**CITY OF BOULDER**
**PLANNING BOARD STUDY SESSION AND MEETING AGENDA**
**DATE:** October 24, 2013
**TIME:** 6 p.m.
**PLACE:** Council Chambers, 1777 Broadway

---

1. **CALL TO ORDER**
2. **APPROVAL OF MINUTES**
3. **PUBLIC PARTICIPATION**
4. **DISCUSSION OF DISPOSITIONS, PLANNING BOARD CALL-UPS/CONTINUATIONS**
5. **PUBLIC HEARING ITEMS**

**A.** Public hearing and consideration of application no. LUR2012-00005 including the following request within the approximately 32 acre site:

1. Annexation and Initial Zoning for approximately 18.2 acres located at 6234 Arapahoe Road and 1492 Cherryvale Road with portions to be zoned Residential Medium-1 (RM-1) and Rural Residential (RR-1);
2. Site Review to develop the property located at 5980, 6160, 6180 and 6234 Arapahoe, and 1492 Cherryvale as the Boulder Jewish Commons, for educational activities; and
3. Use Reviews for an adult education facility use, a daycare center use, and an indoor recreation or athletic facility use at the proposed building housing the Boulder Jewish Community Center.

**B.** Public hearing for consideration of Site Review application LUR2013-00033 to redevelop the former Boulder County fire training center site into 31 single-family homes with a mixture of attached and detached garages. The units are proposed to range from approximately 2,060 to 3,940 square feet in area. The project would involve the extension of Zamia Avenue to the east and the construction of 10th Street as a connection from Yellow Pine Avenue to Lee Hill Drive.

Applicant: Coburn Development for Allison Management/Thistle Communities
Property Owner: Boulder County

6. **MATTERS FROM THE PLANNING BOARD, PLANNING DIRECTOR, AND CITY ATTORNEY**
   **A.** AMPS Guiding Principles
7. **DEBRIEF MEETING/CALENDAR CHECK**
8. **ADJOURNMENT**

**CITY OF BOULDER PLANNING BOARD**
**MEETING GUIDELINES**

**CALL TO ORDER**
The Board must have a quorum (four members present) before the meeting can be called to order.

**AGENDA**
The Board may rearrange the order of the Agenda or delete items for good cause. The Board may not add items requiring public notice.

**PUBLIC PARTICIPATION**
The public is welcome to address the Board (3 minutes* maximum per speaker) during the Public Participation portion of the meeting regarding any item not scheduled for a public hearing. The only items scheduled for a public hearing are those listed under the category PUBLIC HEARING ITEMS on the Agenda. Any exhibits introduced into the record at this time must be provided in quantities of ten (10) to the Board Secretary for distribution to the Board and admission into the record.

**DISCUSSION AND STUDY SESSION ITEMS**
Discussion and study session items do not require motions of approval or recommendation.

**PUBLIC HEARING ITEMS**
A Public Hearing item requires a motion and a vote. The general format for hearing of an action item is as follows:

**1. Presentations**

a. Staff presentation (5 minutes maximum*)
b. Applicant presentation (15 minute maximum*). Any exhibits introduced into the record at this time must be provided in quantities of ten (10) to the Board Secretary for distribution to the Board and admission into the record.
c. Planning Board questioning of staff or applicant for information only.

**2. Public Hearing**

Each speaker will be allowed an oral presentation (3 minutes maximum*). All speakers wishing to pool their time must be present, and time allotted will be determined by the Chair. No pooled time presentation will be permitted to exceed ten minutes total.

- Time remaining is presented by a Green blinking light that means one minute remains, a Yellow light means 30 seconds remain, and a Red light and beep means time has expired.
- Speakers should introduce themselves, giving name and address. If officially representing a group, homeowners' association, etc., please state that for the record as well.
- Speakers are requested not to repeat items addressed by previous speakers other than to express points of agreement or disagreement. Refrain from reading long documents, and summarize comments wherever possible. Long documents may be submitted and will become a part of the official record.
- Speakers should address the Land Use Regulation criteria and, if possible, reference the rules that the Board uses to decide a case.
- Any exhibits introduced into the record at the hearing must be provided in quantities of ten (10) to the Secretary for distribution to the Board and admission into the record.
- Citizens can send a letter to the Planning staff at 1739 Broadway, Boulder, CO 80302, two weeks before the Planning Board meeting, to be included in the Board packet. Correspondence received after this time will be distributed at the Board meeting.

**3. Board Action**

d. Board motion. Motions may take any number of forms. With regard to a specific development proposal, the motion generally is to either approve the project (with or without conditions), to deny it, or to continue the matter to a date certain (generally in order to obtain additional information).
e. Board discussion. This is undertaken entirely by members of the Board. The applicant, members of the public or city staff participate only if called upon by the Chair.
f. Board action (the vote). An affirmative vote of at least four members of the Board is required to pass a motion approving any action. If the vote taken results in either a tie, a vote of three to two, or a vote of three to one in favor of approval, the applicant shall be automatically allowed a rehearing upon requesting the same in writing within seven days.

**MATTERS FROM THE PLANNING BOARD, DIRECTOR, AND CITY ATTORNEY**
Any Planning Board member, the Planning Director, or the City Attorney may introduce before the Board matters which are not included in the formal agenda.

**ADJOURNMENT**
The Board's goal is that regular meetings adjourn by 10:30 p.m. and that study sessions adjourn by 10:00 p.m. Agenda items will not be commenced after 10:00 p.m. except by majority vote of Board members present.

*The Chair may lengthen or shorten the time allotted as appropriate. If the allotted time is exceeded, the Chair may request that the speaker conclude his or her comments.

**C I T Y O F B O U L D E R**
**PLANNING BOARD AGENDA ITEM**
**MEETING DATE: October 24, 2013**

**AGENDA TITLE:**
Public hearing and consideration of a recommendation to City Council for application no. LUR2012-00005 including the following request within the approximately 32 acre site:

1. Annexation and Initial Zoning for a 16.4 acre parcel located at 6234 Arapahoe Road along with the adjacent public right of way with an initial zoning of Residential Medium-1 (RM-1) on the north and Public (P) on the south; and an approximately 1.8 acre property located at 1492 Cherryvale Road into the City of Boulder with an initial zoning of Rural Residential (RR-1);

2. Site Review to develop the property located at 5980, 6160, 6180 and 6234 Arapahoe, and 1492 Cherryvale as the Boulder Jewish Commons, for educational activities; and

3. Use Reviews for the following uses per the Land Use Code section 9-6-1, B.R.C. 1981: "adult education facility" use, a "daycare center" use, and an "indoor recreation or athletic facility" use and an "indoor amusement establishment" use at the proposed building for the Boulder Jewish Community Center.

**REQUESTING DEPARTMENT:**
Community Planning & Sustainability
David Driskell, Executive Director
Susan Richstone, Deputy Director
Charles Ferro, Development Review Manager
Elaine McLaughlin, Senior Planner

**OBJECTIVES:**
1. Hear staff and applicant presentations
2. Hold public hearing
3. Planning Board discussion
4. Planning Board recommendations to City Council on the proposed Annexation, Initial Zoning Site Review and Use Reviews.

**SUMMARY OF PROPOSED PROJECT:**

Proposal: ANNEXATION, INITIAL ZONING, SITE REVIEW, USE REVIEWS: Request for related applications for an approximately 32.3 acre site that includes annexation of two properties and an area of right-of-way with initial zoning that includes Rural Residential-1 (RR-1), Residential Medium-1 (RM-1) and Public (P); Site and Use Review to permit the development of the Boulder Jewish Community Center building to house an adult education facility, a day care center and an indoor recreational or athletic facility. The approximately 63,748 square foot building proposed at 39.5 feet in height requires a request for a 4.5 foot height modification from the 35 foot by-right standard as well as a parking deferral of

10 percent. As a community benefit to annexation, the applicant has proposed to dedicate a 4.33 acre area encompassing the Sombrero Marsh to the City of Boulder Open Space and Mountain Parks (OSMP) and an area of 4.62 acres is planned as a Conservation Easement adjacent to the open space land. Also as a community benefit for annexation, any future residential built on the property will be required to provide 40 percent as permanently affordable residential

| | |
|---|---|
| Project Name: | Boulder Jewish Commons |
| Location: | 5980, 6160, 6180 and 6234 Arapahoe Road; and 1492 Cherryvale Road |
| Size of Project Site: | Approximately 32.3 acres |
| City Zoning: | Requested Initial Zoning: Rural Residential Low – 1 (RR-1); Residential Medium – 1 (RM-1); and Public (P) |
| Comprehensive Plan: | Low Density Residential; Medium Density Residential; and Open Space - Other |

**KEY ISSUES**

1. **Are the proposed annexations consistent with State statutes and BVCP growth and annexation policies?**

2. **Is the proposed project consistent with the BVCP Land Use Designations and the initial zoning of Public, Residential Medium – 1, and Rural Residential–1?**

3. **Is the Site Review application for the Jewish Community Center consistent with BVCP policies?**

4. **Is the proposed project consistent with the Site Review Criteria per land use code sub-section 9-2-14(h), B.R.C. 1981 particularly related to circulation?**

5. **Are the proposed site design and architecture consistent with the Site Review criteria for quality and compatibility with the surrounding context?**

6. **Is the proposed project consistent with the Use Review Criteria per land use code sub-section 9-2-15, B.R.C. 1981?**

**INTRODUCTION:**

The project includes the combined requests of annexation, initial zoning, site review, and use reviews. As shown in Figure 1, the project site includes an approximately 14-acre area annexed into the city as a larger 52-acre annexation of multiple properties in the 1980s. Two surrounding parcels and an area of Arapahoe Avenue right of way are currently proposed for annexation with initial zoning of Rural Residential, Medium Density Residential and Public designations respectively.

The proposed Jewish Community Center, as a part of the Boulder Jewish Commons or BJC, along with two roadways are planned within the site, and an area that encompasses a portion of the Sombrero Marsh is proposed to be dedicated to the City of Boulder as open space through the annexation process. The

Planning Board is tasked with making a recommendation to City Council on the proposed Annexation, Initial Zoning, Site Review, and Use Reviews.

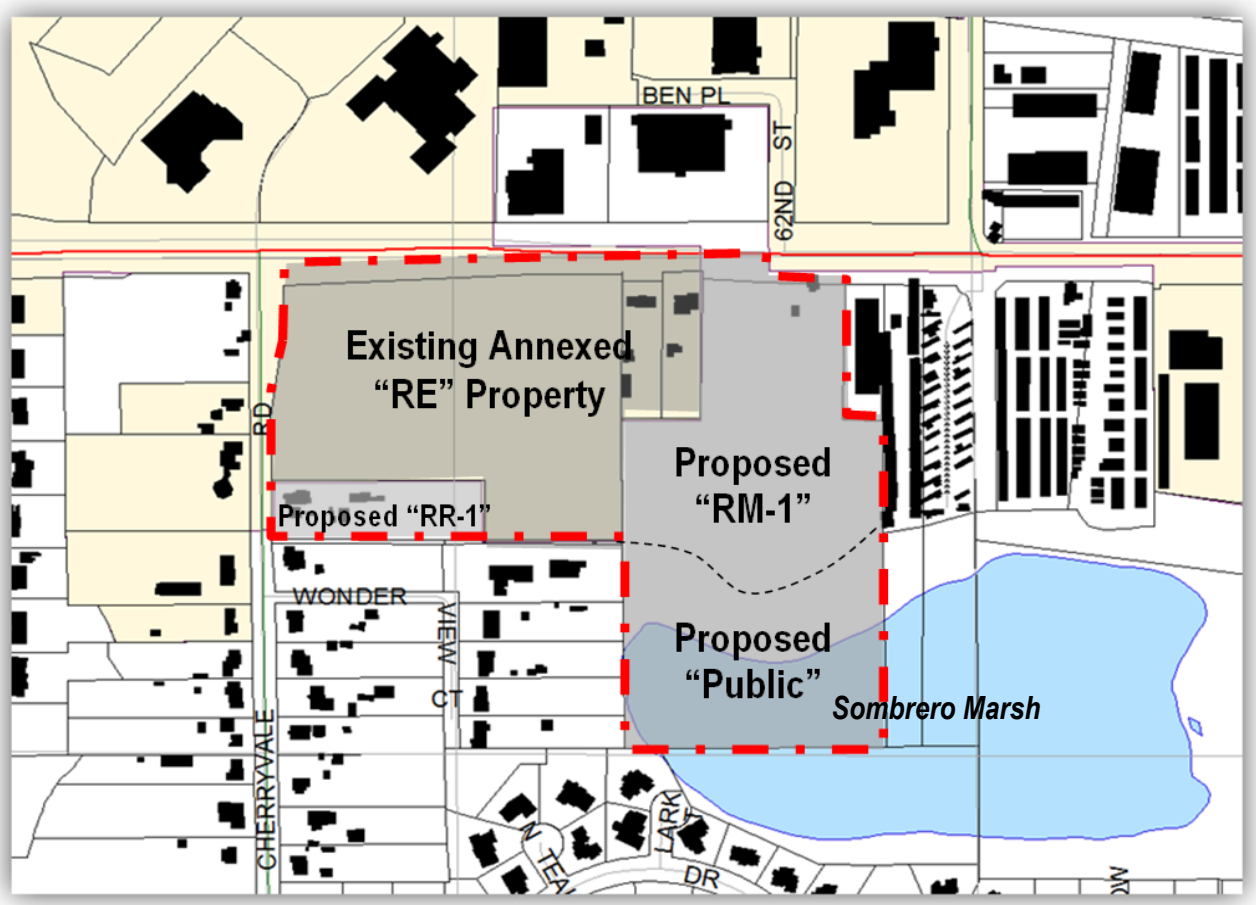



**Figure 1: Existing Annexed Property and Proposed Annexation and Initial Zoning**

In 2000, a Master Plan for the Boulder Jewish Commons was reviewed by the Planning Board as a Concept Plan for the property that included significantly more development than the current proposal. Under the 2000 Concept Plan, four synagogues were proposed along with a separate recreation building, a separate education building, and 49 congregate care units. Figure 2 illustrates the current proposal in comparison to the plans from 2000. At the time of the 2000 Concept Plan review, the Planning Board expressed support for the vision of the project and provided several suggestions including reducing the level of development on the site, shifting roads and parking from the south property line to internal to the site and placing the buildings near Arapahoe Avenue to protect the Sombrero Marsh.

In the years since the 2000 Concept Plan review, the property owners completed a capital campaign to construct the Jewish Community Center. While there are no plans to develop residential units at this time, the area on the northeast side of the site is proposed to be zoned with medium density residential consistent with the Boulder Valley Comprehensive Plan. Any redevelopment on that site would be subject to a Site Review Amendment at the time of redevelopment along with a provision that 40 percent of all residential units be permanently affordable.

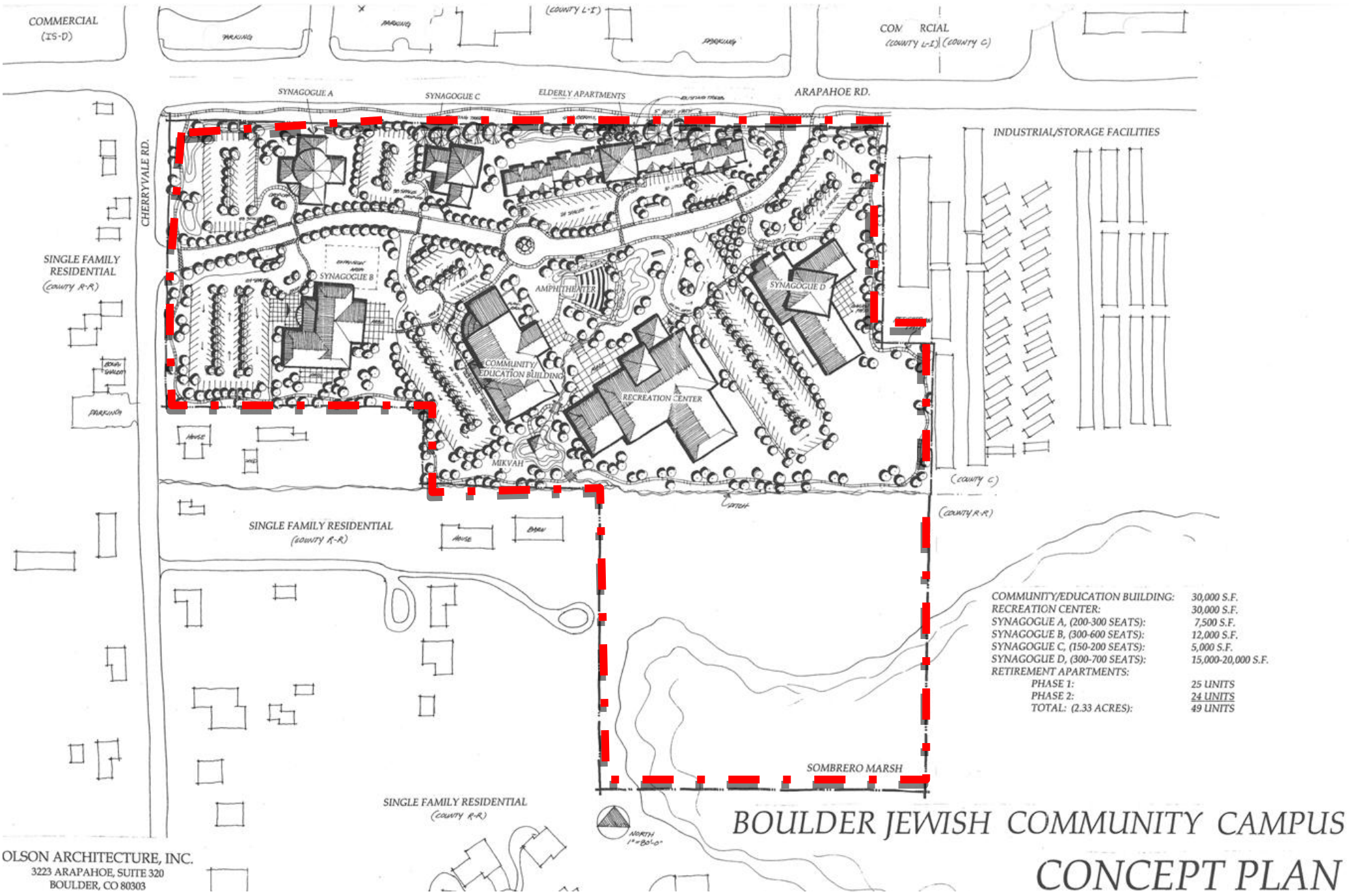
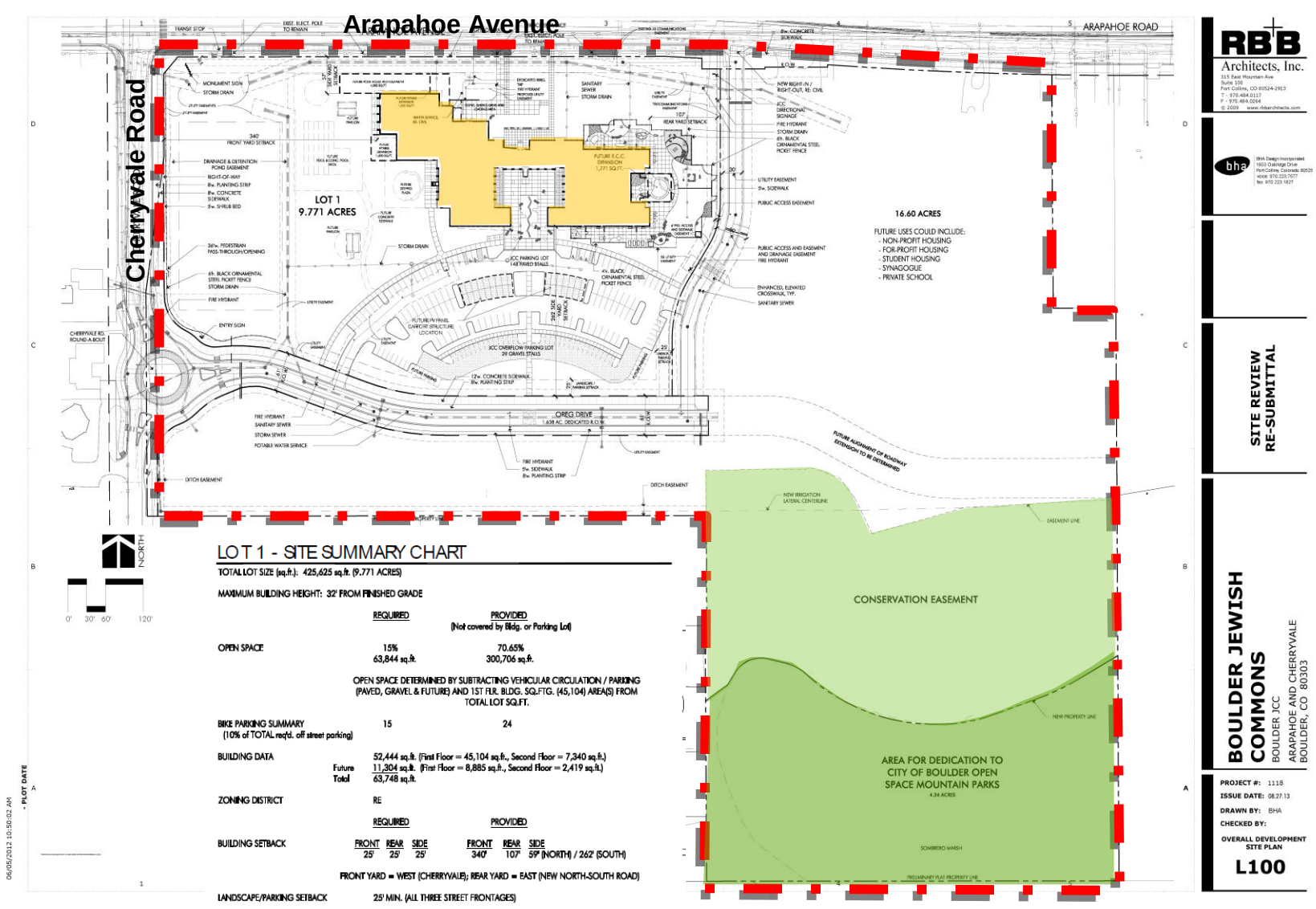



**Figure 2: Comparison of Original Concept Plan (above) to the current Proposed Site Plan (below).**



**Existing Site**. The approximately 32.3 acre project site is located north and east of the intersection of Arapahoe Avenue and Cherryvale Road. The northwestern third of the site (at 5980 Arapahoe) which was annexed into the city as part of a larger annexation in the 1980s is currently vacant with the exception of two vacant residential buildings along with small out-buildings. The 1.8 acre property at 1492 Cherryvale Road contains a vacant single family residence along with several outbuildings. The applicant has indicated that the buildings would remain upon annexation. The largest area of the project site on the east, 6234 Arapahoe, is also undeveloped and more than half of that eastern portion is not developable due to the significant habitat of Sombrero Marsh at the south end of the parcel. A ditch crosses the middle of that portion of the property and also defines the approximate break in the watershed. The majority of the property is denuded grassland with some individual trees, most of which are in a deteriorated state and/or invasive Russian Olive species planned for removal.

