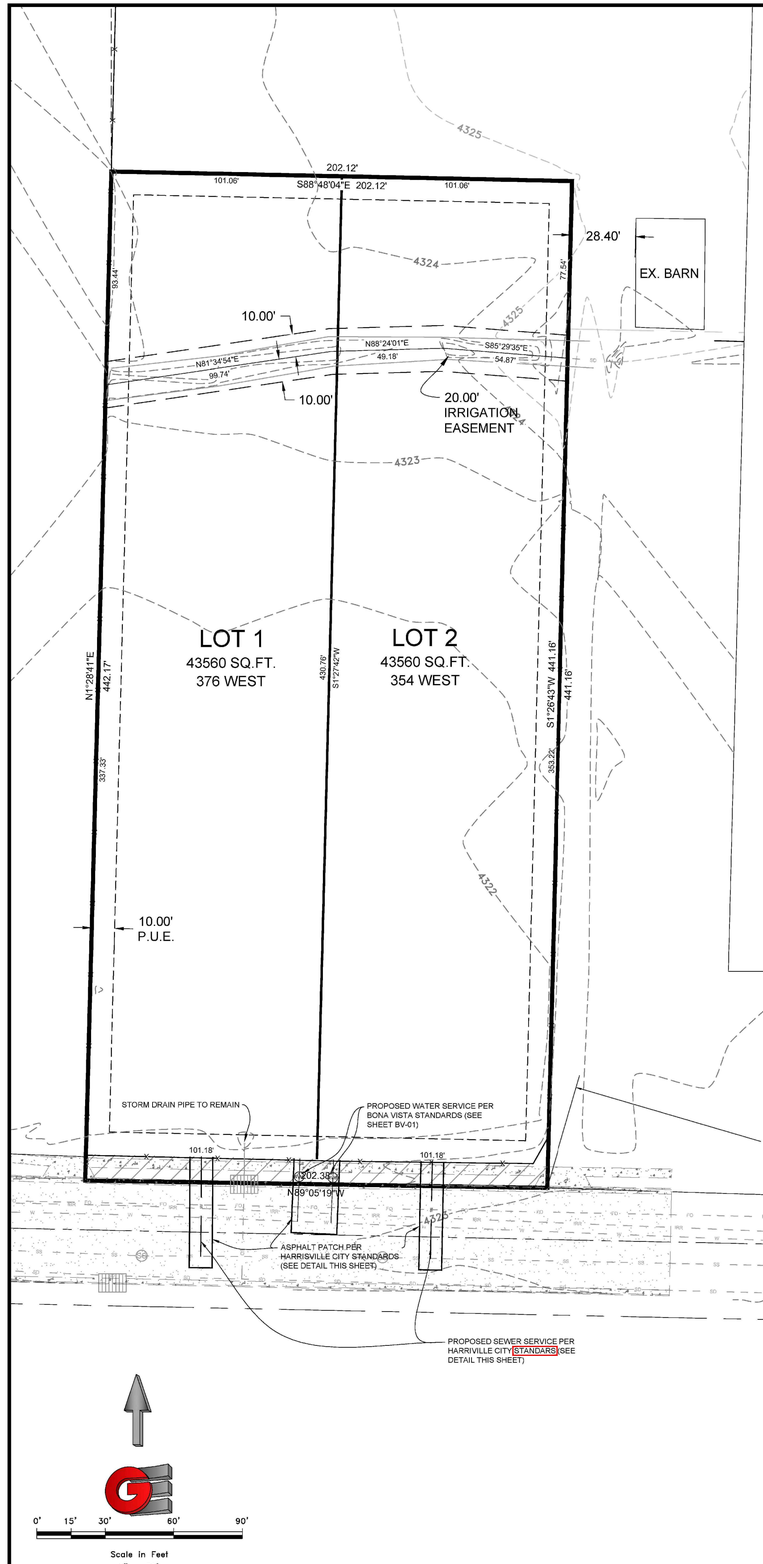
FILED FOR AND RECORDED _____

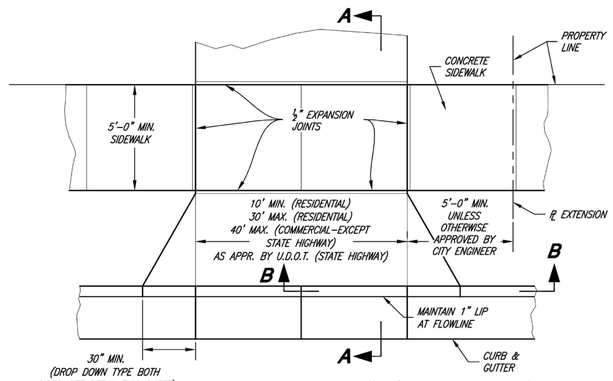
AT _____. IN BOOK _____ OF OFFICIAL RECORDS, PAGE _____. RECORDED FOR _____

_____
COUNTY RECORDER

BY: _____

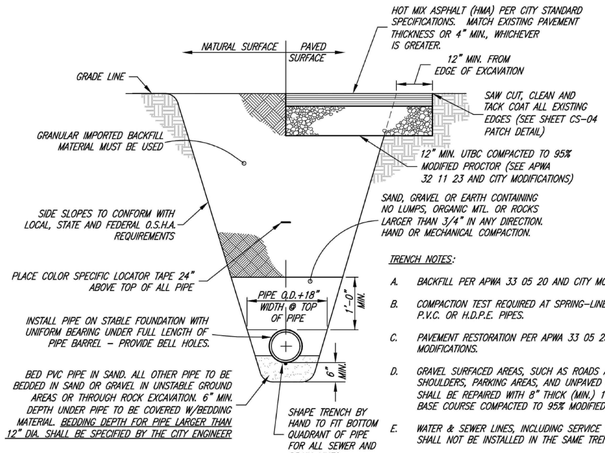
R:\2021 - MISC SURVEY\2110 - MARK WILSON\SURVEY\DWG\MARK WILSON.DWG