**Sombrero Marsh.** The southern part of the project site contains a portion of Sombrero Marsh. The marsh is regarded as an "exceptional ecological resource." In an excerpt from the Management Plan established for Sombrero Marsh in 2001, prepared by the City of Boulder Open Space and Mountain Parks Division, the following describes why the Marsh has considerable ecological value:

> *Sombrero Marsh is the only naturally occurring perennial open water body of its size in the Boulder Valley, totaling over 20 acres (the majority of wetlands in the Boulder Valley are less than 10 acres). Sombrero Marsh formed in a closed depression approximately 0.5 mi. east of South Boulder Creek in Boulder County, Colorado. This naturally functioning wetland contains soils, hydrology and vegetation that combine to create important habitat for many birds, mammals, amphibians, and invertebrates. The Marsh's brackish waters and seasonal salt flats support wetland plant communities that are uncommon. Sombrero Marsh's physical environment and wildlife habitat are highly unique because its waters and soils are highly alkaline, which provide a highly specialized niche for plants and animals, and the Marsh provides a locally rare combination of open water and emergent vegetation. Besides important wildlife habitat, Sombrero Marsh also provides important wetland functions of: flood storage, nutrient retention and removal, food chain support, and passive recreation / heritage value."*

**Existing Roadway and Built Context in Site Surroundings.** Arapahoe Avenue adjacent to the site is a four- to six-lane arterial highway under the jurisdiction of the Colorado Department of Transportation (CDOT). Recent improvements to Arapahoe Avenue include widening the roadway to provide dedicated bus/turn lanes and bike lanes as well as multi-use paths adjacent to the site. The improvements are currently being constructed consistent from the cross-section shown in Figure 4 from

.

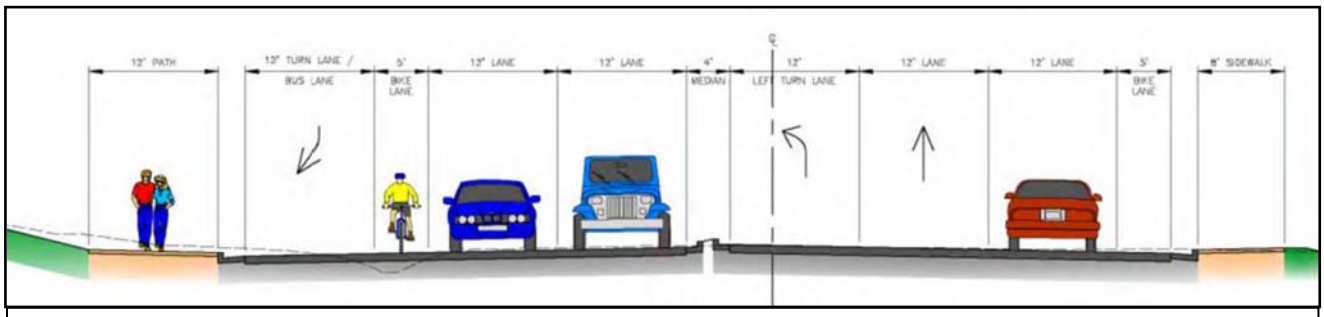



**Figure 4:**
**Planned CDOT Improvements for Arapahoe Avenue Currently under Construction Adjacent to Site**

As shown below in Figure 5, Cherryvale Road adjacent to the site is within the City's jurisdiction while the remainder of Cherryvale to the south is within County jurisdiction. The two lane roadway accommodates bicyclists and pedestrians with a widened shoulder. The context south of the project site is rural and, in keeping with the County's Transportation Master Plan, roadways such as Cherryvale Road are intended to preserve the rural character. Views of the site from the surrounding streets are shown in Figure 6, on page 7, the images help to illustrate the roadway typology and character surrounding the site.

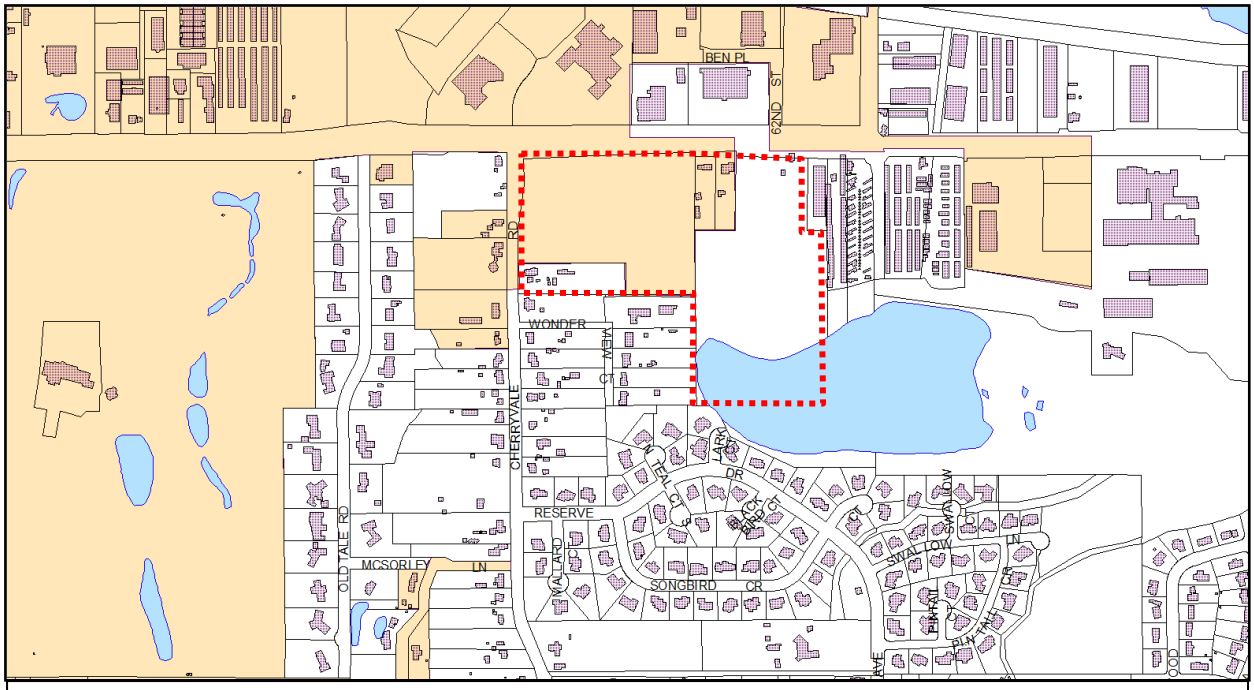



**Figure 5: Jurisdictional Boundaries on Cherryvale Road adjacent to Project Site**

There are a variety of land uses in the area surrounding the project site, as shown in Figure 7 on page 8. On the south side, a portion of Sombrero Marsh exists within the property boundary and extends further to the south and east. Also south of the site are rural residential properties within Boulder County jurisdiction ranging in size from one to 1.5 acres. Further to the south is the low density county subdivision of The Reserve at Cherryvale with one quarter to one half acre lots.

Directly across Cherryvale Road to the west are two rural residential properties recently annexed into the city along with the Congregation Bonai Shalom synagogue property, annexed into the city in 1987. Directly north across Arapahoe Avenue from the project site are a variety of industrial service uses including auto dealerships, auto repair, roofing companies, loom manufacturers, and the annex for Naropa University. To the east of the site is a moving and storage company, along with a storage facility. Further to the east, at the corner of 63rd and Arapahoe are a county mobile home park, a storage facility, and a light industrial/ service industrial facility. To the northeast of this intersection is Xcel Valmont Electrical Generation facility with the large smoke stacks visible from the subject property.

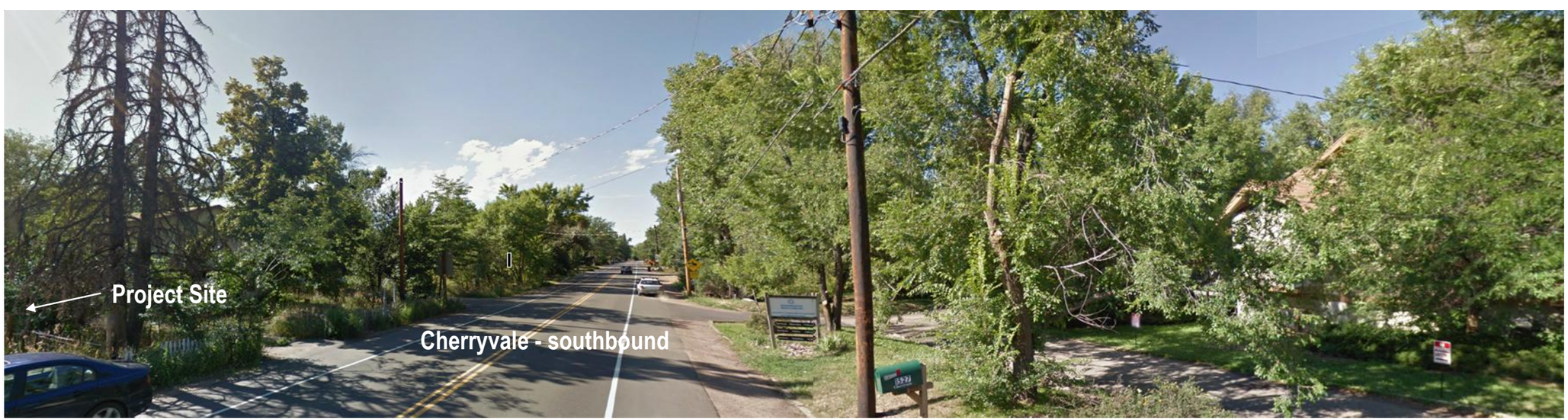
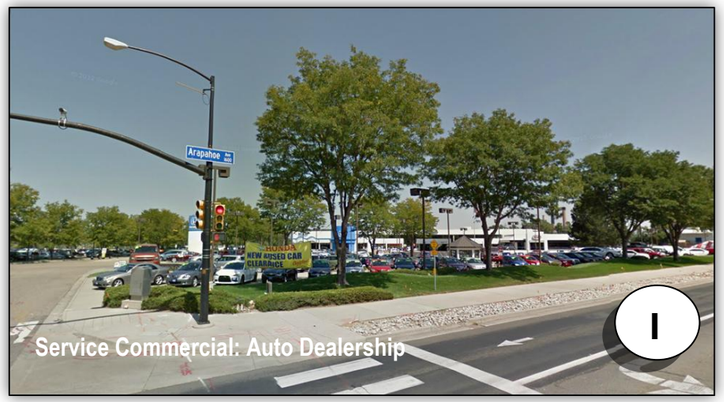
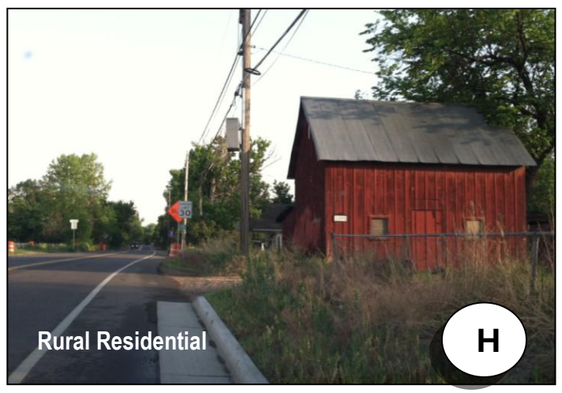



**Figure 6:**

**Views of Site From Adjacent Streets Surrounding the Property Site**





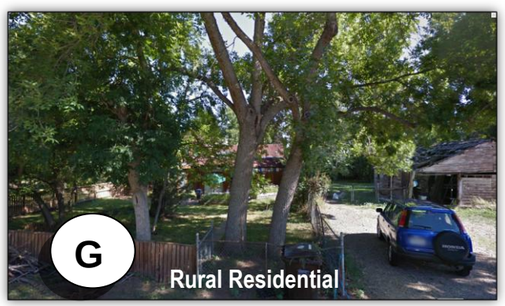


**Figure 7 Surroundings of Subject Property keyed to Aerial**

**Existing Land Use per Boulder Valley Comprehensive Plan (BVCP).** The mixed character of the built environment is reflective of the BVCP land use designations shown in Figure 8. Within the project site, there are four different land use designations for the property, including: Very Low Density Residential, Low Density Residential, Medium Density Residential and Open Space. Under the BVCP, residential densities are defined as follows: Very Low Density, two units or less per acre; Low Density, two to six units per acre; and Medium Density, six to 14 units per acre. Open Space – Other is defined as

> *"other public and private land designated prior to 1981 that the city and county would like to preserve through various preservation methods including but not limited to intergovernmental agreements, dedications or acquisitions."*

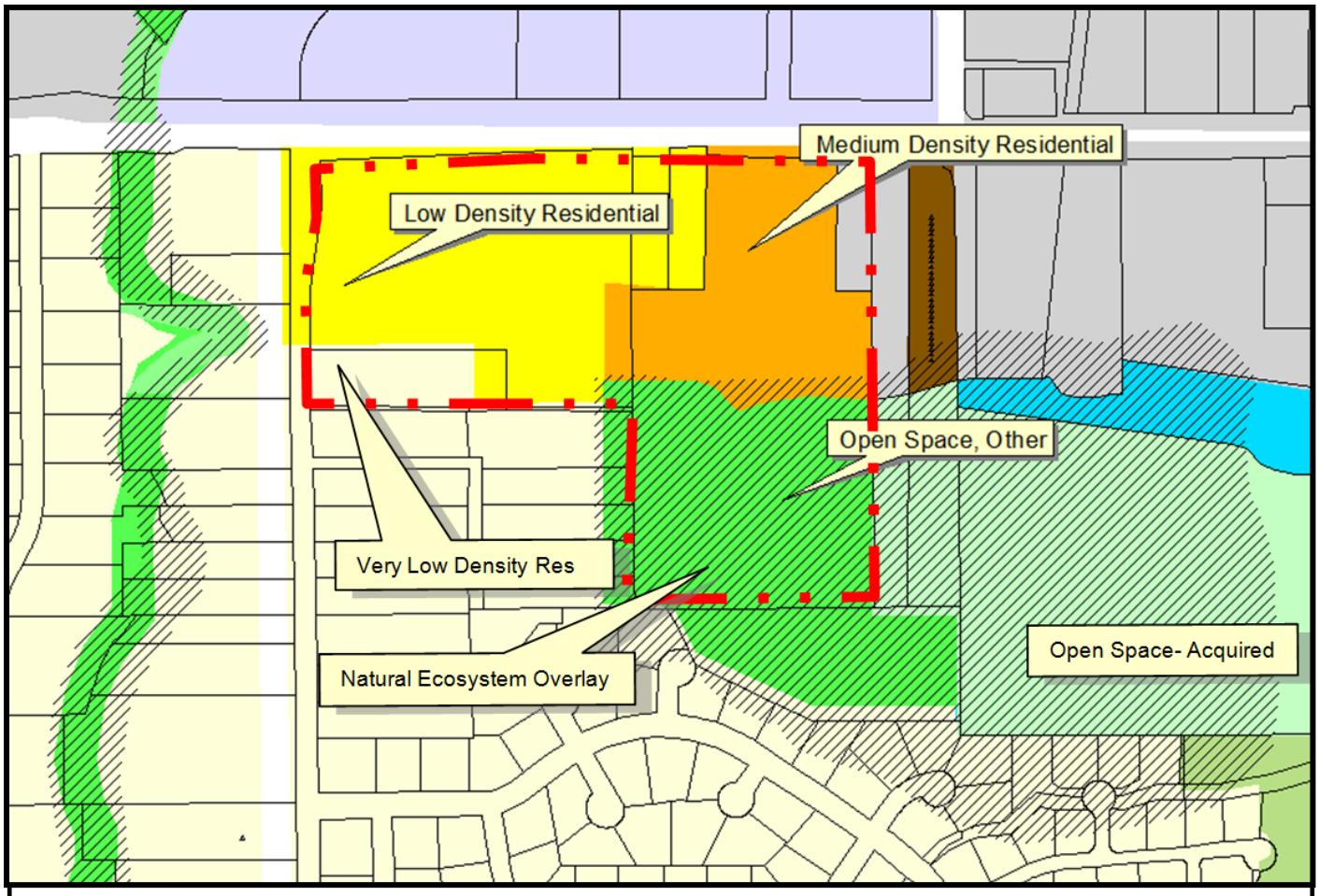



**Figure 8: Boulder Valley Comprehensive Land Use Designations**

**PROJECT DESCRIPTION:**

The applicant's written description of the project and full set of project plans are found within **Attachment D and E**. The project includes:

- Proposed annexation of approximately 18 acres total into the City of Boulder with initial zoning of Rural Residential - 1 (RR-1) for the 1.94 acre property located at 1492 Cherryvale Road; and a split zoning of Residential Medium – 1 (RM-1) for the northern 2/3 and of Public (P) for the southern 1/3 of the approximately 16 acre property located at 6234 Arapahoe. Refer to Figure 9 that illustrates the zoning and land dedication area.

- Land to be dedicated to City of Boulder OSMP that currently contains a portion of the Sombrero Marsh along with land placed under a Conservation Easement adjacent to deeded land.

- While no residential units are currently proposed as part of the project, the RM-1 zoning will allow for future clustered residential units of which 40 percent would have to be permanently affordable residential units as a condition of annexation.

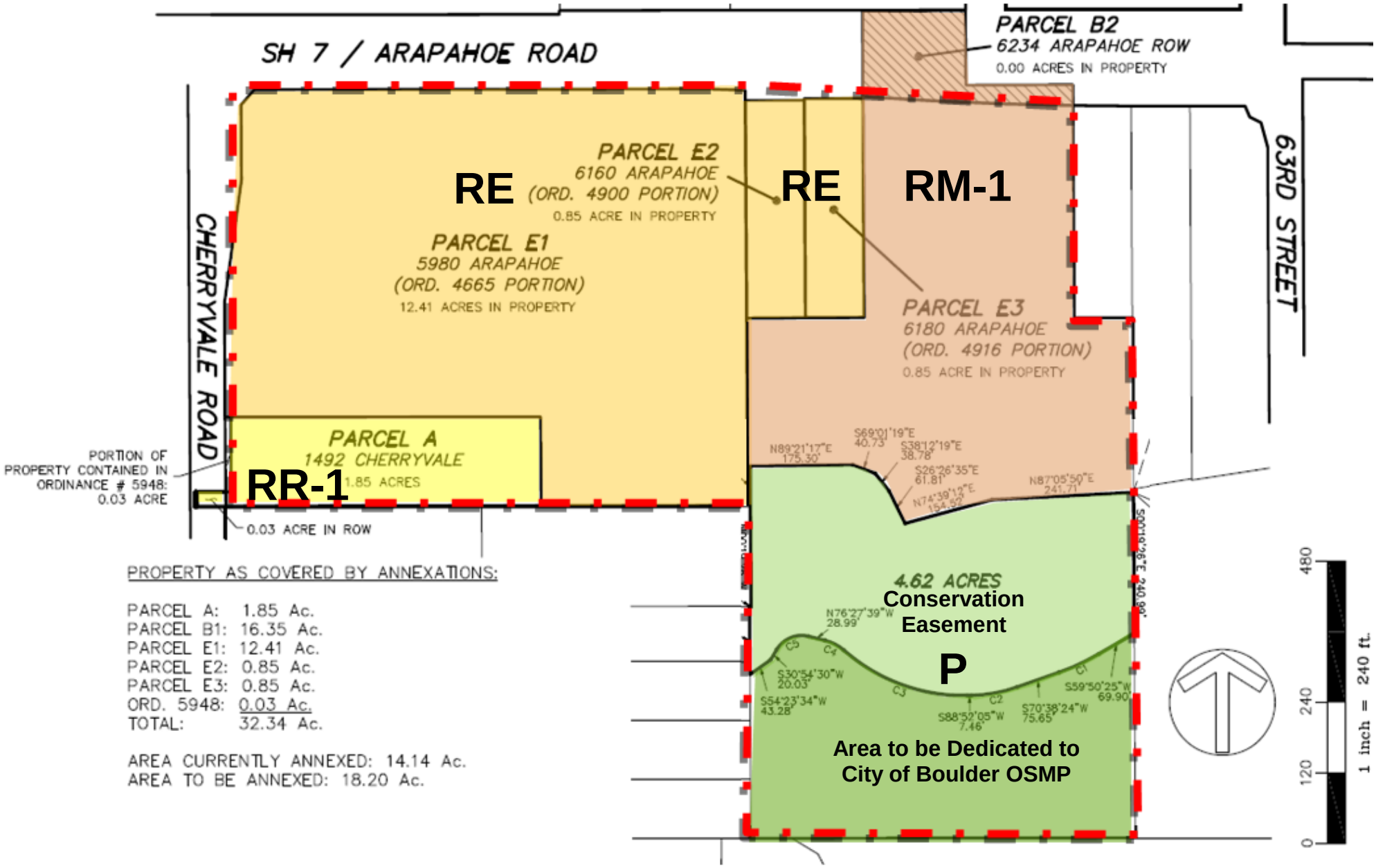
- Construction of a new roundabout on Cherryvale Road, along with a new east-west roadway from Cherryvale east into the property, referred to as Oreg Drive, to be dedicated as public right-of-way.

- Site Review for the approximately 63,750 square foot Jewish Community Center with a focus on all-age education and culture (plan view illustrated in Figure 10 and west elevation illustrated in Figure 11) that includes:

    - Classroom and assembly space for adult education and youth camps;
    - Day care center for up to 150 children;
    - Library space
    - Fitness room and basketball court
    - Outdoor playfields
    - Support offices

    There are two requested modifications: building height up to 39.5 feet where 35 feet is standard and a parking deferral of 10 percent.

- Use Reviews to permit the following uses:
    - Daycare Center with ≥ 50 children
    - Adult Education Facility ≥ 20,000 square feet
    - Indoor Recreational or Athletic Facility




PROPERTY AS COVERED BY ANNEXATIONS:

| | |
|---|---|
| PARCEL A: | 1.85 Ac. |
| PARCEL B1: | 16.35 Ac. |
| PARCEL E1: | 12.41 Ac. |
| PARCEL E2: | 0.85 Ac. |
| PARCEL E3: | 0.85 Ac. |
| ORD. 5948: | 0.03 Ac. |
| TOTAL: | 32.34 Ac. |

AREA CURRENTLY ANNEXED: 14.14 Ac.
AREA TO BE ANNEXED: 18.20 Ac.

**Figure 9: Zoning and Land Dedication Area**

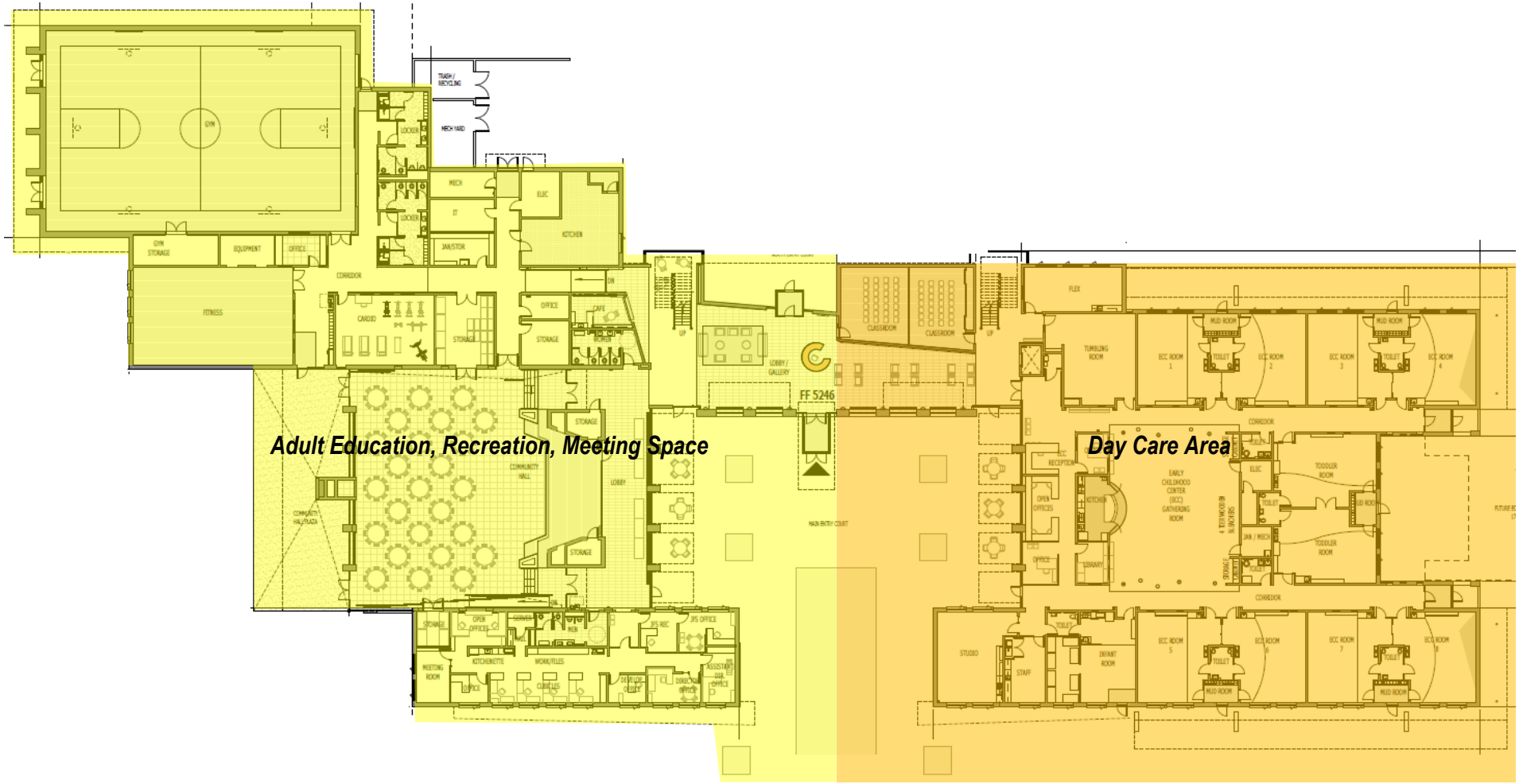



**Figure 10: Enlarged view of building with the rough proportion of use on each side of the building**

**Figure 11: West Elevation of Proposed Building**

## KEY ISSUES ANALYSIS

### 1. Are the proposed annexations consistent with State statutes and BVCP growth and annexation policies?

Annexations must comply with Colorado Revised Statutes (C.R.S.) 31-12-101 et seq. Staff has reviewed the annexation petition for compliance with C.R.S. 31-12-104 and C.R.S. 31-12-105, and finds that the application is consistent with those sections, as affirmed by the criteria below:

- Landowners of more than 50 percent of the property have petitioned to annex;
- The petition was filed with the City Clerk;
- There is a community interest between the property proposed for annexation and the city of Boulder;
- The subject property is not included in another annexation proceeding involving a city other than the city of Boulder;
- The annexation would not remove the property from one school district and add it to another; and
- The property has at least one-sixth contiguity with the perimeter of the city of Boulder.

**Policy 1.18:** This policy is titled "Adapting to Limits on Physical Expansion" and within Policy 1.18 is following statement, "*as the community expands to its planned physical boundaries, the city and county will increasingly emphasize preservation and enhancement of the physical, social and economic assets of the community*."

In this regard, the dedication of the Sombrero Marsh portion of the property to the city will help to ensure the preservation and enhancement through Open Space and Mountain Parks management of this valuable resource.

**Annexation Policy 1.24:** Specific to Annexation, BVCP Policy 1.24, is a seven part policy ('a' through 'g'). Complete staff findings regarding this policy are found under **Attachment A.** Staff finds the subject property consistent with Policy 1.24. In particular, policy 1.24(d) states,

> *d) In order to reduce the negative impacts of new development in the Boulder Valley, the city will annex Area II land with significant development or redevelopment potential only if the annexation provides a special opportunity or benefit to the city. For annexation considerations, emphasis will be given to the benefits achieved from the creation of permanently affordable housing. Provision of the following may also be considered a special opportunity or benefit: receiving sites for transferable development rights (TDRs), reduction of future employment projections, land and/or facilities for public purposes over and above that required by the city's land use regulations, environmental preservation, or other amenities determined by the city to be a special opportunity or benefit. Parcels that are proposed for annexation that are already developed and which are seeking no greater density or building size would not be required to assume and provide that same level of community benefit as vacant parcels unless and until such time as an application for greater development is submitted.*

**Policy 1.24(d): Community Benefits and Special Opportunities.** The proposed annexation of the Area II property at 6234 Arapahoe (specifically, the northeastern portion of the project site with an initial zoning of RM-1) will create additional development potential. To offset negative impacts, the applicant has offered several special opportunities and community benefits as described in the following:

- Dedication in-fee of a 4.33 acre area encompassing a portion of Sombrero Marsh to the City of Boulder. As noted, the marsh is considered a significant ecological resource and the dedication to the city will allow for preservation and comprehensive management of the resource.

- In addition to the dedication in-fee, a 4.62 acre area of land will be dedicated as a Conservation Easement.

- Construction of a roundabout to calm traffic speeds on Cherryvale Road.

- Construction of a new east/west roadway into the property, and reservation and potential future dedication of additional right of way to the east to create connectivity and a finer grain grid of streets for this area of the city.

- Provision of a new educational and cultural facility with additional provision of high quality child care available to all community members.

- Creation of 40 percent of any future housing as permanently affordable housing.

Staff concludes that the applicant has met the criteria for community benefit and special opportunity.

**2. Is the proposed project consistent with the BVCP Land Use Designations and the initial zoning of Public, Residential Medium – 1, and Rural Residential–1?**

**Consistency of Zoning and BVCP Land Use Designations.** The proposed area planned to be zoned Public is consistent with the Land Use designation of "Open Space, Other" and "Ecosystem Overlay" in that the city would like to preserve the property and because the property is considered a significant ecological resource. Under the Public zoning, the site will be managed by the city's Open Space and Mountain Parks.

The proposed area planned to be zoned RM-1, a portion of which includes an area of a conservation easement, is consistent with the BVCP land use designation of "Medium Density Residential" and the small area containing a single family residence and outbuilding with the designation of Very Low Density Residential will be have an initial zoning of Rural Residential – 1 consistent with that designation.

**3. Is the Site Review application for the BJC consistent with BVCP policies?**

Staff finds that the proposed project Is a well-designed educational and cultural facility that upholds and implements a number of BVCP policies including the following:

*1.04 Principles of Social Sustainability*
*2.05 Design of Community Edges and Entryways*
*2.07 Design of Major Entryways*
*2.17 Variety of Activity Centers*
*2.19 Compatibility of Adjacent Land Uses*
*2.31 Design of Newly-Developing Areas*
*2.32 Physical Design for People*
*2.33 Environmentally Sensitive Urban Design*
*2.37 Enhanced Design for Private Sector Projects*
*3.01 Incorporating Ecological Systems into Planning*
*3.04 Ecosystem Connections and Buffers*
*4.05 Energy-Efficient Building Design*
*5.09 Role of Arts and Cultural Programs*
*6.10 Managing Parking Supply*
*6.12 Neighborhood Streets Connectivity*
*8.05 Diversity*
*8.07 Physical Health*
*8.10 Support for Community Facilities*
*8.16 Education Resource*
*8.18 The Arts*

Through comprehensive planning of the site, in conjunction with open space land dedications, the proposed building and any future development will be clustered away from the Sombrero Marsh. Because of this, the city's goals for environmental sustainability through preserving an important ecological resource can be realized. Similarly, with the building proposed along Arapahoe Avenue the project can provide educational and cultural opportunities in the East Arapahoe Avenue corridor and the city's goals and policies related to social sustainability can be met.

**4. Is the proposed project consistent with the Site Review Criteria per land use code sub-section 9-2-14(h), B.R.C. 1981 particularly related to circulation?**

The consistency analysis of the proposed project with the Site Criteria is found in **Attachment A.** There are specific criteria that staff notes are particularly relevant to the proposed project's success, including planned roadway improvements and how they address site review criteria related to traffic and circulation.

As described in the background section on page 6, Cherryvale Road is a two lane collector that is predominately located within the county's jurisdiction, except adjacent to the project site where it is within the city's jurisdiction. The roadway has no dedicated bike lanes or walkways but has a shoulder used by pedestrians and bicyclists. During both the Concept Plan review and as a part of discussion with residents on Cherryvale Road, the issue of traffic speeds on the roadway was identified.

To provide access from Cherryvale Road into the site, several at-grade intersection alternatives were explored including a three-way stop sign and a traffic signal. Through discussions between the applicant, the county transportation staff and the city's transportation staff, along with area residents, the applicant proposed a roundabout solution to access the site. The roundabout is intended to efficiently facilitate the flow of traffic into the site off Cherryvale Road while also slowing or "calming" the thru-traffic traveling along Cherryvale Road. Roundabouts have been demonstrated to be safer than other forms of at-grade intersections due to slower speeds and the elimination of left-turns.

As illustrated in Figure 12, within the proposed roundabout, crosswalks will be provided to facilitate the movement of pedestrians through the roundabout. Bicyclists will have the option of either traveling through the roundabout or using bicycle ramps to access the sidewalks and crosswalks. Staff worked with the applicant and County Transportation Staff who also worked with area residents to identify the best placement and alignment of the roundabout to reduce traffic speeds along Cherryvale Road. **Attachment F** provides the detailed traffic studies.

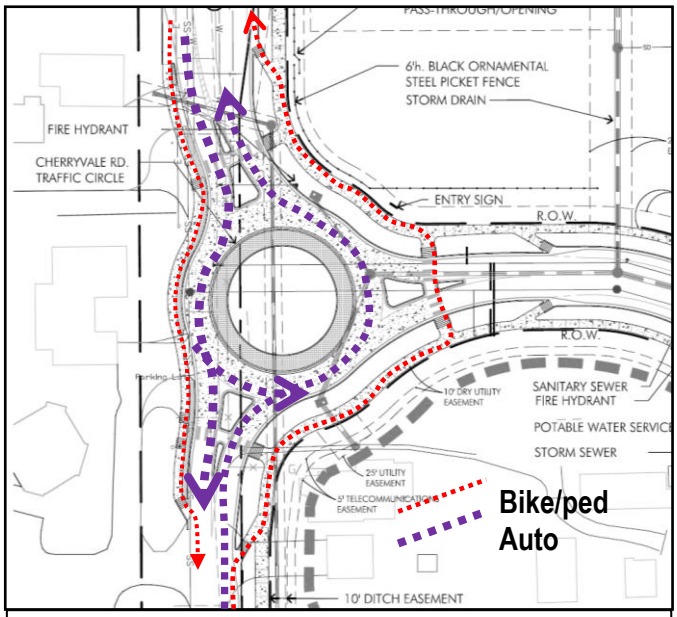



**Figure 12: Focused view of the planned multi modal roundabout.**

The traffic calming element of the roundabout along with the enhanced landscape aesthetics are considered to be of benefit to the community and responds to Site Review criteria related to traffic and circulation safety including discouraging high speeds; minimizing vehicle conflicts; and provision of safe and convenient connections.

**5. Are the proposed site design and architecture consistent with the Site Review criteria for quality and compatibility with the surrounding context?**

**Site Design:**

The site plan is consistent with Site Review criteria for open space and the preservation of wetlands, riparian areas and protection of sensitive environmental features. Similarly, the site plan is consistent with BVCP policies that seek to ensure urban environmental quality by dedicating open space, establishing additional conservation easement and by locating the proposed building and the future development well away from the sensitive Sombrero Marsh portion of the property. This site design approach is consistent with environmental quality policy 3.09, which indicates the city's intent to promote wildlife and land use management practices to minimize conflicts with urban land uses and preserve habitat.

With placement of the building away from the Sombrero Marsh habitat area, the building is also placed toward Arapahoe Avenue, with fenestration provided along the north elevation. Primary access into the building is proposed from the south elevation nearest the parking area. On-street parking is not planned by CDOT given the highway status of the four to six lane roadway and the 45 mile per hour speed limits adjacent to the site. Figure 2 on page 4 illustrates the site layout with the building away from the marsh and near Arapahoe Ave.

Primary entrance from the parking lot on the interior of the site is practical given the need for safety and separation of pedestrians, particularly young children and parents accessing the day care portion of the building. However, the building-forward configuration to the street does present a "well designed face to the public realm" as recommended in BVCP policy 2.37(b) and the building is easily accessed by pedestrians or bicyclists from Arapahoe Avenue via the multi-use path and nearby bus stop.

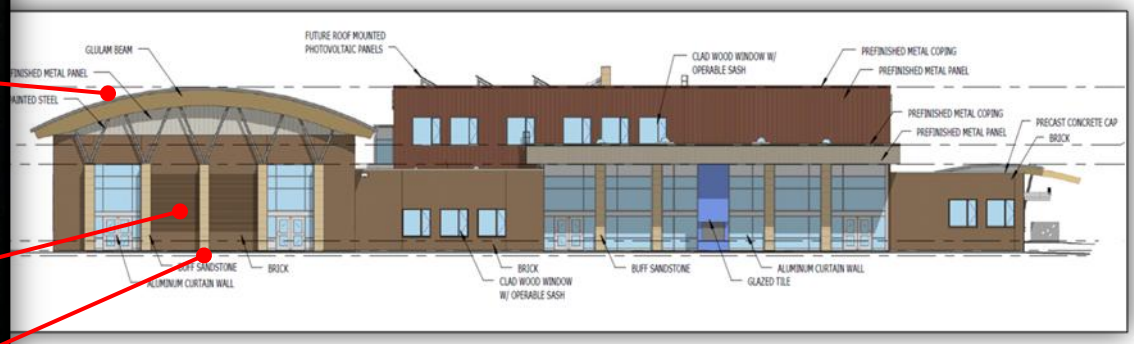
**Figure 13:**
**Perspective Sketch of the North Side of the Proposed Building as Viewed from Arapahoe Avenue.**

## Building Design.

The site review criteria for building design emphasizes compatibility of the proposed building to the existing character and context, the provision of pedestrian interest, and the use of authentic materials. **Attachment A.** presents a discussion of all of the site review criteria related to building design.

As noted in the Background section on page 6, the existing character of the area is varied and the primary characteristics are the relatively large floor plates of the nearby industrial and auto dealership buildings. Like the nearby buildings, the proposed Jewish Community Center building has a large building footprint. However, in keeping with Site Review criteria for building design, the proposed project will enhance the existing setting and will help establish a new aesthetic standard for the area. Utilizing high quality, durable materials that include stone, brick, wood beams forming a barrel roof, and metal panels as shown in Figure 14.

**Figure 14:**
**Proposed use of high quality finish materials on building: Materials keyed to the building elevation**




In addition, the proposed elevation facing Arapahoe Avenue has strong fenestration: repeating window patterns and emphasized entryways augmented with landscape shrub massings and rows of ornamental trees to establish a strong pedestrian orientation.

Similarly, the building when viewed from Cherryvale (west elevation shown above, Figure 11) has ample fenestration and varied building forms that will provide interest. In all, the proposed site design and architecture are consistent with the Site Review criteria for quality and compatibility with the surrounding context and will help to lead a new aesthetic for the East Arapahoe context.

**6. Is the proposed project consistent with the Use Review Criteria per land use code sub-section 9-2-15, B.R.C. 1981?**

As found within the Use Review criteria analysis in **Attachment A**, the proposed project primary uses (including adult education, day care, and indoor recreation meet the Use Review Criteria. A portion of the facility includes fitness classes and indoor recreation. As a master planned site, the facility is primarily located within the already annexed Estate Residential area where educational uses require a consistency analysis under the Use Review criteria. Specifically, under the Land Use Code, Table 9-6-1, B.R.C. 1981, "*Schedule of Permitted Uses*," the two main uses determined from the management plan provided by the applicant and through the architectural plans are: daycare centers for 50 or more children and adult education facilities greater than 20,000 square feet (refer to Figure 10 on page 11). The daycare facility itself will primarily be oriented to pre-kindergarten. However, the applicant has indicated that other uses such as day camps or youth camps would also occur in summer months. Per section 9-16, B.R.C. 1981 the definition of "daycare center" is as follows:

*"Daycare center" means a facility:*

> *(1) Licensed by the state, if applicable;*
>
> *(2) Providing care for children or adults who do not reside in the facility, are present primarily during daytime hours, and do not regularly stay overnight; and*
>
> *(3) Which may include some instruction.*
>
> *(4) Which is not located within a dwelling unit."*

The definition of Adult Education Facility is as follows:

> *"Adult education facility" means an academic educational use serving a clientele at least fifty percent of which are individuals who are eighteen years of age or older.*

Under the Residential Estate zoning, these uses require a consistency analysis with the Use Review criteria of section 9-2-15, B.R.C. 1981.