DRIVEWAY APPROACH W/ PARKSTRIP

DROP DOWN STYLE (CITY STANDARD)



TYPICAL TRENCH SECTION

(SEWER AND STORM DRAIN)

TRENCH NOTES:

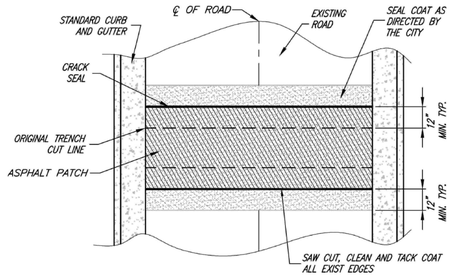
A. BACKFILL PER APWA 33 05 20 AND CITY MODIFICATIONS.

B. COMPACTION TEST REQUIRED AT SPRING-LINE FOR ALL P.V.C. OR H.D.P.E. PIPES.

C. PAVEMENT RESTORATION PER APWA 33 05 25 AND CITY MODIFICATIONS.

D. GRAVEL SURFACED AREAS, SUCH AS ROADS AND SHOULDERS, PARKING AREAS, AND UNPAVED DRIVEWAYS, SHALL BE REPAIRED WITH 8" THICK (MIN.) 1" UNTREATED BASE COURSE COMPACTED TO 95% MODIFIED PROCTOR.

E. WATER & SEWER LINES, INCLUDING SERVICE LINES, SHALL NOT BE INSTALLED IN THE SAME TRENCH.

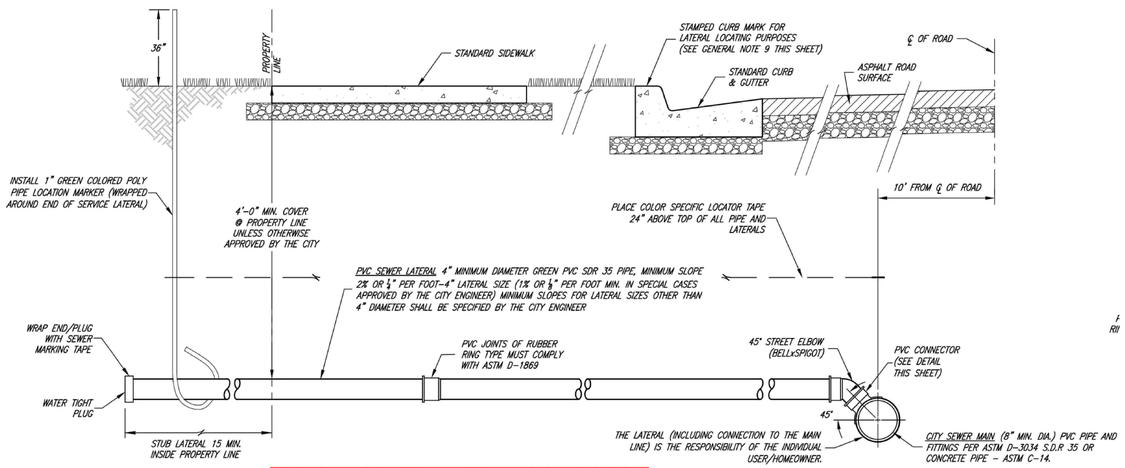


TYPICAL HORIZONTAL ASPHALT PATCH PLAN

ASPHALT PATCH NOTES:

A1. ON ANY ROAD PAVED OR OVERLAYED WITHIN THE LAST 10 YEARS, THE PATCH MUST BE COMPLETED PER APWA PLAN 255 (BITUMINOUS PAVEMENT T-PATCH).

A2. NO ANGLED ASPHALT PATCHING ALLOWED.



TYPICAL SEWER LATERAL CONNECTION

NOTES

1. ALL SANITARY SEWER LATERAL CONNECTIONS ON SEWER MAINS IN NEW SUBDIVISIONS SHALL BE MADE WITH IN LINE PRE-FORMED WYES OR TEES UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
2. FLOWLINE ELEVATION OF LATERALS SHALL EQUAL THE INSIDE TOP OF PIPE ON MAINLINE AT THE CONNECTING POINT.
3. SANITARY SEWER PIPES SHALL BE WHITE IN COLOR. green
4. ALL SANITARY SEWER LINES SHALL BE AIR TESTED AND INSPECTED BY MEANS OF VIDEO CAMERA WHEN CONSTRUCTED.
5. SANITARY SEWER SERVICE LATERAL CONNECTIONS SHALL NOT BE ALLOWED IN SEWER MAN HOLES.
6. DRIVEWAY LOCATIONS ARE TO BE DETERMINED AT THE TIME OF INDIVIDUAL LOT SITE PLAN APPROVAL AND SHALL CONFORM TO HARRISVILLE CITY STANDARDS.
7. EXISTING SIDEWALK WHERE THERE WILL BE A NEW DRIVEWAY APPROACH WILL NEED TO BE REMOVED AND REPLACED WITH NEW DRIVE APPROACH.
8. HOMES SHALL USE EXISTING DITCH FOR IRRIGATION. WATER RIGHTS?