A portion of the northwest corner of the building is proposed to be a relatively small fitness area. Staff reviewed this component of the building initially as an accessory use, based on the Land Use Code definitions of section 9-16, B.R.C. 1981

> *"Accessory use" means a use located on the same lot as the principal building, structure, or use to which it is related and that:*
>
> *(1) Is subordinate to and customarily found with the principal use of the land; and*
>
> *(2) Is operated and maintained for the benefit or convenience of the occupants, employees, and customers of or visitors to the premises with the principal use.*

Because fitness is customarily found with the educational principal use of the site, and the fitness component would be operated and maintained for the benefit or convenience of the customers or visitors to the premises with the principal use it could qualify as an accessory use. However, in further understanding the fitness use of the proposed project through conversations with the applicant, staff understands that it is intended by the applicant that a visitor could use the fitness facility independent of the adult education aspects. Because of this distinction, and because a fitness center as a "stand alone" primary use is not permitted under the Residential Estate zoning, staff determined that if the analysis of the fitness use under Use Review criteria concluded with findings of approval, the legal mechanism to permit the fitness use as a third primary use on the site would be through ordinance. Given that the annexation ordinance is intended to establish the site as the Boulder Jewish Commons, the terms of the fitness aspect had been established through the annexation agreement.

Because of recent concerns raised by a neighbor to the property in an email provided in **Attachment B** about potential rental of the community hall, staff requested additional clarification from the applicant and the Oreg Foundation sent staff an addendum letter, which is provided in **Attachment E.** While the neighbor indicated support overall for the project, she articulated concerns about the hours of operation for events and potential for noise or other impacts. Staff addressed this question along with other questions in a response that is provided at the end of Attachment E. Regarding the addendum provided by the applicant, the use of the community hall for rental receptions is anticipated to occupy a small portion of the operating time and budget of the facility. According to the applicant's clarifying addendum:

> *"perhaps well see two to three of these events per month. This refers to large rental events with smaller rentals with fewer people occurring from time to time. These events are likely to include weddings, Bar and Bat Mitzvah parties, and other gatherings of significance to our community. We anticipate rentals will comprise less than 5% of our overall operating budget and will occupy less than 4% of the operating time of the JCC.*
>
> *The Boulder JCC is designed in response to identified community need and demand. The Community Hall is conceived as a flexible space capable of offering auditorium style seating for up to 330 people or for up to 250 people seated at tables. We anticipate rentals will comprise less than 5% of our overall operating budget and will occupy less than 4% of the operating time of the JCC.*
>
> *Please note that these types of events were contemplated in our Parking Management Plan, and should pose no issue in terms of parking capacity."*

Because the applicant has indicated from early in the planning process that the main emphasis on the Jewish Community Center is as a place of education, staff views these activities and the percentage of time that rental of the space would occur on the site to be accessory to the main use of the building for day care and adult education. The parking and trip generation for any rental use of the community hall was already accounted for in the analysis. The hours of operation for the entire building establish a closing for 11:00 p.m. Similarly, it is important to note that there will likely be alternating hours for an event to occur – typically evenings or weekends, rather than during the daytime as is proposed for the educational uses.

## PUBLIC COMMENT AND PROCESS:

Required public notice was given in the form of written notification mailed to all property owners within 600 feet of the subject site and a sign posted on the property for at least 10 days. All notice requirements of section 9-4-3, B.R.C. 1981 have been met. Two separate neighbor meetings were held. The first was held on Dec. 3, 2007 and a second on Oct. 4, 2011 with concerns articulated being primarily related to traffic calming and parking.

Several comment letters were received after the originally scheduled Planning Board hearing on this application was postponed due to the major flooding events in mid-September. One comment letter from the neighboring property owner, articulated concerns about the potential number of days a rental could occur in the community hall portion of the building, as well as concerns about the flooding from Sombrero Marsh. Another property owner within the county subdivision, the Reserve at Cherryvale sent comments about the flooding. A response to the comments and questions is provided at the end of **Attachment B**. In addition, summary of the neighborhood meetings and other comment letters received are also provided in **Attachment B**.

## STAFF RECOMMENDATION:

Staff recommends that the Planning Board make the following motions:

1) Recommend approval of the proposed annexation of the subject properties subject to the annexation conditions recommended in the staff memorandum with initial zoning of RR-1, RM-1, and P respectively;

2) Recommend approval of the Site Review and Use Review applications of case no. LUR2012-00005 for the project located at 5980, 6160, 6180 and 6234 Arapahoe Avenue, and 1492 Cherryvale Road**,** incorporating the staff memorandum and the attached criteria checklists as findings of fact and subject to the conditions of approval for the site review and use reviews proposed in the staff memorandum.

## RECOMMENDED CONDITIONS OF APPROVAL:

Recitals to Annexation Agreement will describe the properties found within **Attachment C** which the Applicant owns and are affected by this Agreement as follows:

"Parcel A" (1492 Cherryvale Rd) – Exhibit A
"Parcel B1" (6234 Arapahoe Rd) – Exhibit B
"Parcel B2" (Right-of-way adjacent to 6234 Arapahoe Rd) – Exhibit C
"Parcel C" (Conservation Easement area) - Exhibit D
"Parcel D" (Land to be conveyed as easement, but later dedicated in fee to the City) – Exhibit E
"Parcel E1" (Land already annexed at 5980 Arapahoe Rd) – Exhibit F
"Parcel E2" (Land already annexed at 6160 Arapahoe Rd) – Exhibit G
"Parcel E3" (Land already annexed at 6180 Arapahoe Rd) – Exhibit H

Annexation Conditions (Note: These conditions apply to Parcels A, B1, B2, C, and D. However, conditions #5 and #6 also apply to Parcels E1, E2, E3 which are the already annexed parcels.)

1. Requirements Prior to First Reading of the Annexation Ordinance. Prior to first reading of the annexation ordinance before City Council, the Applicant shall do the following:

    a. Provide an updated title commitment current within 30 days of signing the Annexation Agreement.

    b. Sign and file petitions for the inclusion in the Northern Colorado Water Conservancy District and the Boulder Municipal Subdistrict and pay all applicable fees on land and improvements for inclusion in such districts.

c. Pay a Storm Water and Flood Management Utility Plant Investment Fee of $7,741.80 for Parcel A and $990.00 for Parcel B1 in accordance with Section 11-5-7, B.R.C. 1981, based upon impervious areas of 3,910 square feet and 500 square feet.

d. Pay the Housing Excise tax of $598.00 for Parcel A.

e. Pay the following assessments for utility main reimbursements:

i. $1,007.77 (357.48 linear feet times $2.8191 per linear foot) for the 8" VCP sanitary sewer main in Arapahoe Road.

ii. $1,381.41 (357.48 linear feet times $3.8643 per linear foot) for the 12" CIP water main in Arapahoe Road.

2. Requirements related to Conveyances for Environmental Preservation.

a. Prior to second reading of the annexation ordinance before City Council, the Applicant shall do the following:

i. Provide a Baseline Documentation Report for Parcel C to the City, at no cost to the City, in a form which is subject to the approval of the City Manager.

ii. Convey a conservation easement that includes land management and conservation practices that will be administered by the City over Parcels C and D to the City, at no cost to the City, in a form which is subject to the approval of the City Manager.

b. Prior to a building permit application for any building, the Applicant shall convey Parcel D in fee to the City, at no cost to the City, in a form which is subject to the approval of the City Manager.

3. Water Connection Requirement. The Applicant shall connect to City water and sewer within 180 days of the effective date of the annexation ordinance unless the existing residence on Parcel A has been demolished prior to that time.

4. Disconnection of Septic System. Within 180 days of any wastewater service line connection on the Property, the Applicant shall abandon the existing septic system on Parcel A in accordance with Boulder County Health Department and State of Colorado regulations.

5. Zoning. Parcels A, B1, B2, C, and D shall be annexed to the City with the following initial zoning classifications and, except as set forth herein, shall be subject to all of the rights and restrictions associated with that zoning.

Parcel A (1492 Cherryvale Rd): **Rural Residential-1 (RR-1)**;
Parcel B1 (6234 Arapahoe Rd): **Medium Density Residential (RM-1)**;
Parcel B2 (Right-of-way adjacent to 6234 Arapahoe Rd): **Medium Density Residential (RM-1)**;
Parcel C (Conservation Easement area described on Exhibit D): **Public (P)**; and
Parcel D (Land dedicated in fee to the City described on Exhibit E): **Public (P)**.

6. City Council Has Final Decision Authority for Site and Use Reviews. The parties agree that the City Council has final decision authority for the initial site and use review applications pending with the annexation request. The site review and use review applications will be referred to the City Council for hearing and final decision concurrent with the hearing for annexation. Any subsequent amendments or modifications to these site and use review approvals shall be processed and reviewed by the approval authority designated in and in compliance with the requirements of the Boulder Revised Code.

7. Development Progress. The City agrees that Applicant may complete the site review in three development phases, as shown on the approved plans dated July 1, 2013 and on file with the City. Each development phase shall begin at the time of this approval. The Applicant shall begin and substantially complete each development stage within five, ten, and fifteen years, as applicable pursuant to the approved plans, from the time of approval. The Applicant may begin a phase early upon the completion of the prior phase. Compliance with and requests for extensions of each development stage shall be processed and reviewed in compliance with the requirements of Section 9-2-12, "Development Progress Required," B.R.C. 1981.

8. Indoor Recreational or Athletic Facility Use in RE Zone. The City agrees, to allow indoor recreational or athletic facility uses on Parcel E-1 as a use allowed pursuant to a use review approved concurrent with this annexation and as may be modified or amended in the future in accordance with the procedures and criteria established in Section 9-2-15, "Use Review," B.R.C. 1981.

9. Affordable Housing. The parties agree that this Agreement is a voluntary agreement between the City and the Applicant that may limit rents on dwelling units on the Property to insure that they are constructed and maintained as affordable housing. The Applicant agrees that forty percent (40%) of any dwelling units on the Property shall be permanently affordable and shall meet the requirements provided below as units that are owned by individual home owners or rented to tenants. Permanently affordable deed restricting covenants to secure the affordability of dwelling units shall be signed and recorded with the Boulder County Clerk and Recorder prior to application for any residential building permit.

    a. Permanently Affordable – Low to Moderate Income. The Applicant agrees to provide fifty percent (50%) of any permanently affordable units to be affordable for low or moderate income households consistent with Chapter 9-13, "Inclusionary Housing," B.R.C. 1981. The total number of required low to moderate income permanently affordable units shall be rounded down to the nearest whole number if a fractional number results from the calculations.

    b. Permanently Affordable – Middle Income. The Applicant agrees to provide fifty percent (50%) of any permanently affordable units to be affordable for middle income households.

i. The total number of required middle income permanently affordable units shall be rounded up to the nearest whole number if a fractional number results from the calculations.

ii. Affordable middle income buyer household income shall not exceed thirty-five percent (35%) above the HUD Low Income Limit applicable to the City.

iii. The maximum price shall be affordable to a household whose income does not exceed the HUD Low Income Limit applicable to the City by more than twenty-five percent (25%).

c. Final Unit Pricing. Affordable for-sale unit pricing shall be based on the unit's type (attached or detached), size, and number of bedrooms and bathrooms, and on the HUD income limits described above when either the interim affordable covenant or final affordable covenant is executed, whichever is first.

d. Consistency with Chapter 9-13, "Inclusionary Housing," B.R.C. 1981. The Applicant agrees that with the exception of the specific requirements listed in this Agreement, implementation will be consistent with Chapter 9-13, "Inclusionary Housing," B.R.C. 1981 including but not limited to:
   i. Affordable rental unit pricing;
   ii. Proportionality for the affordable units to the type (for example, detached, duplex, and four-plex), and number of bedrooms and bathrooms to the market rate units on the property;
   iii. Unfinished floor area substitution for finished floor area; and
   iv. Covenants and deed restriction requirements prior to a building permit application for any new unit.

e. Affordable Unit Size. The minimum size of each permanently affordable detached unit shall be:

   i. One bedroom units – 900 square feet
   ii. Two bedroom units – 1,100 square feet
   iii. Three bedroom units – 1,300 square feet
   iv. Four bedroom units – 1,500 square feet

   The minimum size of each permanently affordable attached unit shall be:

   i. One bedroom units – 700 square feet
   ii. Two bedroom units – 900 square feet
   iii. Three bedroom units – 1,100 square feet
   iv. Four bedroom units – 1,300 square feet

f. Concurrency. The permanently affordable units must be provided concurrently with the market units such that for each building permit issued for one market rate unit one building permit must have been issued for an affordable unit.

g. Floor Plan Approval. Prior to signing the affordable covenant and no later than a building permit submittal for any permanently affordable units, the Applicant shall submit and obtain approval

from the City Manager for documentation, including, but not limited to, floor plans and finish specifications, demonstrating that the permanently affordable units meet the requirements of Chapter 9-13, "Inclusionary Housing," B.R.C. 1981, and are consistent with the City's Livability Guidelines and Standards for Permanently Affordable Housing.

h. Agreement to Abide by Restrictions. The Applicant agrees to construct, restrict, and sell permanently affordable units as described and required by this Agreement. The Applicant agrees that no dwelling units shall be established unless the requirements of this paragraph have been met. The Applicant further agrees that the City may withhold any approval affecting the Property, including, without limitation, a building permit, administrative review, use review, site review, and subdivision, until the requirements of this paragraph have been complied with.

10. Conveyance of Drainage. The Applicant shall convey drainage from the Property in a historic manner that does not materially and adversely affect abutting property owners.

11. Existing Wells. The City agrees that it will not prohibit the Applicant from using existing wells for irrigation purposes. Under no circumstances may existing wells be used for domestic water purposes. No person shall make any cross connections to the City's municipal water supply system from any well on the Property.

12. New Construction. All new construction commenced on the Property after annexation shall comply with all City laws, taxes, and fees, except as modified by this Agreement.

13. Laws, Rules, Guidelines and Indexes. Except as provided in this Agreement, the Parties intend to apply the law, rules and guidelines that are effective at the time of development or the issuance building permits. In the event that any such laws, rules, or guidelines are not in place, the City Manager will create similar standards for the purposes of implementing this Agreement. In the event that any indexes including without limitation the HUD Low Income Limit applicable to the City that are used in this Agreement are not in place at the time of development or the issuance of building permits, the City Manager will select or create a similar index for the purpose of implementing the requirements of this Agreement.

14. Original Instruments. Prior to the first reading of the annexation ordinance, the Applicant shall provide an original of this Agreement signed by the Applicant, along with any instruments required in this Agreement. The City agrees to hold such documents until after final legislative action on the annexation of this Property has occurred. Final legislative action by the City Council shall constitute acceptance of such documents by the City. In the event that the City does not annex the Property, the City agrees that it will return all such original documents to the Applicant. The Applicant agrees that it will not encumber or in any way take any action that compromises the quality of such documents while they are being held by the City.

15. Additional Right-of-Way. The Applicant shall reserve and not place any structure on a strip of land approximately 61 feet in width and running west to east through Parcel B1, as shown on the approved plans dated July 1, 2013. Prior to any building permit application for any building on Lot 2, the Applicant shall dedicate in fee to the City, the property shown on the approved plans dated July 1, 2013 and construct and complete the street, curbs, gutters, sidewalks, utilities and any other right of way public improvements necessary to serve Lot 2 that meets the City of Boulder Design and Construction

Standards, as part of a Technical Document Review application, the form and final location of which shall be subject to the approval of the City Manager.

16. Right to Withdraw. The Applicant retains the right to withdraw from this Agreement up until the time that final legislative action has been taken on the ordinance that will cause the Property to be annexed into the City. The final legislative action will be the vote of the City Council after the final reading of the annexation ordinance. The Applicant's right to withdraw shall terminate upon the City Council's final legislative action approving the annexation. In the event that the Applicant withdraws from this Agreement in the manner described above, this Agreement shall be null and will have no effect.

Site Review Conditions:

(The following conditions apply to 1492 Cherryvale Road, 5980, 6160, 6180 and 6234 Arapahoe Road:

1. The Applicant shall be responsible for ensuring that the **development shall be in compliance with all approved plans** dated July 1, 2013 on file in the City of Boulder Planning Department, except to the extent that the development may be modified by the conditions of approval.

2. Prior to a building permit application, the Applicant shall submit a Technical Document Review application for the following items, subject to approval of the City Manager:

   a. **Final architectural plans**, including materials and colors, to insure compliance with the intent of this approval and the architectural intent shown on the elevation plans dated July 1, 2013.

   b. A **final site plan** showing the corrections and additions requested by this approval, including building setbacks on fully dimensioned plans. A signed survey drawing should also be submitted.

   c. A **final utility plan** meeting the City of Boulder Design and Construction Standards.

   d. A **final storm water report and plan** meeting the City of Boulder Design and Construction Standards, which include information regarding the groundwater conditions (geotechnical report, soil borings, etc.) on the Property, and all discharge points for perimeter drainage systems.

   e. **Final transportation plans** meeting the City of Boulder Design and Construction Standards and CDOT Access Code Standards, for all transportation improvements. These plans must include, but are not limited to: street plan and profile drawings, street cross-sectional drawings, signage and striping plans in conformance with Manual on Uniform Traffic Control Devices (MUTCD) standards, transportation details drawings, geotechnical soils report and pavement analysis.

   f. A **detailed landscape plan**, including size, quantity, and type of plants existing and proposed; type and quality of non-living landscaping materials; any site grading proposed; and any irrigation system proposed, to insure compliance with this approval and the city's landscaping requirements. Removal of trees must receive prior approval of the Planning Department. Removal of any tree in city right-of-way must also receive prior approval of the City Forester.

g. A **detailed lighting plan** showing location, size, and intensity of illumination units.

h. **CDOT access permits** meeting the CDOT Access Code Standards for all transportation improvements within the CDOT right-of-way, including, but not limited to the following: two new right-in / right-out curb cuts on Arapahoe Road (State Route 7) as shown on the approved plans.

3. Prior to a building permit application, the Applicant shall submit a subdivision application, including a **revised Preliminary Plat and Final Plat**, subject to the review and approval of the City Manager, and execute a **subdivision agreement** meeting the requirements of Chapter 9-12, "Subdivision," B.R.C. 1981, which provide, without limitation and at no cost to the City, for the following:

    a. The dedication, to the City, of all right-of-way and easements necessary to serve the development, including, but not limited to, those shown on the approved plans dated July 1, 2013 on file in the City of Boulder Planning Department, in a final configuration and location acceptable to the City Manager, and generally described as follows:

        i. Right-of-way shown as "Oreg Drive";
        ii. A portion of Cherryvale Road right-of-way;
        iii. Public Access easement for private road north of Oreg Drive between Lot 1 and 2;
        iv. Utility easements;
        v. Drainage and Detention Pond easements; and
        vi. Ditch easement.

    b. The construction of all public improvements necessary to serve the development, including, but not limited to, the following:

        i. Cherryvale Road roundabout, curb-and-gutter and sidewalk: and
        ii. A 2nd northbound left-turn lane on northbound Cherryvale Road;
        iii. Reconstruction of the raised medians at the Arapahoe Avenue and Cherryvale Road/Private Drive intersection;
        iv. Transit stop improvements on eastbound Arapahoe Avenue;
        v. Construction of Oreg Drive;
        vi. Installation of street lighting at the roundabout crosswalks;
        vii. All water, wastewater, and storm sewer facilities.

    c. A financial guarantee, in a form acceptable to the Director of Public Works, in an amount equal to the cost of constructing all public improvements necessary to serve the development.

    d. The removal of the existing structures on 1492 Cherryvale Road as well as 6160 and 6180 Arapahoe Road.

4. Prior to building permit application, the Applicant shall submit a **financial guarantee**, in a form acceptable to the Director of Public Works, in an amount equal to the cost of providing eco-

passes to the employees of the development for three years after the issuance of a certificate of occupancy as proposed in the Applicant's Transportation Demand Management (TDM) plan.

5. The building permit application for the building addition shall show that the **building meets the energy efficiency requirements** of the 2012 IECC as locally amended. Should the 2012 IECC not have been adopted at the time of building permit application, the building permit application for each building shall show that (1) the building exceeds the energy efficiency requirements of ANSI/ASHRAE/IESNA Standard 90.1 – 2010 Energy Standard for Buildings Except for Low-Rise Residential Buildings by at least 20 percent or (2) the building is designed to meet a set of prescriptive requirements, subject to review and approval of the city manager, that result in a building that is at least 20 percent more energy efficient than the 2012 IECC requires.

6. Prior to application for any building permits on Parcels A, B1, E2, and E3, the Applicant shall submit a Land Use Review application for a Site Review, subject to the approval of the City Manager.