SCALE ######## | DATE 7/1/20 | DESIGN ____ | DRAWN KHW | CHECKED KHW

DWG R:\2001 - MISC SURVEY\2110 - MARK WILSON\SURVEY\DWG\MARK WILSON.DWG

REVISIONS

DATE	DESCRIPTION

PROFESSIONAL STRUCTURAL ENGINEER
No. 4859845
TYLER M. NIELSON
STATE OF UTAH

IMPROVEMENT PLAN FOR BERRETT SUBDIVISION

400 WEST+/- 2000 NORTH, HARRISVILLE, UTAH

LOCATED IN THE SOUTHWEST QUARTER OF SECTION 32, TOWNSHIP 7 NORTH, RANGE 1 WEST, S.L.B. AND M.

GARDNER ENGINEERING
CIVIL • LAND PLANNING
MUNICIPAL • LAND SURVEYING
5150 SOUTH 375 EAST, OGDEN, UT
OFFICE: 801.476.0202 FAX: 801.476.0066

C1

2

M E M O R A N D U M

JONES & ASSOCIATES CONSULTING ENGINEERS

TO: Harrisville City Planning Commission

FROM: Matthew L. Robertson, P.E.
City Engineer

RE: MONTGOMERY FARMS SUBDIVISION
Preliminary Plat Submittal

Date: July 9, 2021

Our office has completed a review of the preliminary plat and improvement plans for the Montgomery Farms Subdivision located at approximately 100West 2200 North. This property was recently recommended for annexation into the City and will be zoned R-1-10. The proposed development will have 19 new residential lots. We have reviewed the preliminary plat and improvement plans and they generally conform to City public works standards and engineering requirements. We recommend preliminary approval of the plat and improvement drawings at this time subject to the following items being completely addressed prior to final approval:

PRELIMINARY PLAT

1. Plat needs to include boundary description, basis of bearing, point of beginning, and ties to section corners. There are also several bearings that are missing that need to be shown.
2. Remove all unnecessary line work (manholes, contours, etc.) from the plat.
3. Add street names and lot addresses for the lots. These will be provided by our office.
4. Show Parcel IDs for neighboring properties on the plat.
5. Correct title blocks with correct City and wording.
6. There is a jog in the subdivision boundary in the NE corner in lot 11-R. This jog was not shown in the annexation plat and that small rectangular area was annexed into the City. Is it owned by the property owner? Does it need to be included in the subdivision boundary?
7. Include note on the plat for the restricted lots. Reference City code 8.07.010.
8. Send the plat to the Weber County Surveyor's office and obtain approval of the plat. Coordinate location of the new survey monuments with the County Surveyor.

SITE PLAN/ROADWAY

9. The current City Standards need to be followed for all construction including the street section. Update the street section to match these standards. These standards can be found at https://jonescivil.com/clients/harrisville-city/
10. Show how the new roadway transitions into 100 West and 200 West. Provide for a gradual transition. What is the street section in North Ogden that is connecting to this development? The street section may potentially be modified to match with the neighboring City and surrounding subdivisions better if approved.
11. The plans show a half road being constructed at the east end of the subdivision in front of lot 11-R. Half roads are not allowed and the full street section will need to be constructed along the frontage of the lot. An agreement with the neighboring property or North Ogden City may be needed to construct the entire street at this time.
12. Plan and profile sheets for roads and utilities will be needed on final plan set.
13. Show location of stop signs, street signs, and street lights at the intersections.

CULINARY WATER

14. Obtain final approval of the plans and culinary water system by Bona Vista Water.
15. Obtain approval for the number and spacing of fire hydrants from Bona Vista and North View Fire. Move hydrants to property line or 10' off of radius where possible as per City Standards.
16. The plans call out a "private" water line which is not accurate.

SANITARY SEWER

17. The sewer should connect to the existing lines on 100 West and 200 West and not continue into North Ogden as shown.
18. Show location of sewer laterals and water laterals and maintain 10' minimum separation.
19. Provide elevation of new sewer lines and manholes on final plans.

SECONDARY WATER

20. Obtain final approval of the plans and pressurized secondary water system by Pine View Water.

STORM DRAIN

21. Provide more information on the design of the storm drain system including elevations of all piping and submit storm water design calculations. Follow storm drain design requirements found in the City Standards.
22. A detention pond is shown but no outlet from the pond is identified. Provide details on how the pond will drain and connect into the existing system. The City also wants to explore the possibility of running the storm drain to the existing storm water basin on 2150 North and potentially eliminating the need for the new pond.
23. A Storm Water Quality Report will need to be prepared which will identify LID measures and how the design is meeting the State required 80% retention standard. Work with the City to determine which LID methods are feasible and how the State requirements can be met.

GENERAL

24. A Geotechnical report will need to be prepared for the subdivision. See requirements listed in the City Standards.
25. Final plan approvals from Utility Companies and the Fire District are required prior to final subdivision approval.
26. These comments are based on the preliminary plans only. Additional comments and requirements will be provided as necessary as the development works towards final approval.

Please let me know if you have any questions.

Preliminary Plan for

Montgomery Farms Subdivision Phase 2

A part of Section 32, T7N, R1W, SLB&M, U.S. Survey
Harrisville City, Weber County, Utah
June 2021

POND GRADING NOTES:
1. *Contractor to shape Bottom of Pond to ensure positive drainage to irrigation inlet in Bottom of Pond.*
2. *Compact Fill Material to be 95% Max Density.*
3. *Pond to be clay lined and covered in 6" minor cobble and weed barrier*