Use Review Conditions: The following conditions apply to the Use Reviews for 5980 Arapahoe Road for approval of a Daycare Center with ≥ 50 children, an Adult Education Facility ≥ 20,000 square feet, and an Indoor Recreational or Athletic Facility.

1. The Applicant shall ensure that the **development shall be in compliance with all approved plans** dated July 1, 2013 on file in the City of Boulder Planning Department, except to the extent that the development may be modified by the conditions of this approval. Further, the Applicant shall ensure that the approved use is operated in compliance with the following restrictions:

    a. The Applicant shall operate the business in accordance with the written statement dated July 1, 2013, and management plan dated September 3, 2012 which is attached to this Notice of Disposition.

    b. The approved use shall be closed from 11:00 p.m. to 6:00 a.m. seven days per week.

2. The Applicant shall not expand or modify the approved use, except pursuant to Subsection 9-2-15(h), B.R.C. 1981.

Approved By:

David Driskell, Executive Director
Department of Community Planning and Sustainability

**ATTACHMENTS:**

**Attachment A: Consistency Analysis with Review Criteria**
**Attachment B: Neighborhood comments and summary of meetings**
**Attachment C: Annexation Exhibits**
**Attachment D: Project Plans**
**Attachment E: Written Statement and Management Plan**
**Attachment F: Traffic and Parking Studies**

## Boulder Valley Comprehensive Plan Analysis

**1.04 Principles of Social Sustainability**
The city and county will strive to promote a healthy community and address social and cultural inequities by:
a) Respecting and valuing cultural and social diversity;

b) Ensuring the basic health and safety needs of all residents are met; and

c) Providing infrastructure and services that will encourage culturally and socially diverse communities to both prosper within and connect to the larger community.

**1.16 Adapting to Limits on Physical Expansion**
As the community expands to its planned physical boundaries, the city and county will increasingly emphasize preservation and enhancement of the physical, social and economic assets of the community. Cooperative efforts and resources will be focused on maintaining and improving the quality of life within defined physical boundaries, with only limited expansion of the city.

**1.18 Growth Requirements**
The overall effect of urban growth must add significant value to the community, improving quality of life. The city will require development and redevelopment as a whole to provide significant community benefits, achieve sustainability goals for urban form, and to maintain or improve environmental quality as a precondition for further housing and community growth.

**1.24 Annexation**
The policies in regard to annexation to be pursued by the city are:

a) Annexation will be required before adequate facilities and services are furnished.

b) The city will actively pursue annexation of county enclaves, Area II properties along the western boundary, and other fully developed Area II properties. County enclave means an unincorporated area of land entirely contained within the outer boundary of the city. Terms of annexation will be based on the amount of development potential as described in (c), (d), and (e) of this policy. Applications made to the county for development of enclaves and Area II lands in lieu of annexation will be referred to the city for review and comment. The county will attach great weight to the city's response and may require that the landowner conform to one or more of the city's development standards so that any future annexation into the city will be consistent and compatible with the city's requirements.

c) Annexation of existing substantially developed areas will be offered in a manner and on terms and conditions that respect existing lifestyles and densities. The city will expect these areas to be brought to city standards only where necessary to protect the health and safety of the residents of the subject area or of the city. The city, in developing annexation plans of reasonable cost, may phase new facilities and services. The county, which now has jurisdiction over these areas, will be a supportive partner with the city in annexation efforts to the extent the county supports the terms and conditions being proposed.

d) In order to reduce the negative impacts of new development in the Boulder Valley, the city will annex Area II land with significant development or redevelopment potential only if the annexation provides a special opportunity or benefit to the city. For annexation considerations, emphasis will be given to the benefits achieved from the creation of permanently affordable housing. Provision of the following may also be considered a special opportunity or benefit: receiving sites for transferable development rights (TDRs), reduction of future employment projections, land and/or facilities for public purposes over and above that required by the city's land use regulations, environmental preservation, or other amenities determined by the city to be a special opportunity or benefit. Parcels that are proposed for annexation that are already developed and which are seeking no greater density or building size would not be required to assume and provide that same level of community benefit as vacant parcels unless and until such time as an application for greater development is submitted.

e) Annexation of substantially developed properties that allows for some additional residential units or commercial square footage will be required to demonstrate community benefit commensurate with their impacts. Further, annexations that resolve an issue of public health without creating additional development impacts should be encouraged.

f) There will be no annexation of areas outside the boundaries of the Boulder Valley Planning Area, with the possible exception of

annexation of acquired open space.

g) Publicly owned property located in Area III and intended to remain in Area III may be annexed to the city if the property requires less than a full range of urban services or requires inclusion under city jurisdiction for health, welfare and safety reasons.

h) The Gunbarrel Subcommunity is unique because the majority of residents live in the unincorporated area and because of the shared jurisdiction for planning and service provision among the county, the city, the Gunbarrel Public Improvement District and other special districts. Although interest in voluntary annexation has been limited, the city and county continue to support the eventual annexation of Gunbarrel. If resident interest in annexation does occur in the future, the city and county will negotiate new terms of annexation with the residents.

**2.03 Compact Development Pattern**
The city and county will, by implementing the Boulder Valley Comprehensive Plan, ensure that development will take place in an orderly fashion, take advantage of existing urban services, and avoid, insofar as possible, patterns of leapfrog, noncontiguous, scattered development within the Boulder Valley. The city prefers redevelopment and infill as compared to development in an expanded Service Area in order to prevent urban sprawl and create a compact community.

**2.04 Open Space Preservation**
The city and county will permanently preserve lands with open space values by purchasing or accepting donations of fee simple interests, conservation easements or development rights and other measures as appropriate and financially feasible. Open space values include use of land for urban shaping and preservation of natural areas, environmental and cultural resources, critical ecosystems, water resources, agricultural land, scenic vistas and land for passive recreational use.

**2.05 Design of Community Edges and Entryways**
Well-defined edges and entryways for the city are important because they support an understanding and appreciation of the city's image, emphasize and preserve its natural setting, and create a clear sense of arrival and departure. Natural features are most effective as edges, but public open land, major roadways or heavy tree planting can also function as community edges. As new areas are developed, the definition of a community edge will be a design priority. Major entryways into the Boulder Valley will be identified, protected and enhanced.

**2.10 Preservation and Support for Residential Neighborhoods**
The city will work with neighborhoods to protect and enhance neighborhood character and livability and preserve the relative affordability of existing housing stock. The city will seek appropriate building scale and compatible character in new development or redevelopment, appropriately sized and sensitively designed streets and desired public facilities and mixed commercial uses. The city will also encourage neighborhood schools and safe routes to school.

**2.13 Protection of Residential Neighborhoods Adjacent to Non-residential Zones**
The city and county will take appropriate actions to ensure that the character and livability of established residential neighborhoods will not be undermined by spill-over impacts from adjacent regional or community business zones or by incremental expansion of business activities into residential areas. The city and county will protect residential neighborhoods from intrusion of non-residential uses by protecting edges and regulating the impacts of these uses on neighborhoods.

**2.14 Mix of Complementary Land Uses**
The city and county will strongly encourage, consistent with other land use policies, a variety of land uses in new developments. In existing neighborhoods, a mix of land use types, housing sizes and lot sizes may be possible if properly mitigated and respectful of neighborhood character. Wherever land uses are mixed, careful design will be required to ensure compatibility, accessibility and appropriate transitions between land uses that vary in intensity and scale.

**2.15 Compatibility of Adjacent Land Uses**
To avoid or minimize noise and visual conflicts between adjacent land uses that vary widely in use, intensity or other characteristics, the city will use tools such as interface zones, transitional areas, site and building design and cascading gradients of density in the design of subareas and zoning districts. With redevelopment, the transitional area should be within the zone of more intense use.

**2.21 Commitment to a Walkable and Accessible City**
The city and county will promote the development of a walkable and accessible city by designing neighborhoods and business areas to provide easy and safe access by foot to places such as neighborhood centers, community facilities, transit stops or centers, and shared

public spaces and amenities. The city will consider additional neighborhood-serving commercial areas where appropriate and supported by the neighbors they would serve.

**2.22 Improve Mobility Grid**
The walkability, bikeability and transit access should be improved in parts of the city that need better connectivity and mobility, for example, in East Boulder. This should be achieved by coordinating and integrating land use and transportation planning and will occur through both public investment and private development.

**2.23 Trail Corridors/Linkages**
In the process of considering development proposals, the city and county will encourage the development of paths and trails where appropriate for recreation and transportation, such as walking, hiking, bicycling or horseback riding.. Implementation will be achieved through the coordinated efforts of the private and public sectors.

**2.30 Sensitive Infill and Redevelopment**
With little vacant land remaining in the city, most new development will occur through redevelopment. The city will gear subcommunity and area planning and other efforts toward defining the acceptable amount of infill and redevelopment and standards and performance measures for design quality to avoid or adequately mitigate negative impacts and enhance the benefits of infill and redevelopment to the community and individual neighborhoods. The city will also develop tools, such as neighborhood design guidelines, to promote sensitive infill and redevelopment.

**2.32 Physical Design for People**
The city and county will take all reasonable steps to ensure that public and private development and redevelopment be designed in a manner that is sensitive to social, health and psychological needs. Broadly defined, this will include factors such as accessibility to those with limited mobility; provision of coordinated facilities for pedestrians, bicyclists and bus-riders; provision of functional landscaping and open space; and the appropriate scale and massing of buildings related to neighborhood context.

**2.33 Environmentally Sensitive Urban Design**
For capital improvements and private development, the city and county will strive to ensure that buildings, streets, utilities and other infrastructure are located and designed to protect natural systems, minimize energy use, urban heat island effects and air and water pollution, and support clean energy generation.

**2.37 Enhanced Design for Private Sector Projects**
Through its policies and programs, the city will encourage or require quality architecture and urban design in private sector development that encourages alternative modes of transportation, provides a livable environment and addresses the elements listed below.

a) The context. Projects should become a coherent part of the neighborhood in which they are placed. They should be preserved and enhanced where the surroundings have a distinctive character. Where there is a desire to improve the character of the surroundings, a new character and positive identity as established through area planning or a community involvement process should be created for the area. Special attention will be given to protecting and enhancing the quality of established residential areas that are adjacent to business areas.

b) Relationship to the public realm. Projects should relate positively to public streets, plazas, sidewalks, paths, ditches and natural features. Buildings and landscaped areas—not parking lots—should present a well-designed face to the public realm, should not block access to sunlight, and should be sensitive to important public view corridors. Future strip commercial development will be discouraged.

c) Transportation connections. Projects should provide a complete network of vehicular, bicycle and pedestrian connections both internal to the project and connecting to adjacent properties, streets and paths, including dedication of public rights-of-way and easements where required.

d) Human scale. Projects should provide pedestrian interest along streets, paths and public spaces.

e) Permeability. Projects should provide multiple opportunities to walk from the street into projects, thus presenting a street face that is permeable. Where appropriate, they should provide opportunities for visual permeability into a site to create pedestrian interest.

f) On-site open spaces. Projects should incorporate well-designed functional open spaces with quality landscaping, access to sunlight and places to sit comfortably. Where public parks or open spaces are not within close proximity, shared open spaces for a variety of activities should also be provided within developments.

g) Buildings. Buildings should be designed with a cohesive design that is comfortable to the pedestrian, with inviting entries that are visible from public rights of way. Design innovation and the use of high quality building materials are encouraged.

**3.03 Natural Ecosystems**
The city and county will protect and restore significant native ecosystems on public and private lands through land use planning, development review, conservation easements, acquisition and public land management practices. The protection and enhancement of biological diversity and habitat for federal endangered and threatened species and state, county and local species of concern will be emphasized. Degraded habitat may be restored and selected extirpated species may be reintroduced as a means of enhancing native flora and fauna in the Boulder Valley.

**3.04 Ecosystem Connections and Buffers**
The city and county recognize the importance of preserving large areas of unfragmented habitat in supporting the biodiversity of its natural lands and viable habitat for native species. The city and county will work together to preserve, enhance, restore and maintain undeveloped lands critical for providing ecosystem connections and buffers for joining significant ecosystems.

**3.06 Wetland and Riparian Protection**
Natural and human-made wetlands and riparian areas are valuable for their ecological and, where appropriate, recreational functions, including their ability to enhance water and air quality. Wetlands and riparian areas also function as important wildlife habitat, especially for rare, threatened and endangered plants, fish and wildlife. The city and county will continue to develop programs to protect and enhance wetlands and riparian areas in the Boulder Valley. The city will strive for no net loss of wetlands and riparian areas by discouraging their destruction or requiring
the creation and restoration of wetland and riparian areas in the rare cases when development is permitted and the filling of wetlands or destruction of riparian areas cannot be avoided.

**3.10 Urban Environmental Quality**
To the extent possible, the city and county will seek to protect the environmental quality of areas under significant human influence such as agricultural and urban lands and will balance human needs and public safety with environmental protection. The city will develop community wide programs and standards for new development and redevelopment so that negative environmental impacts will be mitigated and overall environmental quality of the urban environment will not worsen and may improve.

**6.08 Transportation Impact**
Traffic impacts from a proposed development that cause unacceptable community or environmental impacts or unacceptable reduction in level of service will be mitigated. All development will be designed and built to be multimodal, pedestrian-oriented and include strategies to reduce the vehicle miles traveled generated by the development. New development will provide continuous pedestrian, bike and transit systems through the development and connect these systems to those surrounding the development. The city and county will provide tools and resources to help businesses manage employee access and mobility and support public private partnerships, such as transportation management organizations, to facilitate these efforts.

**6.12 Neighborhood Streets Connectivity**
Neighborhood streets and alleys will be developed in a well connected and fine grained pattern to facilitate public access, to effectively disperse and distribute vehicle traffic and promote bike and pedestrian travel.

**8.05 Diversity**
The community values diversity as a source of strength and opportunity. The city and county will support the integration of diverse cultures and socio-economic groups in the physical, social, cultural and economic environments; promote opportunities for community engagement of diverse community members; and promote formal and informal representation of diverse community members in civic affairs.

**1.27 ANNEXATION**

## VI. CITY CODE CRITERIA CHECKLIST

**The policies in regard to annexation to be pursued by the city are:**

**a) Annexation will be required before adequate facilities and services are furnished.**

The site is currently undeveloped and has no connections to city systems.

**b) The city will actively pursue annexation of county enclaves, Area II properties along the western boundary, and other fully developed Area II properties. County enclave means an unincorporated area of land entirely contained within the outer boundary of the city. Terms of annexation will be based on the amount of development potential as described in (c), (d), and (e) of this policy. Applications made to the county for development of enclaves and Area II lands in lieu of annexation will be referred to the city for review and comment. The county will attach great weight to the city's response and may require that the landowner conform to one or more of the city's development standards so that any future annexation into the city will be consistent and compatible with the city's requirements.**

**c) Annexation of existing substantially developed areas will be offered in a manner and on terms and conditions that respect existing lifestyles and densities. The city will expect these areas to be brought to city standards only where necessary to protect the health and safety of the residents of the subject area or of the city. The city, in developing annexation plans of reasonable cost, may phase new facilities and services. The county, which now has jurisdiction over these areas, will be a supportive partner with the city in annexation efforts to the extent the county supports the terms and conditions being proposed.**

Not applicable; the property is vacant and not substantially developed.

**d) In order to reduce the negative impacts of new development in the Boulder Valley, the city will annex Area II land with significant development or redevelopment potential only if the annexation provides a special opportunity or benefit to the city. For annexation considerations, emphasis will be given to the benefits achieved from the creation of permanently affordable housing. Provision of the following may also be considered a special opportunity or benefit: receiving sites for transferable development rights (TDRs), reduction of future employment projections, land and/or facilities for public purposes over and above that required by the city's land use regulations, environmental preservation, or other amenities determined by the city to be a special opportunity or benefit. Parcels that are proposed for annexation that are already developed and which are seeking no greater density or building size would not be required to assume and provide that same level of community benefit as vacant parcels unless and until such time as an application for greater development is submitted.**

**e) Annexation of substantially developed properties that allows for some additional residential units or commercial square footage will be required to demonstrate community benefit commensurate with their impacts. Further, annexations that resolve an issue of public health without creating additional development impacts should be encouraged.**

Not applicable; the property is vacant and not substantially developed.

**f) There will be no annexation of areas outside the boundaries of the Boulder Valley Planning Area, with the possible exception of annexation of acquired open space.**

The property is within Area II of the Boulder Valley Planning Area.

**g) Publicly owned property located in Area III and intended to remain in Area III may be annexed to the city if the property requires less than a full range of urban services or requires inclusion under city jurisdiction for health, welfare and safety reasons.**

The property is within Area II of the Boulder Valley Planning Area.

**h) The Gunbarrel Subcommunity is unique because the majority of residents live in the unincorporated area and because of the shared jurisdiction for planning and service provision among the county, the city, the Gunbarrel Public Improvement District and other special districts. Although interest in voluntary annexation has been limited, the city and county continue to support the eventual annexation of Gunbarrel. If resident interest in annexation does occur in the future, the city and county will negotiate new terms of annexation with the residents.**

Not applicable; the property is not within the Gunbarrel Subcommunity.

## CRITERIA FOR SITE REVIEW

No site review application shall be approved unless the approving agency finds that:

**(1) Boulder Valley Comprehensive Plan:**

**√ (A) The proposed site plan is consistent with the purposes and policies of the Boulder Valley Comprehensive Plan.**

*There are a number of policies that are supported by the proposed project, particularly those related to social sustainability and education, including:*

*1.04 Principles of Social Sustainability*
*2.05 Design of Community Edges and Entryways*
*2.07 Design of Major Entryways*
*2.17 Variety of Activity Centers*
*2.19 Compatibility of Adjacent Land Uses*
*2.31 Design of Newly-Developing Areas*
*2.32 Physical Design for People*
*2.33 Environmentally Sensitive Urban Design*
*2.37 Enhanced Design for Private Sector Projects*
*3.01 Incorporating Ecological Systems into Planning*
*3.04 Ecosystem Connections and Buffers*
*4.05 Energy-Efficient Building Design*
*5.09 Role of Arts and Cultural Programs*
*6.10 Managing Parking Supply*
*6.12 Neighborhood Streets Connectivity*
*8.05 Diversity*
*8.07 Physical Health*
*8.10 Support for Community Facilities*
*8.16 Education Resource*
*8.18 The Arts*

n/a **(B) The proposed development shall not exceed the maximum density associated if the density of existing residential development within a three hundred-foot area surrounding the site is at or exceeds the density permitted in the Boulder Valley Comprehensive Plan, then the maximum density permitted on the site shall not exceed the lesser of:**

> n/a **(i) The density permitted in the Boulder Valley Comprehensive Plan, or,**
>
> n/a **(ii) The maximum number of units that could be placed on the site without waiving or varying any of the requirements of Chapter 9-8, "Intensity Standards," B.R.C. 1981.**
>
> *Not applicable; no residential units are proposed.*

**√ (C) The proposed development's success in meeting the broad range of BVCP policies considers the economic feasibility of implementation techniques required to meet other site review criteria.**

*There are no specific Site Review criteria that, when implemented through the project, would render the project economically unfeasible.*

**(2) Site Design: Projects should preserve and enhance the community's unique sense of place through creative design that respects historic character, relationship to the natural environment, and its physical setting. Projects should utilize site design techniques which enhance the quality of the project. In determining whether this Subsection is met, the approving agency will consider the following factors:**

**_√_(A) Open Space: Open space, including, without limitation, parks, recreation areas, and playgrounds:**

**_√_(i) Useable open space is arranged to be accessible and functional;**
*Open space is arranged to be accessible and function for all residents and will serve both active and passive recreational activities through the provision of recreational activities with a combination of open play areas, formal and informal planting areas.*

_n/a_**(ii) Private open space is provided for each detached residential unit;**

*Not applicable, the proposed development will not incorporate detached residential units.*

**_√_(iii) The project provides for the preservation of or mitigation of adverse impacts to natural features, including, without limitation, healthy long-lived trees, significant plant communities, ground and surface water, wetlands, riparian areas, drainage areas, and species on the federal Endangered Species List, "Species of Special Concern in Boulder County" designated by Boulder County, or prairie dogs (Cynomys ludiovicianus) which is a species of local concern, and their habitat;**

*There are no environmentally sensitive species or habitats on the proposed Boulder Jewish Commons building site. Although some mature trees will be removed, the proposed landscaping will be a great improvement over what exists today and will provide for a significant increase in the amount of trees on-site. In addition, the development is intentionally clustered well away from the Sombrero Marsh, with the marsh being preserved in perpetuity.*

**_√_(iv) The open space provides a relief to the density, both within the project and from surrounding development;**

*The proposed project is clustered toward Arapahoe Avenue consistent with the development pattern of East Arapahoe. The open space around the building site will provide a visual and physical relief to density; as will the perpetual preservation of the Sombrero Marsh.*

**_√_(v) Open space designed for active recreational purposes is of a size that it will be functionally useable and located in a safe and convenient proximity to the uses to which it is meant to serve;**

*There are "active" play fields proposed on the west side of the site. They will have ornamental steel picket fencing to keep the playfields safe and allow convenience to the building, while still being far removed from the sensitive Marsh area.*

**_√_(vi) The open space provides a buffer to protect sensitive environmental features and natural areas; and**

*The open space adjacent to the building will be far removed from the Sombrero Marsh, but the Marsh itself is planned to be protected by a conservation easement that will have restrictions on use near the marsh at a ridge line that moves natural drainage flows toward the marsh.*

_n/a_**(vii) If possible, open space is linked to an area-or city-wide system.**

*Not applicable. There is no established area-wide or city-wide open space system in the area with the*

*exception of the multi-use path constructed on Arapahoe Avenue that connect to other paths.*

_n/a_ **(B)** ***Open Space in Mixed Use Developments (Developments that contain a mix of residential and non-residential uses)***

_√_ **(C)** ***Landscaping***

_√_ **(i) The project provides for aesthetic enhancement and a variety of plant and hard surface materials, and the selection of materials provides for a variety of colors and contrasts and the preservation or use of local native vegetation where appropriate;**

*The proposed landscape and streetscape will enhance the existing degraded field by creating clusters and rows of shade trees along with a variety of plant materials. There are also other landscape accents and surface materials proposed throughout the developed portion of the project to add variety and color.*

_√_ **(ii) Landscape design attempts to avoid, minimize, or mitigate impacts to important native species, plant communities of special concern, threatened and endangered species and habitat by integrating the existing natural environment into the project;**

*The Sombrero Marsh will be protected through annexation, and thus the development considered for this Site Review application is clustered far away from the Marsh to preserve this important ecological resource.*

_√_ **(iii) The project provides significant amounts of plant material sized in excess of the landscaping requirements of Section 9-9-10, "Landscaping and Screening Standards" and Section 9-9-11, "Streetscape Design Standards," B.R.C. 1981; and**

*The proposed landscape and streetscape plans will contain appropriately sized materials in excess of applicable landscape requirements and will be verified at the time of Technical Document Review*.