GENERAL NOTES:
1. *All construction must meet or exceed Harrisville City Standards and Specifications.*
2. *All Culinary water lines and services to meet or exceed Bona Vista water standards and expectations.*
3. *Verify the Depth & Location of all utility crossings & connections prior to their Construction.*
4. *Contractor is responsible for Looping Culinary and Secondary Waterlines to Maintain depth of cover and separation between gravity fed utility lines.*
5. *Saw Cut existing Asphalt to expose a smooth clean edge and a minimum 1 foot of undisturbed road base from under existing asphalt.*
6. *¾" Culinary Water Laterals to be installed as shown on drawing, and extended 15.0 feet beyond property line.*
7. *4" Sanitary Sewer Laterals to be installed on the lower end of lot and Extended 10.0' beyond right-of-way line.*
8. *Field verify size & type of exist. utilities prior to construction of laterals.*
9. *Field verify and adjust curb to maintain a minimum of 1.5% and a maximum of 4.0% cross slope or overlay existing asphalt to ensure proper drainage.*
10. *Import fill required for trenches within the Right of Way unless on site material is approved by City Engineer with proper testing.*
11. *All work on Culinary Water System needs to be to Bona Vista Water Standards.*
12. *All Water Laterals to be ¾" diameter.*

GENERAL UTILITY NOTES:
1. *Coordinate all utility connections to building with plumbing plans and building contractor.*
2. *Verify depth and location of all existing utilities prior to constructing any new utility lines. Notify Civil Engineer of any discrepancies or conflicts prior to any connections being made.*
3. *All catch basin and inlet box grates are to be bicycle proof.*
4. *All inlet boxes located in curb and gutter are to be placed parallel to the curb and gutter and set under the frame and grate. Improperly placed boxes will be removed and replaced at no additional cost to the owner. Precast or cast in place boxes are acceptable.*
5. *Refer to the site electrical plan for details and locations of electrical lines, transformers and light poles.*
6. *Gas lines, telephone lines, and cable TV lines are not a part of these plans unless otherwise noted.*
7. *Water meters are to be installed per Bona Vista standards and specifications. It will be the contractor's responsibility to install all items required.*
8. *Water lines, valves, fire hydrants, fittings etc. are to be constructed as shown, and as to Bona Vista Standards. Contractor is responsible to construct any vertical adjustments necessary to clear sewer, storm drain or other utilities as necessary including valve boxes and hydrant spools to proper grade.*
9. *Field verify all existing and/or proposed Roof Drain/Roof Drain down spout connections to Storm Water System with Civil, Plumbing & Architectural plans. Notify Engineer of any discrepancies.*
10. *All gravity flow utility lines shall be installed prior to any pressurized utilities unless written permission is obtained from the engineer of record before construction begins.*

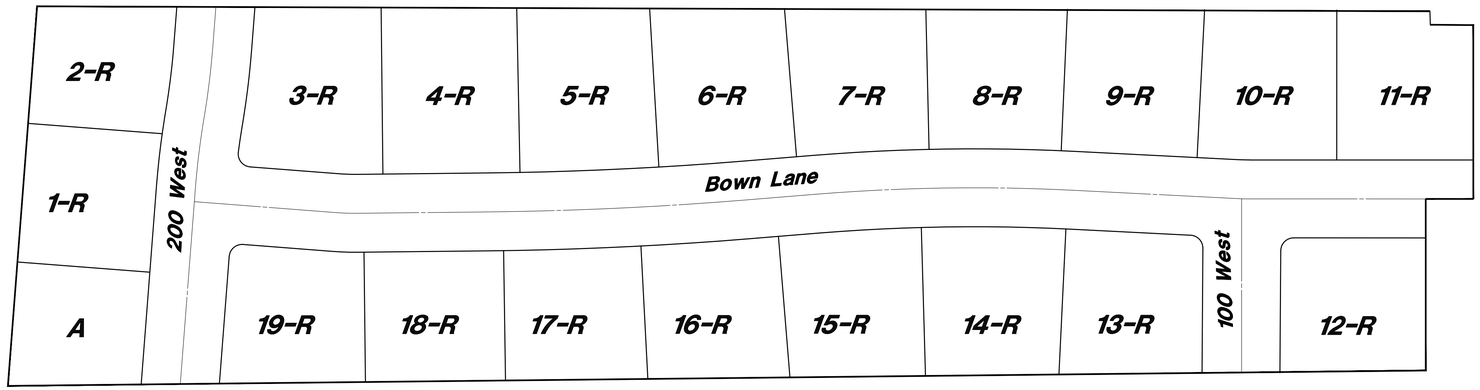
UTILITY PIPING MATERIALS:
All piping to be installed per manufacturers recommendations. Refer to project specifications for more detailed information regarding materials, installation, etc.

CULINARY SERVICE LATERALS
1. *3/4" diameter pipe – copper tube ASTM B, Type K, Soft Temper*

WATER MAIN LINES AND FIRE LINES
1. *Pipe material as shown on utility plan view or to meet Bona Vista standards Culinary Lines shall be C-900 Blue Pipe DR-18 and Secondary Lines shall be Purple Pipe C-900 DR-18.*

SANITARY SEWER LINES
1. *All sewer piping to be Polyvinyl Chloride (PVC) sewer pipe Green, ASTM D 3034, Type PSM, SDR 35*

STORM DRAIN LINES
1. *15" to 21" pipes – Reinforced Concrete Pipe, ASTM C76, Class III up to 13' of cover.*
2. *24" pipes or larger – Reinforced Concrete Pipe, ASTM C76, Class III up to 13' of cover, Class IV for 13' to 21' of cover, Class V for 21' to 32' of cover, and Special Design for cover greater than 32 feet.*



– NOT TO SCALE –

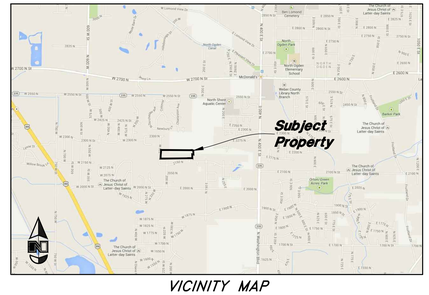
Parcel	Sq.ft.			
lot 1-R	10,976	Total sq.ft. =	314,176.8 sqft	7.21 acres
lot 2-R	10,353	Road sq.ft. =	80,282.7 sqft	1.84 acres
lot 3-R	13,376	Remainder Acreage =	233,894.1 sqft	
lot 4-R	13,626	Open Space =	0.0 sqft	
lot 5-R	13,261			
lot 6-R	12,604	Lots provided =	19	
lot 7-R	11,788			
lot 8-R	11,442	Avg. Lot=	11,819.0 sqft	0.27 acres
lot 9-R	11,741	Not including Parcel A		
lot 10-R	12,051			
lot 11-R	11,715			
lot 12-R	11,486			
lot 13-R	11,733			
lot 14-R	12,207			
lot 15-R	12,041			
lot 16-R	11,365			
lot 17-R	10,876			
lot 18-R	10,776			
lot 19-R	11,143			
A	9,333			
TOTAL	233,894			

CAUTION NOTICE TO CONTRACTOR

The contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans are based on records of the various utility companies and, where possible, measurements taken in the field. The information is not to be relied on as being exact or complete. The contractor must call the appropriate utility company at least 48 hours before any excavation to request exact field location of utilities. It shall be the responsibility of the contractor to relocate all existing utilities which conflict with the propose improvements shown on the plans.

PRIVATE ENGINEER'S NOTICE TO CONTRACTORS

The Contractor agrees that he shall assume sole and complete responsibility for job site conditions during the course of construction of this project, including safety of all persons and property: that this requirement shall apply continuously and not be limited to normal working hours; and that the contractor shall defend, indemnify, and hold the owner and the engineer harmless from any and all liability, real or alleged, in connection with the performance of work on this project, excepting for liability arising from the sole negligence of the owner or the engineer.



VICINITY MAP
Not to Scale

PRELIMINARY

REV	DATE	DESCRIPTION

GREAT BASIN ENGINEERING
5746 SOUTH 1475 EAST OGDEN, UTAH 84403
MAIN (801)394-4515 SLC (801)521-0222 FAX (801)392-7544
WWW.GREATBASINENGINEERING.COM

Cover Sheet

Montgomery Subdivision Phase 2
Approx. 152 East 2225 North
North Ogden City, Weber County, Utah
A part of Section 32, T7N, R1W, SLB&M, U.S. Survey

22 June, 2021

SHEET NO.
CV

18N744

Preliminary Plan for

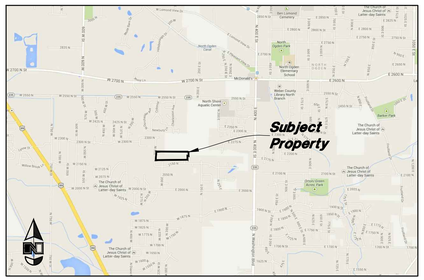
Montgomery Farms Subdivision Phase 2

A part of Section 32, T7N, R1W, SLB&M, U.S. Survey
Harrisville City, Weber County, Utah
June 2021

Scale: 1" = 50'

50 0 25 50 60 70 80 90 100

Graphic Scale



VICINITY MAP
Not to Scale

NARRATIVE

This Subdivision Plat was requested by Mr. John W. Hansen for the purpose of subdividing said parcel into 19 (Nineteen) Lots.

SURVEYOR'S CERTIFICATE

I, Andy Hubbard, do hereby certify that I am a Professional Land Surveyor in the State of Utah, and that I hold Certificate No. 6242920 in accordance with Title 58, Chapter 22, of the Professional Engineers and Professional Land Surveyors Licensing Act. I also certify that I have completed a survey of the property described hereon in accordance with Section 17-23-17 and that I have verified all measurements shown hereon this plat of Montgomery Farms – Phase 2 in Harrisville City, Weber County, Utah and that it has been correctly drawn to the designated scale and is a true and correct representation of the following description of lands included in said subdivision, based on data compiled from records in the Weber County Recorder's Office. Monuments have been found or placed as represented on this plat.

Signed this ____ day of _____, 2021.

6242920
License No.

Andy Hubbard

OWNER'S DEDICATION

We, the undersigned owner of the hereon described tract of land, hereby set apart and subdivide the same into Lots, Common Areas and Streets as shown on this plat, and name said tract Montgomery Farms – Phase 2, and hereby dedicate, grant, and convey to the Owners Association, all those parts or portions of said tract of land designated as Common Area. I also hereby dedicate to Harrisville City, Weber County, Utah all those portions of said tract of land designated as Streets, the same to be used as public thoroughfares forever, and also hereby dedicate and grant to Harrisville City those parts of portions of said tract designated as Common Area for public utility, drainage, and stormwater management purposes as shown hereon, the same to be used for the installation, maintenance and operation of public utility service lines, drainage and stormwater detention, as may be authorized by Harrisville City.

Signed this _____ day of _____, 2021.