_√_ **(iv) The setbacks, yards, and useable open space along public rights-of-way are landscaped to provide attractive streetscapes, to enhance architectural features, and to contribute to the development of an attractive site plan.**

*The proposed landscape and streetscape plans will be a significant improvement over what currently exists on-site and will provide for a variety of plant and hard surface materials to provide a pleasant pedestrian environment both along Arapahoe Avenue and Cherryvale Road; as well as the new roadway connection through the site.*

_√_ **(D)** ***Circulation:*** **Circulation, including, without limitation, the transportation system that serves the property, whether public or private and whether constructed by the developer or not:**

_√_ **(i) High speeds are discouraged or a physical separation between streets and the project is provided;**

*Among the traffic calming proposals within the application is the plan for a traffic circle along Cherryvale Road. The intent in this traffic circle is to discourage high speeds both existing and as part of the*

*additional traffic that may occur with the proposed project. In addition, once into the site, the applicant has proposed rows of street trees along the new roadway of Oreg Drive which will also help to calm traffic by creating a framed street with an alee of trees that is known to slow vehicular traffic.*

**_√_ (ii) Potential conflicts with pedestrians and vehicles are minimized;**

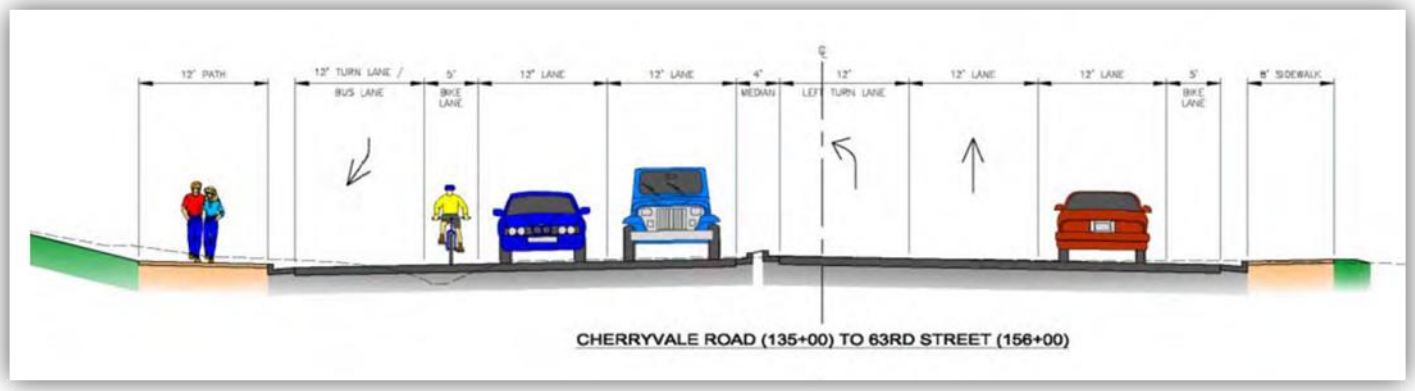
*A detached sidewalk is planned along Cherryvale Road (where none exists today) and along the newly planned Oreg Drive which will inherently move the pedestrians away from moving vehicles.*

**_√_(iii) Safe and convenient connections accessible to the public within the project and between the project and existing and proposed transportation systems are provided, including, without limitation, streets, bikeways, pedestrian ways and trails**;

*Connections to transportation systems, streets, bikeways, pedestrian ways and trails are safe, convenient, and accessible through the site through a series of interconnected walkways out to Cherryvale Road and Arapahoe Avenue which both connect to the wider street network of East Boulder.*

**_√_(iv) Alternatives to the automobile are promoted by incorporating site design techniques, land use patterns, and supporting infrastructure that supports and encourages walking, biking, and other alternatives to the single-occupant vehicle;**

*A new transit stop is planned on the southeast corner of Arapahoe Avenue and Cherryvale Road that will provide a convenient stop for the Jump bus that travels along Arapahoe Avenue. In addition, the recently implemented improvements to Arapahoe Avenue by the Colorado Department of Transportation (CDOT) were planned to augment alternatives to SOVs as shown below as the Preferred Alternative from the CDOT.*




**_√_(v) Where practical and beneficial, a significant shift away from single-occupant vehicle use to alternate modes is promoted through the use of travel demand management techniques;**

*The proposed TDM will provide a shift away from single-occupant vehicle use to alternate modes with the installation of bike racks and the provision of Eco Passes to encourage alternate modes of transit.*

__√__**(vi) On-site facilities for external linkage are provided with other modes of transportation, where applicable;**

*Visitor bike racks are planned on site to encourage external pedestrian and bicycle linkages.*

__√__**(vii) The amount of land devoted to the street system is minimized; and**

*There is no significant street system within the project, only the addition of a roadway that is intended to establish greater connectivity and break up super blocks in East Boulder.*

__√__**(viii) The project is designed for the types of traffic expected, including, without limitation, automobiles, bicycles, and pedestrians, and provides safety, separation from living areas, and control of noise and exhaust.**

*The site has been well-designed for the expected traffic needs. The access into the site will also provide broader traffic calming for Cherryvale Road, slowing traffic while not requiring stop and go travel. Bicyclists will be accommodated by a dedicated bike lane along Arapahoe and can enter the site from the less traveled north south street. Bike racks are provided in excess of the requirement on site. The site itself has detached walkways along the interior site streets with street trees to augment the separation to pedestrians.*

.

__√__**(E)** ***Parking***

__√__**(i) The project incorporates into the design of parking areas measures to provide safety, convenience, and separation of pedestrian movements from vehicular movements;**

*The parking layout includes walkways that are intended to direct pedestrian traffic through the parking lots.*

__√__**(ii) The design of parking areas makes efficient use of the land and uses the minimum amount of land necessary to meet the parking needs of the project;**

*The applicant provided a parking management plan that defined the types of uses anticipated and the parking needs to provide a realistic definition of the area needed for parking. In addition, there will be alternating times when the parking lot is utilized given the various uses that would occur during the hours of operation.*

__√__**(iii) Parking areas and lighting are designed to reduce the visual impact on the project, adjacent properties, and adjacent streets; and**

*The parking is designed to be internal to the site, thus not visible from Arapahoe Avenue and minimally visible from Cherryvale Road. Lighting will be evaluated through the Technical Document Review processes, a condition of approval for the Site Review.*

__√__**(iv) Parking areas utilize landscaping materials to provide shade in excess of the requirements**

**in Subsection 9-9-6(d), "Parking Area Design Standards," and Section 9-9-12, "Parking Lot Landscaping Standards," B.R.C. 1981.**

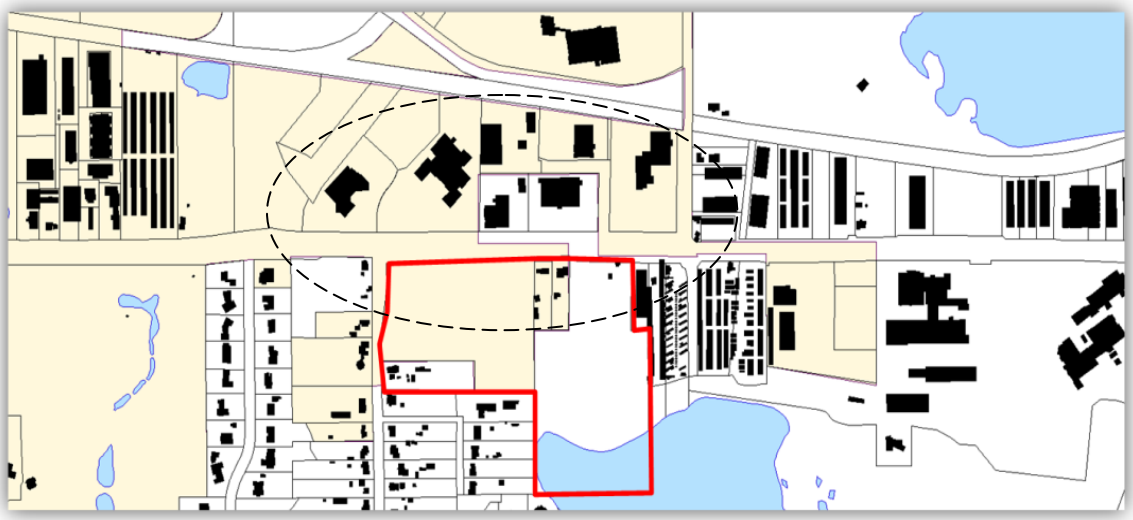
*Trees are placed with a 25 to 30 foot on-center spacing within the parking area that will create a solid canopy in several years; shrubs are also provided within parking lot islands, along with double plantings of trees on the islands to help reduce the heat island effect.*

**_√_(F) *Building Design, Livability, and Relationship to the Existing or Proposed Surrounding Area***

**_√_(i) The building height, mass, scale, orientation, and configuration are compatible with the existing character of the area or the character established by an adopted plan for the area;**

*As can be seen in the figure ground map comparison below of the existing versus proposed, the building would be located in an area along east Arapahoe Avenue where there are existing large floor plate buildings including several auto dealerships, along with light industrial manufacturing.*

**Existing**



**Proposed**

**√ (ii) The height of buildings is in general proportion to the height of existing buildings and the proposed or projected heights of approved buildings or approved plans for the immediate area;**

*The proposed one- to two-story building is compatible in the context where one- and two-story buildings exist today. The building relates more to Arapahoe Avenue rather than the residential located across the site to the south and west, and the building is more than a football field's length from the nearest residential. Therefore, the building relates well to the existing buildings in the immediate context.*

**√ (iii) The orientation of buildings minimizes shadows on and blocking of views from adjacent properties;**

*The building is located close to Arapahoe Avenue, adjacent properties to the east of the building are all under common ownership of the Boulder Jewish Commons and part of the entry from Arapahoe Avenue. The buildings across Arapahoe Avenue are located approximately200 feet away from the building, thus allowing ample solar access and views.*

**√ (iv) If the character of the area is identifiable, the project is made compatible by the appropriate use of color, materials, landscaping, signs, and lighting;**

*The character of the East Arapahoe Avenue area is eclectic. The primary characteristic that is consistent in the area is the relatively large floor plates of the nearby industrial buildings. However, the building's exterior is proposed with high quality, durable materials that include stone, brick, Glulam wood beams on a barrel roof and metal panels.*

**√ (v) Buildings present an attractive streetscape, incorporate architectural and site design elements appropriate to a pedestrian scale, and provide for the safety and convenience of pedestrians;**

*The proposed elevation facing Arapahoe Avenue has windows and a primary entryway facing the street. Similarly, the building when viewed from Cherryvale (west elevation shown above) has ample fenestration. Site design elements include walkways from the public realm into the building augmented with landscape shrub massings and rows of ornamental trees.*

**√ (vi) To the extent practical, the project provides public amenities and planned public facilities;**

*The applicant is constructing a traffic circle on Cherryvale Road for traffic calming to benefit the public. In addition, the project is an educational and cultural facility open to member of the public.*

**_n/a_(vii) For residential projects, the project assists the community in producing a variety of housing types, such as multi-family, townhouses, and detached single-family units as well as mixed lot sizes, number of bedrooms, and sizes of units;**

**_n/a_(viii) For residential projects, noise is minimized between units, between buildings, and from either on-site or off-site external sources through spacing, landscaping, and building materials;**

**_√_ (ix) A lighting plan is provided which augments security, energy conservation, safety, and aesthetics;**

*To be provided through the Technical Document Review application process as a condition of Site Review approval.*

**_√_ (x) The project incorporates the natural environment into the design and avoids, minimizes, or mitigates impacts to natural systems;**

*The intent in clustering the development of the site toward Arapahoe Avenue and away from Sombrero Marsh, with a Conservation Easement proposed over the area of the property that contains the marsh is entirely to minimize and avoid impacts to the marsh.*

**_√_ (xi) Cut and fill are minimized on the site, the design of buildings conforms to the natural contours of the land, and the site design minimizes erosion, slope instability, landslide, mudflow or subsidence, and minimizes the potential threat to property caused by geological hazards.**

*There is no significant grading cut or fill proposed on the site. Similarly, there are no known geologic hazards on the site.*

**_√_ (xi) Buildings minimize or mitigate energy use; support on-site renewable energy generation and/or energy management systems; construction wastes are minimized; the project mitigates urban heat island effects; and the project reasonably mitigates or minimizes water use and impacts on water quality.**

*As a condition of site review approval, the applicant is required to comply with IECC (International Energy Conservation Code) 2012 standards plus 20 percent.*

**_√_ (xii) Exteriors of buildings present a sense of permanence through the use of authentic materials such as stone, brick, wood, metal or similar products and building material detailing;**

*As noted in "(v)" above, the buildings utilize authentic materials including stone, brick wood and metal.*

**_√_ (xiii) Cut and fill are minimized on the site, the design of buildings conforms to the natural contours of the land, and the site design minimizes erosion, slope instability, landslide, mudflow**

**or subsidence, and minimizes the potential threat to property caused by geological hazards;**

*See criterion "(x)" above. It is also important to note that the site is essentially flat, with a very slight cross slope from northwest to southeast. However, within the southeast quadrant of the site, there is a slight ridgeline that creates a separation in drainage trends with drainage on the south side of the ridge (and far away from the developed portion of the site) moving toward the Marsh.*

n/a **(xiv) In the urbanizing areas along the Boulder Valley Comprehensive Plan boundaries between Area II and Area III, the building and site design provide for a well-defined urban edge; and**

*Not applicable to this property, far removed from Area III, and with the majority of the development envelope within Area I as shown below.*

n/a **(xv) In the urbanizing areas located on the major streets shown on the map in Appendix A of this title near the Boulder Valley Comprehensive Plan boundaries between Area II and Area III, the buildings and site design establish a sense of entry and arrival to the City by creating a defined urban edge and a transition between rural and urban areas**

*Not applicable to an Area I property.*

√ **(G) *Solar Siting and Construction:* For the purpose of ensuring the maximum potential for utilization of solar energy in the city, all applicants for residential site reviews shall place streets, lots, open spaces,**

**and buildings so as to maximize the potential for the use of solar energy in accordance with the following solar siting criteria:**

**_√_(i) *Placement of Open Space and Streets:* Open space areas are located wherever practical to protect buildings from shading by other buildings within the development or from buildings on adjacent properties.**

*The lot in which the building is proposed is nearly 10 acres in size. Given the size of the site, and the distance from any potentially impacted buildings, this criteria is met.*

**_√_(ii) *Lot Layout and Building Siting:* Lots are oriented and buildings are sited in a way which maximizes the solar potential of each principal building. Lots are designed to facilitate siting a structure which is unshaded by other nearby structures. Wherever practical, buildings are sited close to the north lot line to increase yard space to the south for better owner control of shading.**

*The proposed building configuration places the longest part of the building walls facing south to maximize passive solar access.*

**_√_(iii) *Building Form:* The shapes of buildings are designed to maximize utilization of solar energy. Buildings shall meet the solar access protection and solar siting requirements of Section 9-9-17, "Solar Access," B.R.C. 1981.**

*The building roof top will provide ample opportunity for roof top solar collection. The roof structure will be designed to accommodate roof top equipment per the solar access ordinance.*

**_√_(iv) *Landscaping:* The shading effects of proposed landscaping on adjacent buildings are minimized.**

*Street and landscape trees along the planned walkway and within the open space are deciduous. Therefore, during the winter months when solar gain is desired they are denuded of leaves, while during the summer months, they have a leafy canopy that provides much needed shade, reducing the heat island effect.*

**_n/a_(H) *Additional Criteria for Poles Above the Permitted Height:* No site review application for a pole above the permitted height will be approved unless the approving agency finds all of the following:**

**_n/a_(I) *Land Use Intensity Modifications***

**_n/a_(J) *Additional Criteria for Floor Area Ratio Increase for Buildings in the BR-1 District***

**CRITERIA FOR USE REVIEW: Adult Education Facility ≥ 20,000 square feet**

**USE REVIEW Criteria, Section 9-2-15(e). No use review application will be approved unless the approving agency finds all of the following:**

**__√____ (1) Consistency with Zoning and Non-Conformity: The use is consistent with the purpose of the zoning district as set forth in Section 9-5-2(c), "Zoning Districts Purposes," B.R.C. 1981, except in the case of a non-conforming use;**

*The intent of the Residential Estate is for low density residential uses. Under section 9-6-1, B.R.C. 1981, "Schedule of Permitted Land Uses" an Adult educational facility with ≥ 20,000 square feet of floor area are allowed through Use Review.*

**__√____ (2) Rationale: The use either:**

**__√____ (A) Provides direct service or convenience to or reduces adverse impacts to the surrounding uses or neighborhood;**

*Because the facility is open to the general public, access to the educational and cultural activities are available both to the residents living within the county and within the city's limits.*

**__n/a___ (B) Provides a compatible transition between higher intensity and lower intensity uses;**

**__n/a___ (C) Is necessary to foster a specific city policy, as expressed in the Boulder Valley Comprehensive Plan, including, without limitation, historic preservation, moderate income housing, residential and non-residential mixed uses in appropriate locations, and group living arrangements for special populations; or**

**__n/a___ (D) Is an existing legal non-conforming use or a change thereto that is permitted under subsection (e) of this section;**

**__√____ 3) Compatibility: The location, size, design, and operating characteristics of the proposed development or change to an existing development are such that the use will be reasonably compatible with and have minimal negative impact on the use of nearby properties or for residential uses in industrial zoning districts, the proposed *development reasonably mitigates the potential negative impacts from nearby properties;***

*The location of the building is approximately 350 feet (or 100 yards) from the nearest residential building. As such any impacts from the size or operating characteristics from the proposed development will have minimal negative impact on the use of the nearby properties. The proposed traffic circle reasonably mitigates the potential negative impacts that could be associated with the development's traffic, and the distance away from the residential mitigates any potential for noise.*

**__√____ (4) Infrastructure: As compared to development permitted under Section 9-6-1, "Schedule of Permitted Uses of Land," B.R.C. 1981, in the zone, or as compared to the existing level of impact of a non-conforming use, the proposed development will not significantly adversely affect the infrastructure of the surrounding area, including, without limitation, water, wastewater, and storm drainage utilities and streets;**

*The proposed project will be adequately served by utilities through the annexation of the adjacent parcels.*

__√____ **(5) Character of Area: The use will not change the predominant character of the surrounding area;**

*The predominant character of the surrounding area is eclectic. The location of the building oriented toward Arapahoe Avenue relates to surrounding development directly across Arapahoe where large floor plate auto dealerships and other light industrial buildings are located and surrounded by large parking areas. The addition of the attractively designed building will enhance the existing character of the area.*

__n/a___ **(6) Conversion of Dwelling Units to Non-Residential Uses: There shall be a presumption against approving the conversion of dwelling units in the residential zoning districts set forth in Subsection 9-5-2(c)(1)(a), B.R.C. 1981, to non-residential uses that are allowed pursuant to a use review, or through the change of one non-conforming use to another non-conforming use. The presumption against such a conversion may be overcome by a finding that the use to be approved serves another compelling social, human services, governmental, or recreational need in the community including, without limitation, a use for a day care center, park, religious assembly, social service use, benevolent organization use, art or craft studio space, museum, or an educational use.**

*There are no existing residential uses on the site that would be converted to non-residential uses.*

**CRITERIA FOR USE REVIEW: Daycare Center with ≥ 50 children**

**USE REVIEW Criteria, Section 9-2-15(e). No use review application will be approved unless the approving agency finds all of the following:**

__√____ **(1) Consistency with Zoning and Non-Conformity: The use is consistent with the purpose of the zoning district as set forth in Section 9-5-2(c), "Zoning Districts Purposes," B.R.C. 1981, except in the case of a non-conforming use;**