Montgomery Farms

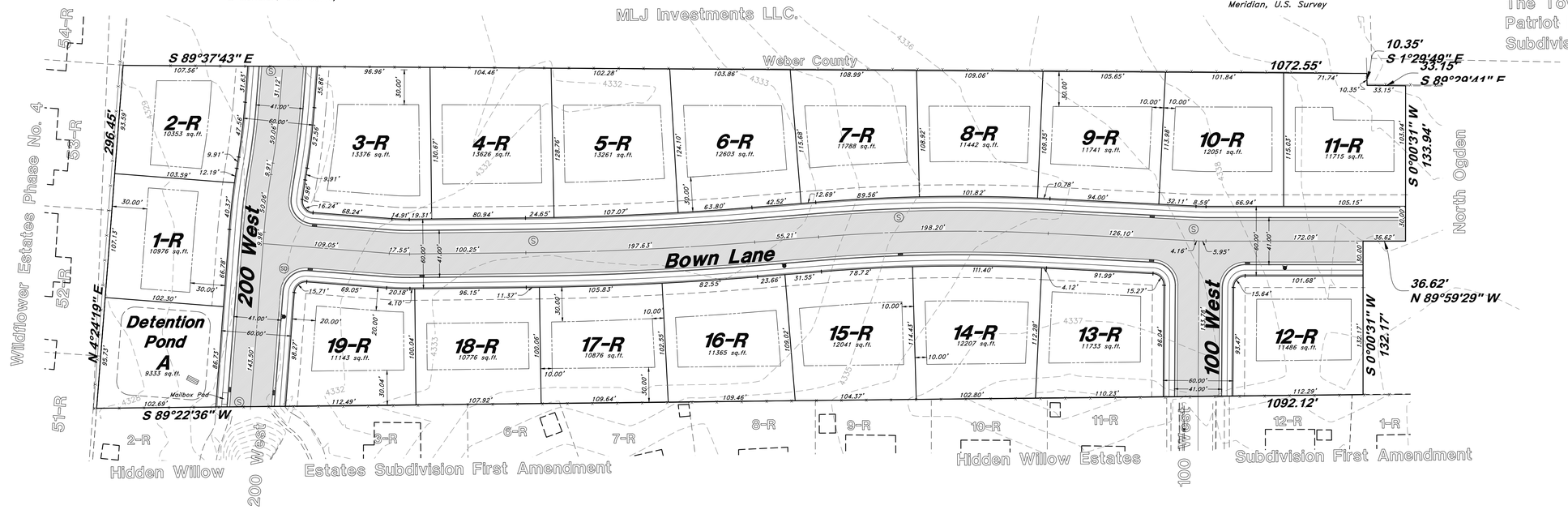
John W Hansen – Manager

S 87°39'06" E — 2683.77' — S 89°55'37" E (Rec & Meas.) — 2692.66' (Meas.) 2692.50' (Rec.)

West Quarter Corner of Section 32, Township 7 North, Range 1 West, Salt Lake Base & Meridian, U.S. Survey

Center of Section 32, Township 7 North, Range 1 West, Salt Lake Base & Meridian, U.S. Survey

East Quarter Corner of Section 32, Township 7 North, Range 1 West, Salt Lake Base & Meridian, U.S. Survey



Legend

- Monument to be set
- Found Centerline Monument
- (Rad.) Radial Line
- (N/R) Non-Radial Line
- PUE Public Utility Easement
- PU&DE Public Utility & Drainage Easement
- Fence
- Buildable Area
- Pathway
- Fault Setback
- Fault
- Easement
- Access & Utility Easement
- Buildable area
- Existing Boundary
- Set Hub & Tack
- A will be set Nail in Curb @ Extension of Property
- Set 5/8"x 24" Long Rebar & Cap w/ Lathe

NOTE

1. 10' wide Public Utility and Drainage Easements (P.U.&D.E.) on front lot lines as indicated by dashed lines except as otherwise shown.

NORTH OGDEN CITY APPROVALS

This plat was approved by the City Engineer and the Community Development Director.

City Engineer — Date

Planning Director — Date

NORTH OGDEN CITY ATTORNEY

I certify that the requirements of all applicable statutes and ordinances prerequisite by the state of Utah and the ordinances of North Ogden City of the foregoing plat and dedications have been complied with.

Signed this ____ day of _____, 2021.

City Attorney

LAND USE AUTHORITY

This is to certify that this plat and the dedication of this plat along with the dedication of all easements were duly approved and accepted by the Land Use Authority of North Ogden City this ____ day of _____, 2020.

by: _____
Chairman

Attest: _____
Secretary

ACKNOWLEDGMENT

State of Utah
County of } ss

The foregoing instrument was acknowledged before me this_____ day of _____ 2021 by John W. Hansen – Manager .

Residing At: _____

Commission Number: _____

Commission Expires: _____

A Notary Public commissioned in Utah

Print Name

GREAT BASIN ENGINEERING

5746 South 1475 East Ogden, Utah 84403
Main (801)394-4515 S.L.C (801)521-0222 Fax (801)392-7544
www.greatbasinengineering.com

ENGINEER:
Great Basin Engineering, Inc.
c/o Andy Hubbard PLS
5746 South 1475 East Suite 200
Ogden, Utah 84405
(801) 394-4515

DEVLOPER:
John W. Hansen
5730 S. 1475 E. #200
Ogden, Utah 84403
(801)-479-1500

WEBER COUNTY RECORDER

ENTRY NO._____ FEE PAID _____
RECORDED_____, AT _____
_____ IN BOOK_____ OF OFFICIAL RECORDS, PAGE_____. RECORDED FOR _____

WEBER COUNTY RECORDER

BY:_____
DEPUTY

Legend

(Note: All items may not appear on drawing)