*The intent of the Residential Estate is for low density residential uses. Under section 9-6-1, B.R.C. 1981, "Schedule of Permitted Land Uses" a Daycare Center with ≥ 50 children is permitted through Use Review.*

__√____ **(2) Rationale: The use either:**

__√____ **(A) Provides direct service or convenience to or reduces adverse impacts to the surrounding uses or neighborhood;**

*Because the daycare center will be open to the general public, access to a high quality daycare facility will be enhanced for residents in both East Boulder as well as the county residents.*

__n/a___ **(B) Provides a compatible transition between higher intensity and lower intensity uses;**

__n/a___ **(C) Is necessary to foster a specific city policy, as expressed in the Boulder Valley Comprehensive Plan, including, without limitation, historic preservation, moderate income housing, residential and non-residential mixed uses in appropriate locations, and group living arrangements for special populations; or**

__n/a___ **(D) Is an existing legal non-conforming use or a change thereto that is permitted under subsection (e) of this section;**

__√____ **3) Compatibility: The location, size, design, and operating characteristics of the proposed development or change to an existing development are such that the use will be reasonably compatible with and have minimal negative impact on the use of nearby properties or for residential uses in industrial zoning districts, the proposed *development reasonably mitigates the potential negative impacts from nearby properties;***

*The location of the building is approximately 350 feet (or 100 yards) from the nearest residential building. As such any impacts from the size or operating characteristics from the proposed development will have minimal negative impact on the use of the nearby properties. The proposed traffic circle reasonably mitigates the potential negative impacts that could be associated with the development's traffic, and the distance away from the residential mitigates any potential for noise.*

__√____ **(4) Infrastructure: As compared to development permitted under Section 9-6-1, "Schedule of Permitted Uses of Land," B.R.C. 1981, in the zone, or as compared to the existing level of impact of a non-conforming use, the proposed development will not significantly adversely affect the infrastructure of the surrounding area, including, without limitation, water, wastewater, and storm drainage utilities and streets;**

*The proposed project will be adequately served by utilities through the annexation of the adjacent parcels.*

__√____ **(5) Character of Area: The use will not change the predominant character of the surrounding area;**

*The predominant character of the surrounding area is eclectic. The location of the building oriented toward Arapahoe Avenue relates to surrounding development directly across Arapahoe where large floor plate auto dealerships and other light industrial buildings are located and surrounded by large parking areas. The addition of the attractively designed building will enhance the existing character of the area.*

__n/a___ **(6) Conversion of Dwelling Units to Non-Residential Uses: There shall be a presumption against approving the conversion of dwelling units in the residential zoning districts set forth in Subsection 9-5-2(c)(1)(a), B.R.C. 1981, to non-residential uses that are allowed pursuant to a use review, or through the change of one non-conforming use to another non-conforming use. The presumption against such a conversion may be overcome by a finding that the use to be approved serves another compelling social, human services, governmental, or recreational need in the community including, without limitation, a use for a day care center, park, religious assembly, social service use, benevolent organization use, art or craft studio space, museum, or an educational use.**

*There are no existing residential uses on the site that would be converted to non-residential uses. It is important to note, however, that use for a day care center is among the "compelling social needs" that would permit conversion.*

**CRITERIA FOR USE REVIEW: Indoor Recreation or Athletic Facility**

**USE REVIEW Criteria, Section 9-2-15(e). No use review application will be approved unless the approving agency finds all of the following:**

**__√____ (1) <u>Consistency with Zoning and Non-Conformity</u>: The use is consistent with the purpose of the zoning district as set forth in Section 9-5-2(c), "Zoning Districts Purposes," B.R.C. 1981, except in the case of a non-conforming use;**

*Parcel E1 is annexed and zoned Residential--Estate (RE). An indoor recreational or athletic facility use is not permitted within the RE zoning district under Table 6-1: Use Table, of Section 9-6-1, "Schedule of Permitted Uses," B.R.C. 1981. However, the City finds that allowing an indoor recreational or athletic facility use on Parcel E1 as a use is consistent with the Boulder Valley Comprehensive Plan land use map which allows in certain residential areas limited small neighborhood shopping facilities, offices or services through special review and finds that such use on Parcel E1 would provide a community benefit. The City, therefore, agrees, subject to City Council approval by ordinance, to allow indoor recreational or athletic facility uses on Parcel E-1 as an allowed use.*

**__√____ (2) <u>Rationale</u>: The use either:**

**__√____ (A) Provides direct service or convenience to or reduces adverse impacts to the surrounding uses or neighborhood;**

*Consistent with the BVCP land use map which allows in certain residential areas offices or services through special review, staff finds that such use on Parcel E1 would provide a community benefit. In addition, a fitness facility as is proposed is typically an accessory use to educational facilities. In that regard, the facility provides a direct service or convenience to the surrounding JCC u ses.*

**__n/a___ (B) Provides a compatible transition between higher intensity and lower intensity uses;**

**__n/a___ (C) Is necessary to foster a specific city policy, as expressed in the Boulder Valley Comprehensive Plan, including, without limitation, historic preservation, moderate income housing, residential and non-residential mixed uses in appropriate locations, and group living arrangements for special populations; <u>or</u>**

**__n/a___ (D) Is an existing legal non-conforming use or a change thereto that is permitted under subsection (e) of this section;**

**__√____ 3) <u>Compatibility</u>: The location, size, design, and operating characteristics of the proposed development or change to an existing development are such that the use will be reasonably compatible with and have minimal negative impact on the use of nearby properties or for residential uses in industrial zoning districts, the proposed *development reasonably mitigates the potential negative impacts from nearby properties;***

*The location of the building is approximately 350 feet (or 100 yards) from the nearest residential building. As such any impacts from the size or operating characteristics from the proposed development will have minimal negative impact on the use of the nearby properties. The proposed traffic circle reasonably mitigates the potential negative impacts that could be associated with the development's traffic, and the distance away from the residential mitigates any potential for noise.*

__√__ **(4) Infrastructure: As compared to development permitted under Section 9-6-1, "Schedule of Permitted Uses of Land," B.R.C. 1981, in the zone, or as compared to the existing level of impact of a non-conforming use, the proposed development will not significantly adversely affect the infrastructure of the surrounding area, including, without limitation, water, wastewater, and storm drainage utilities and streets;**

*The proposed project will be adequately served by utilities through the annexation of the adjacent parcels.*

__√__ **(5) Character of Area: The use will not change the predominant character of the surrounding area;**

*The predominant character of the surrounding area is eclectic. The location of the building oriented toward Arapahoe Avenue relates to surrounding development directly across Arapahoe where large floor plate auto dealerships and other light industrial buildings are located and surrounded by large parking areas. The addition of the attractively designed building will enhance the existing character of the area.*

__n/a__ **(6) Conversion of Dwelling Units to Non-Residential Uses: There shall be a presumption against approving the conversion of dwelling units in the residential zoning districts set forth in Subsection 9-5-2(c)(1)(a), B.R.C. 1981, to non-residential uses that are allowed pursuant to a use review, or through the change of one non-conforming use to another non-conforming use. The presumption against such a conversion may be overcome by a finding that the use to be approved serves another compelling social, human services, governmental, or recreational need in the community including, without limitation, a use for a day care center, park, religious assembly, social service use, benevolent organization use, art or craft studio space, museum, or an educational use.**

*There are no existing residential uses on the site that would be converted to non-residential uses. It is important to note, however, that use for a day care center is among the "compelling social needs" that would permit conversion.*

Boulder Jewish Commons Neighborhood Meetings

On Monday, December 3, 2007 a neighborhood meeting was held at Naropa
Neighbors in attendance: Judy Renfroe, Carol Riordan, Ernie Oram, Barry Schacht, Warren and Diana Smadbach, Bev Nelson, Sidway McKay, Dan Goldberg, Bethann and Jim Myers

The site plan was presented to the neighbors present by site plan architect, David Barrett. Attention was drawn to the changes to the site plan that were based upon feedback received at a neighborhood meeting in 2005. The site design now has the JCC further removed from the neighbors, up against Arapahoe. Questions and points raised by the public at the meeting focused primarily on traffic. Will there be a speed limit on the property? Will there be traffic calming devices on the internal road? What are the hours of operation for the different uses on the site? What about security on the site? You can feel the warmth and spirit of the project through the presentation.

On October 4, 2011 a meeting was held at Bonai Shalom, 1527 Cherryvale.
Neighbors in attendance: Anne Larson, Judy Renfroe, Warren Smadbeck, Morris and Barbara Miller

Butch Weaver offered opening comments about the status of the project. The current site plan was presented by Angie Milewski from BHA design, landscape architect/site plan designer. Architectural renderings of the JCC building were shown by Rebbeca Spears, lead architect. The neighbors comments included: The building design is quite attractive. The amount of land that has to be used for parking seems large.

---

**From:** Judrenfroe@aol.com [mailto:Judrenfroe@aol.com]
**Sent:** Tuesday, March 13, 2012 1:58 PM
**To:** Guiler, Karl
**Subject:** Re: BJC Status?

Karl,
Thanks.
There was an error in downloading some of it and I got a message that it could not be decompressed, although I could open two of the files, site plan and preliminary plat.

I did not see anything in the attachment part that I could open re the staff's response. Could you send that portion of it again. Thanks in advance.

I'm studying the site plan and preliminary plat you sent. Are there changes from the original that are not obvious?

I do have more questions.

1) First, re my question about the open space/environmental preserve area: As I recall, on the BVCP, the line between that and the Medium density was the existing large irrigation ditch. That is roughly 70 feet north of the NE corner of our property. Everything south of that ditch is part of the drainage area into the marsh and is a part of water runoff to the marsh. The site plan proposes that the outlot for preservation of the marsh be moved about 170 to 200 feet south of that. Not good.

Also, the aquatic vegetation line and the usual water level line is considerably larger than what is shown. What is shown is pretty much the low water mark.

And, doesn't moving that line to the south involve a change in the BVCP?

2) I was unable to figure out how deep the utility trenches would be. If they are into our groundwater, and are not properly plugged, that will be a huge problem.

3) Why does the City want a public street? How would that affect its design?

If it is not to be used as a cut through, but only to serve this development, why would it need to be public? Why would the City want to pay for the maintenance?

I can also understand the need for it to be closed if there are security threats. That can't happen if it is public. Not only does their security affect us as well, making it public will make it more difficult to deal with trespassers into the undeveloped parts, the marsh, and the neighborhood properties (namely, us).

4) Re the raised cross walk, one of our neighborhood was told that the County had planned one, and even begun the installation of the approaches which you can see along Cherryvale, but the City didn't want it. If that is true, I'd like to ask the City to reconsider.

5) A connection to 63rd? What would the alignment for that be? Would it add more cut through traffic?

It appears to me (from daily trips per sq ft of building used by the developers traffic analysis) that traffic at build out, not counting the undeveloped lots, and not considering cut through traffic, would approximate half of existing Cherryvale traffic. That is unconscionable, if it is correct.

6) At the neighborhood meeting, we were told that the initial traffic count (2013 initial phase) would be about 1100 plus trips per day. The traffic study it seems to say that it would be about 1500 plus at the 2013 stage. Of the 1100 plus, about 650 were predicted to go past our house on the north side. I assume that would not be about 900 initially along the north side of our house with the new numbers.

I'm not asking that you respond to these traffic issues in detail. I'm just raising the issues.

There are times I wonder if a combination low/medium density residential development would be less damaging than the way this appears to be heading.

Thanks again.

Judy Renfroe

---

In a message dated 3/13/2012 9:29:26 A.M. Mountain Daylight Time, GuilerK@bouldercolorado.gov writes:

Judy,

I've provided answers to your questions below. I have also attached the applicant's plans and city's review comments for your review. Please let me know if you have any additional questions.

Karl

Karl Guiler, AICP
Planner II
City of Boulder Department of Community Planning & Sustainability
Planning & Development Services Center
1739 Broadway, 3rd Floor
Boulder, CO 80306-0791Phone: 303.441.4236 Fax: 303.441.3241
Email: guilerk@bouldercolorado.gov

---

**From:** Judrenfroe@aol.com [mailto:Judrenfroe@aol.com]
**Sent:** Monday, March 12, 2012 6:12 PM
**To:** Guiler, Karl
**Subject:** BJC Status?

Karl,
Can you tell me the current status of the BJC application? Also a couple of other questions:

1. Has there been any discussion of changing the "beltway" road design?

Yes. The city is looking to have the roadway be a public right-of-way which would change the design. In our discussion with the applicant yesterday, they were looking to move the street northward.

2. Are there any more detailed plans from which we could determine the elevation of the road, and what the purpose of the retaining wall is? Is the road elevated? Is there ANY berm between the road and the property to the south?

I don't believe there is a berm proposed nor is the roadway elevated. Please see the attached plans.

3. Also is there any discussion re the boundary for land set aside for the marsh being so much farther south than it is on the BVCP?

The applicant is proposing to preserve the marsh in an outlot. The city is requested that it be deeded to the city fee simple. Please clarify your question regarding the boundary.

4. What happened to the possibility that the main entrance might be on Arapahoe Road, not Cherryvale?

The applicant is having difficulties with CDOT along Arapahoe with restricted turn movements. They are looking to make the Cherryvale entry the main entry. The city is also looking into the possibility of providing a connection from 63rd into the site as an alternative access point.

5. Is there any possibility of a raised crosswalk across Cherryvale? It would serve two purposes. I would connect the Synagogue for safer access, and it would be a safer connection for people using the new walking path to get to the bus stop on Arapahoe.

I don't believe the applicant is looking to do a raised crosswalk nor do I believe the county would approve a raised crosswalk along Cherryvale. I will have to check with our transportation division on this.

6. In terms of the two lots and an outlot, is there any issue re parts of the undeveloped lots having different zonings?

It is possible that different zoning districts would be applied based on the fact that different BVCP land uses apply to the site (i.e., Low Density and Medium Density Residential). The eastern parts of the site could be zoned Medium Density Residential to be consistent with the BVCP.

7. It appears that the zoning requested in the public notice has changed. Has it?

Upon initial submittal, the applicant was unclear about the requested zoning. See the city reviewer comments.

8. I would like to request that 1492 be annexed under RR-1 Zoning to be consistent with the Comprehensive Plan, and the rest of Cherryvale other than the already annexed corner property. I am very concerned that it is the intent to annex the rest of Cherryvale under RE zoning.

Staff agrees that RR zoning should be applied to 1492 Cherryvale and this is reflected in the reviewer comments. I don't believe the applicant is opposed to this. If they were to propose RE zoning, it would require a change to the BVCP land use map which is a more involved process.

Please advise whether or not that is the intent.

Judy Renfroe

---
**From:** Judrenfroe@aol.com [mailto:Judrenfroe@aol.com]
**Sent:** Wednesday, February 22, 2012 4:15 PM
**To:** Guiler, Karl
**Cc:** sps851@comcast.net
**Subject:** Re: Comments on BJC proposal

I forgot to mention that my last email addressed our concerns, and does not reflect the many things we like about this plan and the effort of the BJC to put the buildings and intensive uses on Arapahoe. That is very much appreciated, and I apologize if my prior email did not adequately reflect that. I was in a hurry to get it written and sent.

Please be sure to forward this follow up to the BJC as well as my concerns.

Judy Renfroe

---

## Comment Letters Received in Sept. and Oct. 2013:

**From:** Judrenfroe@aol.com [mailto:Judrenfroe@aol.com]
**Sent:** Wednesday, September 11, 2013 5:52 PM
**To:** boulderplanningboard
**Cc:** sps851@comcast.net; McLaughlin, Elaine
**Subject:** BJC proposal

TO: Boulder Planning Board Members:

I plan to attend the hearing, but here are my comments for your consideration.

We are the residential property on the south (1460 Wonderview Court) that is most severely affected by this development. We have lived here for 41 years and our family plans to keep the property as a single residence after we are gone.

We support the concept and want to see it go forward at this time. I won't tell you that the difference it is going to make to us is not going to be a shock when it actually happens. However, Butch Weaver and the BJC have done as much as they can to minimize the shock. I appreciate their efforts, both in terms of design and expense and the efforts of City staff to work with them and to recognize the concerns we have addressed in the past.

**Uses:**

It is more intense than the zoning would lead one to expect. We know that. However, the buildings have been placed close to Arapahoe, and their bulk may even help block the noise from Arapahoe, which is significant even without the current construction. We don't believe there are any other likely uses which would have lesser impact. The synagogue on Cherryvale has been a good neighbor, and we believe that the BJC will continue in that tradition. My husband and I support the combination of uses planned as set forth in this Concept Plan. We believe it is a benefit to the neighborhood and to the Boulder community in general.

I do have some questions and concerns about rental of the community hall and the hours of operation, particularly for the rental uses, but assume those can be addressed at a later date. (On a quiet day or evening we have heard the Avalon Dance Ballroom on the north side Arapahoe and, driving by at night, see people in the parking lot after operating hours.)

Likewise, it is going to be a delicate balance between adequate lighting for security, including along the public street, and light pollution, but that can be addressed at a later date.

I'm concerned about the noise from what will probably be rooftop heating and cooling equipment. The hum from

those even north of Arapahoe contributes to the ambient sound we hear late at night when Arapahoe traffic is at a minimum. Something else to address later. There are designs available to block such sound.

The traffic projections for both the internal street and ingress and egress to Cherryvale and to Arapahoe based on the most recent study seem to be less than the prior study. I hope this one is correct.

Of course storm drainage and utility trenches must be correctly designed so as not to drain or otherwise impact our ground water.

We hope the existing irrigation laterals will not be put into concrete or culverts as was indicated on a prior plan, but not mentioned either way on the present concept plan. This lateral has traditionally recharged groundwater. Culverts are dangerous for pets, kids, and wildlife, and hard to keep free of debris and flowing freely.

We appreciate the trees along the south property line that are proposed to provide a buffer and help with privacy for our house, back yard, and horse barn.

**Cherryvale Entrance and Roundabout:**

I think that most of us in the neighborhood would have preferred to see the main entrance on Arapahoe, but I guess the State DOT rules prohibit that. Just as I am very concerned about traffic on Oreg Drive, residents on Cherryvale are concerned about the additional traffic that any new development will add to existing traffic woes. While there are some differences within the neighborhood regarding the best way to address this, I think it is fair to say that most people support the roundabout. We hope it will function not only to add a safe ingress/egress to the BJC, but also to discourage unnecessary cut through traffic from the south which should be using either 75th, 55th, or Foothills Parkway to begin with.

**Public Street (Oreg Drive) and Traffic:**

One of the worst impacts is due to the City's insistence that the street be a public street and that it eventually be punched through to 63rd street, and eventually to the school district property. This has left the BJC, my family, and our neighborhood between a rock and a hard place. The BJC has placed the street farther north away from our property, as far as they can to accommodate the required parking without the necessity for their visitors to cross a public street to access their facility. IF it were a private street, or simply just to serve this development, it could be designed similar to the hospital parking at Foothills Hospital with far less detriment to us or eventually to Sombrero Marsh.

I was expecting to see some speed mitigation device on the street so that it would be less likely to become a cut-through from Cherryvale to Arapahoe. Such a device would also have the effect of discouraging cut through traffic in the first place. It is unrealistic to believe it will not happen if it is put through to 63rd. Cutting through will avoid the traffic and backups on Arapahoe, and the light at Arapahoe and Cherryvale. A recent prior proposal would have put a curve in it. Either that could be restored, or a speed table could be added, without the necessity of another concept plan. Please do one or the other.

Although it can wait for another day, another concern about the City's insistence that it be punched through to 63rd street and beyond in the future is the impact on Sombrero Marsh. The whole issue of the unintended impact that the Reserve has already had on the water quality is another topic. I do not believe the Marsh can survive additional impact. Much of the water fowl and other aquatic life that was once there is gone, thanks to the changes. I need to have some discussions with the City about management and the intrusions which are already happening and having detrimental impacts.

We are concerned about whether this public street is going to increase the problems related to homeless persons in the area. Will I find them in my horse barn? Camping across the fence? How will enforcement work? (While maybe not obvious to the casual observer, there is already a noticeable and apparently growing homeless population in the general area.)

**Comments on staff memo:**

p. 2 -- Comprehensive Plan designations also include Very Low Density for 1492 Cherryvale, Not just Low Density, Medium density and Public.

p. 11 -- Is this map still accurate in terms of the line separating the conservation easement from the RM-1 parcel? I understood the proposal is to relocate the irrigation lateral which has been the boundary between the two, but that is not shown in any of the materials.

p. 15 -- There is a dedicated gravel walkway on the west side of Cherryvale from Reserve Drive to the Bonai Shalom synagogue, created when Cherryvale was repaved. It is part of the reason the "vistas" along that part of Cherryvale were "opened up" so much that speeds of cut through traffic have increased so much in that area.