San. Sewer Manhole	Finish Floor FF
Water Manhole	Top of Curb TC
Storm Drain Manhole	Top of Wall TWL
Cleanout	Top of Walk TW
Electrical Manhole	Top of Concrete TCN
Catch Basins	Natural Ground NG
Exist. Fire Hydrant	Finish Grade FG
Fire Hydrant	Match Existing ME
Exist. Water Valve	Fire Department Connection FDC
Water Valve	Finish Contour
Sanitary Sewer —S—	Exist. Contour
Culinary Water —W—	Finish Grade 95.33TA
Gas Line —G—	Exist. Grade 95.72TA
Irrigation Line —IW—	Ridge Line —R—
Storm Drain —SD—	Direction of Flow
Telephone Line —T—	Existing Asphalt
Secondary Waterline —SW—	New Asphalt
Power Line —P—	Heavy Duty Asphalt
Fire Line —F—	Existing Concrete
Land Drain —LD—	New Concrete
Power pole	Spill Curb & Gutter
Power pole w/guy	Demo Tree
Light Pole	
Fence —x—x—x—	
Flowline of ditch	
Overhead Power line —OHP—	
Corrugated Metal Pipe CMP	
Concrete Pipe CP	
Reinforced Concrete Pipe RCP	
Ductile Iron DI	
Polyvinyl Chloride PVC	
Top of Asphalt TA	
Edge of Asphalt EA	
Centerline CL	
Flowline FL	

PRELIMINARY

REV | DATE | DESCRIPTION

GREAT BASIN ENGINEERING
5746 South 1475 East Ogden, Utah 84403
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Site Plan

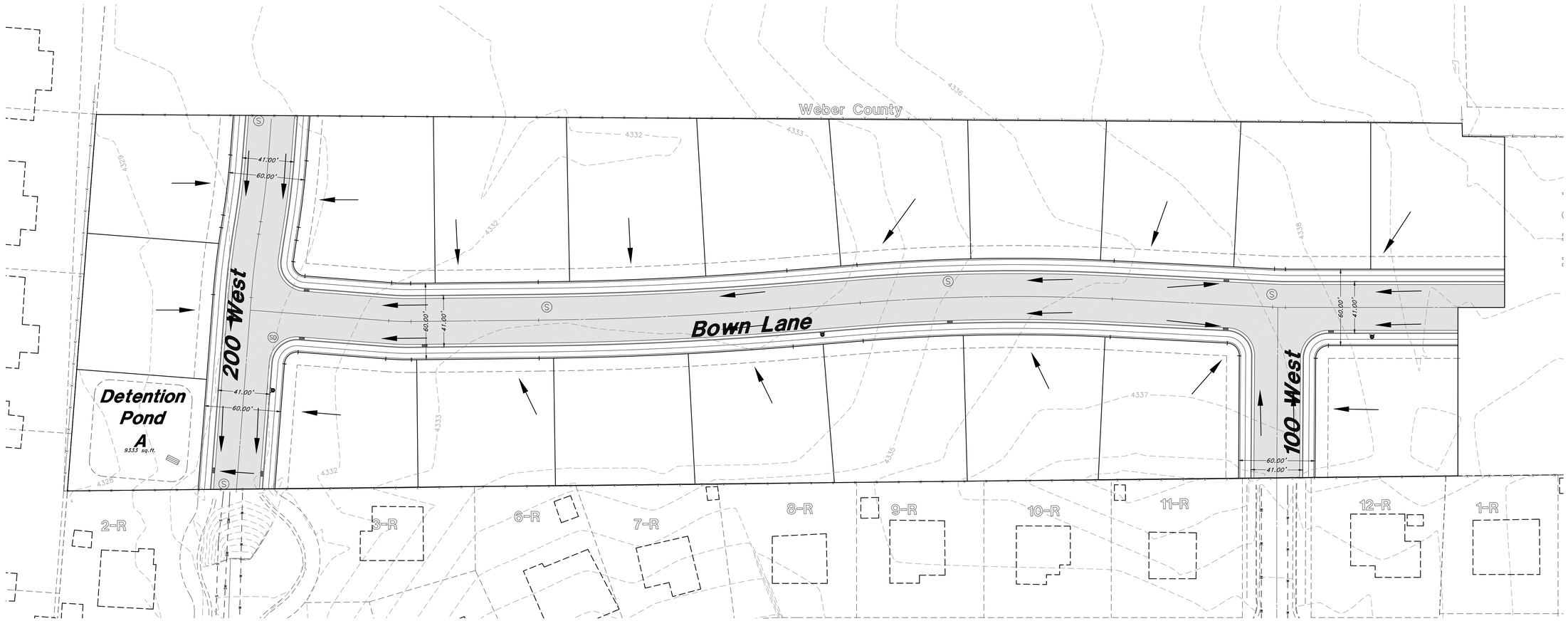
Montgomery Subdivision Phase 2

Approx 152 East 2225 North
North Ogden City, Weber County, Utah
A part of Section 32, T7N, R1W, SLB&M, U.S. Survey

22 June, 2021

SHEET NO.
C1.0

18N744



Scale: 1" = 40'

40 0 10 20 40 50 60 70 80

Graphic Scale

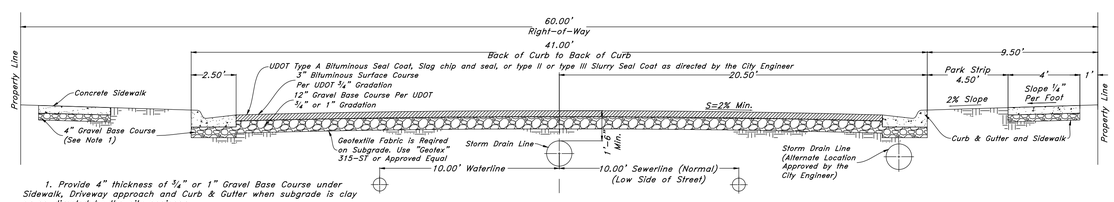
Legend

(Note: All Items may not appear on drawing)

San. Sewer Manhole	S	Flowline	FL
Water Manhole	W	Finish Floor	FF
Storm Drain Manhole	SD	Top of Curb	TC
Cleanout	X	Top of Wall	TWL
Electrical Manhole	E	Top of Walk	TW
Catch Basins		Top of Concrete	TCN
Exist. Fire Hydrant		Natural Ground	NG
Fire Hydrant		Finish Grade	FG
Exist. Water Valve		Match Existing	ME
Water Valve		Fire Department Connection	FDC
Sanitary Sewer	S	Finish Contour	90
Culinary Water	W	Exist. Contour	90
Gas Line	G	Finish Grade	95.33TA
Irrigation Line	IW	Exist. Grade	95.72TA
Storm Drain	SD	Ridge Line	R
Telephone Line	T	Direction of Flow	
Secondary Waterline	SW	Existing Asphalt	
Power Line	P	New Asphalt	
Fire Line	F	Heavy Duty Asphalt	
Land Drain	LD	Existing Concrete	
Power pole		New Concrete	
Power pole w/guy		Spill Curb & Gutter	
Light Pole		Demo Tree	
Fence			
Flowline of ditch			
Overhead Power line	OHP		
Corrugated Metal Pipe	CMP		
Concrete Pipe	CP		
Reinforced Concrete Pipe	RCP		
Ductile Iron	DI		
Polyvinyl Chloride	PVC		
Top of Asphalt	TA		
Edge of Asphalt	EA		
Centerline	CL		

NOTE

1. Perimeter of development will be graded to match grade of adjacent parcels. Fence already exists along perimeter of development.



1. Provide 4" thickness of ¾" or 1" Gravel Base Course under Sidewalk, Driveway approach and Curb & Gutter when subgrade is clay or as directed by the city engineer.

2. These pavement thickness shall be considered as city standards and may be increased by the city engineer when a greater depth is necessary to provide sufficient stability designer and/or developer may submit and alternative pavement design based on a detailed soils analysis for approval by the city engineer which may modify pavement thickness but in no case shall the bituminous surface course be less that 3" thick

3. All Earthwork shall be subject to soil testing.

4. Natural gas typically located in the parkstrip, power and communication lines typically located behind property lines or in a lot Easement

Harrisville City Standard Roadway Section

PRELIMINARY

REV | DATE | DESCRIPTION

GREAT BASIN ENGINEERING
5746 SOUTH 1475 EAST OGDEN, UTAH 84403
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Grading and Drainage Plan

Montgomery Subdivision Phase 2

Approx 152 East 2225 North
North Ogden City, Weber County, Utah
A part of Section 32, T7N, R1W, SLB&M, U.S. Survey

22 June, 2021

SHEET NO.
C2.1

18N744

Scale: 1" = 40'

40 0 10 20 40 50 60 70 80

Graphic Scale

Weber County

North Median

Bown Lane

200 West

100 West

Continues to North Ogden

2-R 10353 sq.ft.
1-R 10976 sq.ft.
Detention Pond A 9333 sq.ft.
3-R 13376 sq.ft.
4-R 13626 sq.ft.
5-R 13261 sq.ft.
6-R 12603 sq.ft.
7-R 11788 sq.ft.
8-R 11442 sq.ft.
9-R 11741 sq.ft.
10-R 12051 sq.ft.
11-R 11715 sq.ft.
12-R 11486 sq.ft.
13-R 11733 sq.ft.
14-R 12207 sq.ft.
15-R 12041 sq.ft.
16-R 11365 sq.ft.
17-R 10876 sq.ft.
18-R 10776 sq.ft.
19-R 11143 sq.ft.

Const. 8" Sanitary Sewer Line
Const. 6" Secondary Water Line
Const. 8" Private Water Line
Const. 15" Storm Drain Line
Const. Fire Hydrant

Legend

(Note: All items may not appear on drawing)

San. Sewer Manhole	S	Flowline	FL
Water Manhole	W	Finish Floor	FF
Storm Drain Manhole	SD	Top of Curb	TC
Cleanout	CO	Top of Wall	TWL
Electrical Manhole	E	Top of Walk	TW
Catch Basins		Top of Concrete	TCN
Exist. Fire Hydrant		Natural Ground	NG
Fire Hydrant		Finish Grade	FG
Exist. Water Valve		Match Existing	ME
Water Valve		Fire Department Connection	FDC
Sanitary Sewer	S	Finish Contour	90
Culinary Water	W	Exist. Contour	90
Gas Line	G	Finish Grade	95.33TA
Irrigation Line	IW	Exist. Grade	95.72TA
Storm Drain	SD	Ridge Line	R
Telephone Line	T	Direction of Flow	
Secondary Waterline	SW	Existing Asphalt	
Power Line	P	New Asphalt	
Fire Line	F	Heavy Duty Asphalt	
Land Drain	LD	Existing Concrete	
Power pole		New Concrete	
Power pole w/guy		Spill Curb & Gutter	
Light Pole		Demo Tree	
Fence			
Flowline of ditch			
Overhead Power line	OHP		
Corrugated Metal Pipe	CMP		
Concrete Pipe	CP		
Reinforced Concrete Pipe	RCP		
Ductile Iron	DI		
Polyvinyl Chloride	PVC		
Top of Asphalt	TA		
Edge of Asphalt	EA		
Centerline	CL		

NOTE

1. Secondary water plans to be provided by Pineview Water. Shown here for information purposes only

PRELIMINARY

REV	DATE	DESCRIPTION

GREAT BASIN ENGINEERING

5746 SOUTH 1475 EAST OGDEN, UTAH 84403
MAIN (801)394-4515 SLC (801)521-0222 FAX (801)392-7544
WWW.GREATBASINENGINEERING.COM

Utility Plan

Montgomery Subdivision Phase 2

Approx 152 East 2225 North
North Ogden City, Weber County, Utah
A part of Section 32, T7N, R1W, SLB&M, U.S. Survey

22 June, 2021

SHEET NO.
C3.1

18N744