P. 15 -- It's not quite accurate to say that County Staff worked with area residents to determine the best place for the roundabout. Until a couple of weeks ago we all thought it was going to be further north, and that the County would, as promised, install an additional island in that area as part of its traffic calming plan, in addition to the roundabout. We don't want to take the risk that the roundabout will be delayed or not built and we will have neither! Not sure how you should address this since it is partly a County issue, but want to make you aware of the issue. We want both if possible.

p.18 -- Fitness as a 3rd primary use via contract is OK. If it is affordable, maybe neighborhood residents will join.

p.18 -- Hours of operation? I looked every where and finally found the info at the end of the traffic study in the section on parking. As I said, the change is going to be a shock. I just hope that rental events lasting until 10 PM will not be a regular occurrence.

p. 21 -- What is the zoning to be on the Conservation easement portion? If there is some creative way to give a density credit and still zone it for open space, that would be preferable.

p. 25 -- Removal of existing structures on 1492 Cherryvale? I'm still hoping there will be a way not to demolish the house and out buildings so that the goats and chickens can remain, as well as the community gardens which have been established there. It is a delight to see and hear the children in the gardens. It seems to me the experience is just as valuable as those intended by the rest of the project.

Thank you for reading and for your consideration.

Sincerely,

Judy Renfroe
1460 Wonderview Court
(P. O. Box 17100, 80308)
303-443-8969

---

**From:** Judrenfroe@aol.com [mailto:Judrenfroe@aol.com]
**Sent:** Tuesday, September 17, 2013 4:42 PM
**To:** McLaughlin, Elaine; Kuhna, Scott; Damico, John
**Cc:** butch@irupe.com; sps851@comcast.net
**Subject:** Fwd: Sombrero Marsh overflow

Elaine, Scott, and John,

This is a forward of an email I sent to George Gerstle with the County. We have a major problem due to overflow from Sombrero Marsh.

While this is in no way the fault of the JBC, their property is the only remaining way for this water to exit. I do not believe that the current site plan drainage plan takes this into consideration. This was not a one time occurrence. It happened in 1995, although not as bad. We thought the enlarged lateral down the south side of our property would handle it, but we were very wrong.

It was 6 to 8 inches deep in our barn, and still coming when we initially dug second the trench through our yard on Friday, and it filled up again Friday night and Saturday. It didn't start going down until Monday. (We would have

dug the trench Thursday, but no one was available to do it.)

Butch and the JBC gave us permission to divert it over their property, but the additional trench we dug, was still not adequate. It overflowed when the rain started again Friday night.

We are begging you to do something to handle the overflow from the marsh. This is not a one time incident. It was serious, with water in our house and barn in 1995, but nothing like this. Please require a storm drainage path from the marsh. However, it does not seem fair that it be at the total expense of the BJC.

It is also not fair that it be through our property, house and barn, and that of the Smadbecks.

It seems to me that an open, perhaps concrete lined, channel from the Marsh to either Arapahoe or Cherryvale would be one solution. We will be happy to meet with you and discuss this as soon as you have time after things settle down.

Judy Renfroe
1460 Wonderview Court
303-443-8969 home
720-841-3540 cell

---

From: Judrenfroe@aol.com
To: ggerstle@bouldercounty.org
CC: warren@cherryvalerealty.com, dsrose9@gmail.com
Sent: 9/17/2013 2:45:50 P.M. Mountain Daylight Time
Subj: Sombrero Marsh overflow

George,

Please put this on your list of things to fix. Neal and I will be happy to meet with you and discuss this after things settle down a little. However, we are very worried the weather could defy the odds and this could happen again at any time.

This is the second time (first time 1995) since the Reserve was built that Sombrero Marsh has overflowed -- into our house and barn, ruining thousands of dollars worth of property and repair expenses, and thousands in hiring private contractors to try, with limited success this time, to divert the water around our house because it has no where to go to get out of here. The damage was less in 1995, but it is extensive this time.

Nearly all of the Reserve drains into the Sombrero Marsh. I don't think it as much of it did before the Reserve was built.

We have a trench where before 1995 there was an irrigation lateral down the south property line, and now we have another trench across our lot BETWEEN our house and barn. The two combined were not enough to take care of the flow when the marsh began to overflow this time.

What is supposed to be a detention pond west of the marsh has been converted into backyard, sprinkler system and all, complete with mowing, etc., and the person who is using it as backyard has removed the barrier that was intended to enable it to detain water. I don't know whether the County has approved that, or whether the HOA has approved it, but it is not acceptable.

I am going to contact the City also as soon as I find the appropriate email addresses.

The only way out for this water is through the JCC property on the corner of Arapahoe and Cherryvale, so they and the City are going to have to participate in any solution. Surely we should not have to maintain trenches through the middle of our residential lot.

I know we are not as badly damaged as people who have lost their homes, but we are also not in a flood plain, and the worst of this was avoidable. Because the Marsh has continued to drain, it is still flowing through our yard, delaying recovery that the rest of the neighborhood is now able to do.

The Smadbeck family is only in slightly better shape.

To emphasize, the worst part is that the worst of this was preventable, and is definitely preventable for the future.

Judy Renfroe
1460 Wonderview Court
303-443-8969
720-841-3540

---

**From:** Judrenfroe@aol.com [mailto:Judrenfroe@aol.com]
**Sent:** Wednesday, October 09, 2013 11:27 PM
**To:** Schum, Heidi; dsrose9@gmail.com
**Cc:** Kuhna, Scott; Ferro, Charles; McLaughlin, Elaine; Pannewig, Hella
**Subject:** Re: Sombrero Marsh flooding --- UPDATE

Heidi,

Are you telling me that we have to continue to let the marsh continue to overflow through our house and barn every time we have an unusual rain?? Are you aware this happened in 1995. It also happened to a lesser degree other times. And by the way, the entire Reserve has not always drained into the Marsh.

Judy Renfroe

In a message dated 10/9/2013 4:01:03 P.M. Mountain Daylight Time, SchumH@bouldercolorado.gov writes:
The rain events that occurred September 12, 13, and 14 brought unprecedented rainfall to Boulder and as a result, Sombrero Marsh filled and overtopped into adjacent land as dictated by its historic natural state. It is unfortunate that properties in the marsh's historic drainage pathway were affected however; there are no preventative drainage mitigation solutions or improvements that could be implemented without altering historic drainage patters and negatively impacting other properties.

---

**From:** 5dumas@comcast.net [mailto:5dumas@comcast.net]
**Sent:** Wednesday, October 02, 2013 4:33 PM
**To:** McLaughlin, Elaine
**Cc:** Jeffrey Dumas
**Subject:** 5980 Arapahoe Ave. needs to be zoned as flood plane and not developed

Dear Ms. McLaughlin,

In view of the fact that nearly 3 weeks after the big rains, there is STILL standing water on that huge lot **east of Cherryvale Rd. and south of Arapahoe**, (5980 Arapahoe Ave.), I would like to propose that the city of Boulder move quickly, before a planned development happens there, to re-zone that lot as flood plane and **not suitable for development**. The owners themselves might be thrilled to sell that parcel to Open Space now that they have seen what a bog it has become.

In my opinion, it needs to remain undeveloped and act as a sponge to accept water overflows thus protecting existing homes and businesses in the area. I reside at 1297 Blackbird Ct. in Boulder, an area just East of Cherryvale Road. As you well know, our neighborhood was hit hard by the flood. Imagine how much worse local properties would have been affected had that huge parcel at 5980 Arapahoe been developed with more buildings, roads and concrete.

I spoke to Boulder County Open Space, and though it is not in the city limits, they say the City Open Space is making decisions about that parcel of land. But it makes sense that you would also have tremendous influence.

Please let me know what you think of this idea and any other governing body I should speak to.

Sincerely,

Penny Dumas
303-545-9290

---

**From:** "Heidi Schum" <SchumH@bouldercolorado.gov>
**To:** "5dumas@comcast.net" <5dumas@comcast.net>
**Cc:** "Charles Ferro" <FerroC@bouldercolorado.gov>, "Scott Kuhna" <KuhnaS@bouldercolorado.gov>, "Elaine McLaughlin" <McLaughlinE@bouldercolorado.gov>, "Hella Pannewig" <Pannewigh@bouldercolorado.gov>
**Sent:** Wednesday, October 9, 2013 4:01:01 PM
**Subject:** RE: 5980 Arapahoe Ave. needs to be zoned as flood plain and not developed

Thank you for your email regarding Sombrero Marsh and the Boulder Jewish Commons property As you know, the property is currently in the city development review process. The city's development code requires that the applicant design stormwater, detention and water quality infrastructure to convey stormwater runoff in a manner that does not negatively affect adjacent properties and follows historic drainage patterns. Groundwater and the adjacent marsh will be considered by the applicant's engineer in the design of the proposed development.

As you likely know from being a resident in the area for many years, Sombrero Marsh is an exceptional ecological resource in the Boulder Valley. Sombrero Marsh is the only naturally occurring perennial open water body of its size in the Boulder Valley. Sombrero Marsh is not always wet and changes with the seasons and weather conditions. This fluctuation of water occurs in most natural wetland ecosystems. It can be dry for up to eight months of the year, while in wetter years, the Marsh may never dry out completely. The water level in the Marsh is governed by rainfall, runoff from its tributary basin and by fluctuation of the groundwater table (which is interconnected with South Boulder Creek).

Stormwater runoff into Sombrero Marsh historically flows from east to west and eventually works its way to South Boulder Creek. The attached power point illustrates this historic drainage pattern. The marsh is located at the topographic low point on the area and is essentially a bowl because it has no outfall point and no ditch or stream providing a constant flow of water in and out. The marsh is not a floodplain, since the marsh is not a watercourse, and there are no flood channels that contribute to the marsh. When the bowl fills up the historic overflow path for the marsh is through the properties at 1432, 1444, and 1460 Wonderview Ct. There have been no changes made to the marsh or this overflow path and it continues to function in its natural state. Please see the attached historic maps with 1958 topographic information.

The rain events that occurred September 12, 13, and 14 brought unprecedented rainfall to Boulder and as a result, Sombrero Marsh filled and overtopped into adjacent land as dictated by its historic natural state. It is unfortunate that properties in the marsh's historic drainage pathway were affected however; there are no preventative drainage mitigation solutions or improvements that could be implemented without altering historic drainage patters and negatively impacting other properties.

Please note that the Planning Board Annexation / Site Review public hearing for this property is scheduled for October 24th at 6:00 p.m. in the City Council Chambers located at 1777 Broadway.

Please let me know if you have any additional questions.

Heidi Schum

**Heidi Schum, P.E.**
**City of Boulder**
**Public Works**
**Development Review Manager**
**303-441-4276**
**schumh@bouldercolorado.gov**

---

**From:** 5dumas@comcast.net [mailto:5dumas@comcast.net]
**Sent:** Wednesday, October 09, 2013 4:26 PM
**To:** Schum, Heidi
**Cc:** Ferro, Charles; Kuhna, Scott; McLaughlin, Elaine; Pannewig, Hella; Jeff.Dumas
**Subject:** Re: 5980 Arapahoe Ave. needs to be zoned as flood plain and not developed

Dear Ms. Schum,

Thank you for your thoughtful and detailed reply about the 5980 Arapahoe Ave. lot.

Are you aware that there is **still** standing water on this property one month after our floods? Yes this was an unprecedented storm, but this is not the only storm when I have seen that corner of Arapahoe and Cherryvale backed up in water. Exactly where could any engineer design it to be better drained than at that corner which backs up several times per year even prior to development? It doesn't need to be a 100 year flood in order for there to be a major problem at that corner, especially if you take away the absorption properties of that corner lot. Your own chart shows that Sombrero Marsh historically drains right through that lot when it overflows.

Will the engineer who thinks it is possible to divert that future drainage, even less of which would be absorbed there due to buildings and roads on that lot, be liable if their plan fails and the neighboring properties sustain damage? Or will they say, that their new development had nothing to do with increased waters flooding our neighbors?

Sadly, I will be unable to attend the meeting on October 24th as I will be out of town. But I hope someone there represents my thoughts. Could I please count on you to be that person?

Thank you.

Penny Dumas
303-545-9290

---

**Staff Response to Letters received after August 27, 2013 (publication date of previously released memo):**

***Uses*** *: The neighbor indicated questions and concerns about the rental of the community hall and the hours of operation. As noted in Key Issue #6, and as confirmed by the applicant in the following Addendum Letter, the use of the community hall for rental receptions or banquets such as bar and bat mitzvah parties, weddings, or other activities is not anticipated to rise to the level of a primary use. According to the applicant's clarifying addendum:*

> *"perhaps well see two to three of these events per month. This refers to large rental events with smaller rentals with fewer people occurring from time to time. These events are likely to include weddings, Bar and Bat Mitzvah parties, and other gatherings of significance to our community. We anticipate rentals will comprise less than 5% of our overall operating budget and will occupy less than 4% of the operating time of the JCC.*
>
> *The Boulder JCC is designed in response to identified community need and demand. The Community Hall is conceived as a flexible space capable of offering auditorium style seating for up to 330 people or for up to 250 people seated at tables. We anticipate rentals will comprise less than 5% of our overall operating budget and will occupy less than 4% of the operating time of the JCC.*
>
> *Please note that these types of events were contemplated in our Parking Management Plan, and should pose no issue in terms of parking capacity."*

*Because the applicant has indicated from early in the planning process that the main emphasis on the Jewish Community Center is as a place of education, staff views these activities and the percentage of time that this type of use would occur on the site to be accessory to the main use of the building for day care and adult education and to be consistent with the city's definition for "Accessory Use" found in Section 9-16, B.R.C. 1981.*
*The parking and trip generation for any rental use of the community hall was already accounted for in the analysis. The hours of operation for the entire building remain the same with closing at 11:00 p.m. Similarly, it is likely that any type of rental event would occur at different times than the day use of the day care and adult education, thereby providing ample parking.*

***Light and Noise:*** *The proposed Jewish Community Center is located approximately 450 feet north of the neighboring property line. While the distance is fairly significant (as a point of reference, that distance is approximately the length of one and half football fields), lighting and noise on the property will both be subject to city lighting and noise ordinances. For example, lighting must be full cut-off fixtures that cast light downward per the Land Use Code section 9-9-16, B.R.C. 1981. The applicant has also proposed a double row of 48 evergreen trees adjacent to the neighbor's property line to mitigate headlight encroachment onto her property.*

*The applicant must comply with the Use Review conditions that don't permit use of the site past 11:00 p.m., and the noise ordinance (per chapter 5-9, B.R.C. 1981) requires that maximum decibels be permitted up to 55 dBA between the hours of 7:00 a.m. until 11:00 p.m. The neighbor indicated noise from the Avalon Ballroom can be heard after closing. It is important to note that the ballroom is located in the county and subject to county regulations for noise.*

***Internal Access Street from Cherryvale:*** *The applicant is proposing the construction of a new access roadway from the planned Cherryvale Road roundabout into the mid portion of the site. That road would connect to the access road planned into the site from Arapahoe Avenue. As a condition of Annexation, the city has required that the applicant reserve an area that would extend this roadway to the east to ultimately connect to 63rd Street. This is intended to occur at the time of redevelopment of the adjacent parcels to the east of the site that contain an industrial service building and a mobile home park, both located within the county. The intent would be to break*

*up the superblocks of roadways that exist today and establish greater connectivity. Concerns from the neighbor and others include potential impacts to the marsh from this future extension to a concern vehicles in the future would cut through the site to get to 63rd or Arapahoe Avenue to avoid the traffic signal at Cherryvale Road and Arapahoe Avenue. It is important to note in this regard that the potential roadway connection is approximately 350 feet from the Marsh, well beyond the area that will be deeded to the city, and beyond the Conservation Easement that serves as a buffer. And, while it is possible that some cut through traffic could occur in the future much of the traffic calming proposed from the traffic circle to the double left turn lanes for westbound traffic will likely keep traffic moving and not necessitate cut through traffic.*

***Roundabout:*** *Detailed traffic studies and close coordination between city and county transportation staff established the optimal location of the roundabout primarily with regard to the distance from the intersection at Cherryvale and Arapahoe and the double turn lanes that are also proposed for traffic calming.*

***Irrigation Laterals:*** *The applicant is proposing to relocate the existing irrigation lateral that currently established the divide between the BVCP land uses of Open Space to Medium Density Residential. However, the conservation easement will maintain the configuration established by the existing irrigation lateral because staff determined that configuration was the most optimal for the protection of the marsh.*

***Conservation Easement:*** *The conservation easement along with the land to be dedicated to the City with management by Open Space and Mountain Parks are both planned with an initial zoning of Public (P). The conservation easement agreement is currently in a draft form anticipated to be signed prior to second reading of the annexation ordinance. However, preliminarily, the applicant and the city have agreed to restrict access into the easement with trails or other elements. The access to the dedication-in-fee portion of the Publically zoned land will also be restricted to protect the marsh.*

***Sombrero Marsh and Flooding Issues:*** *The city's development code requires that the applicant design stormwater, detention and water quality infrastructure to convey stormwater runoff in a manner that does not negatively affect adjacent properties and follows historic drainage patterns. Groundwater and the adjacent marsh will be considered by the applicant's engineer in the design of the proposed development.*

*Sombrero Marsh is an exceptional ecological resource in the Boulder Valley. Sombrero Marsh is the only naturally occurring perennial open water body of its size in the Boulder Valley. Sombrero Marsh is not always wet and changes with the seasons and weather conditions. This fluctuation of water occurs in most natural wetland ecosystems. It can be dry for up to eight months of the year, while in wetter years, the Marsh may never dry out completely. The water level in the Marsh is governed by rainfall, runoff from its tributary basin and by fluctuation of the groundwater table (which is interconnected with South Boulder Creek).*

*Stormwater runoff into Sombrero Marsh historically flows from east to west and eventually works its way to South Boulder Creek. The attached power point illustrates this historic drainage pattern. The marsh is located at the topographic low point on the area and is essentially a bowl because it has no outfall point and no ditch or stream providing a constant flow of water in and out. The marsh is not a floodplain, since the marsh is not a watercourse, and there are no flood channels that contribute to the marsh. When the bowl fills up the historic overflow path for the marsh is through the properties at 1432, 1444, and 1460 Wonderview Ct. There have been no changes made to the marsh or this overflow path and it continues to function in its natural state. Currently, there are no preventative drainage mitigation solutions or improvements that could be implemented without altering historic drainage patters and negatively impacting other properties.*

---

**Attachment C**
**Annexation Exhibits**

Exhibit A:
Annexation No. 1 Legal Description

## ANNEXATION DESCRIPTION:

A PARCEL OF LAND LOCATED IN THE SOUTHEAST QUARTER OF SECTION 27 AND THE NORTHEAST QUARTER OF SECTION 34, BOTH IN TOWNSHIP 1 NORTH, RANGE 70 WEST OF THE 6TH P.M., COUNTY OF BOULDER, STATE OF COLORADO, DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF SAID SECTION 34;
THENCE N90°00'00"W, 513.01 FEET ALONG THE NORTHERLY LINE OF THE NORTHEAST QUARTER OF SECTION 34 (BASIS OF BEARINGS) TO THE WESTERLY LINE OF AN ANNEXATION TO THE CITY OF BOULDER (ORDINANCE NUMBER 7810, RECORDED 10/24/2011 AT RECEPTION NO. 3178758) AND THE POINT OF BEGINNING;

THENCE ALONG THE WESTERLY AND SOUTHERLY LINES OF SAID ANNEXATION THE FOLLOWING TWO COURSES:

1) S00°00'00"E, 39.40 FEET;
2) S90°00'00"E, 182.01 FEET

THENCE S00°00'00"E, 35.55 FEET TO THE SOUTHWESTERLY CORNER OF PARCEL "254B" AS DESCRIBED IN DOCUMENT RECORDED AT RECEPTION NO. 3145809 (RIGHT OF WAY DEDICATED TO THE COLORADO DEPARTMENT OF TRANSPORTATION);

THENCE ALONG THE SOUTHERLY LINE OF SAID PARCEL "254B": THE FOLLOWING COURSE:
357.94 FEET ALONG THE ARC OF A NON-TANGENT CURVE TO THE RIGHT, SAID CURVE HAVING A RADIUS OF 6,735.00 FEET, A CENTRAL ANGLE OF 03°02'42", AND A CHORD BEARING N87°12'02"W, 357.90 FEET TO THE EASTERLY LINE OF AN ANNEXATION TO THE CITY OF BOULDER (ORDINANCE NUMBER 4916, RECORDED 07/23/1985 AT RECEPTION NO. 701439)

THENCE N90°00'00"W, 139.72 FEET ALONG SAID EASTERLY ANNEXATION LINE TO THE NORTHEASTERLY CORNER OF ANNEXATION;

THENCE CONTINUING N90°00'00"W, 5.25 FEET TO THE A POINT 87.50 FEET NORTH OF THE SOUTHERLY LINE OF THE SOUTHEAST QUARTER OF SECTION 27;

THENCE ALONG A LINE PARALLEL WITH AND 87.50 FEET NORTH OF SAID SOUTHERLY LINE OF THE SOUTHEAST QUARTER OF SECTION 27 TO THE NORTHWESTERLY CORNER OF THE ANNEXATION TO THE CITY OF BOULDER (ORDINANCE NUMBER 7810, RECORDED 10/24/2011 AT RECEPTION NO. 3178758);

THENCE ALONG THE WESTERLY LINE OF SAID ANNEXATION S00°00'00"E, 87.50 FEET TO THE POINT OF BEGINNING, CONTAINING 0.74 ACRE, MORE OR LESS.

Exhibit A: Annexation No. 1 Legal Description (Map)

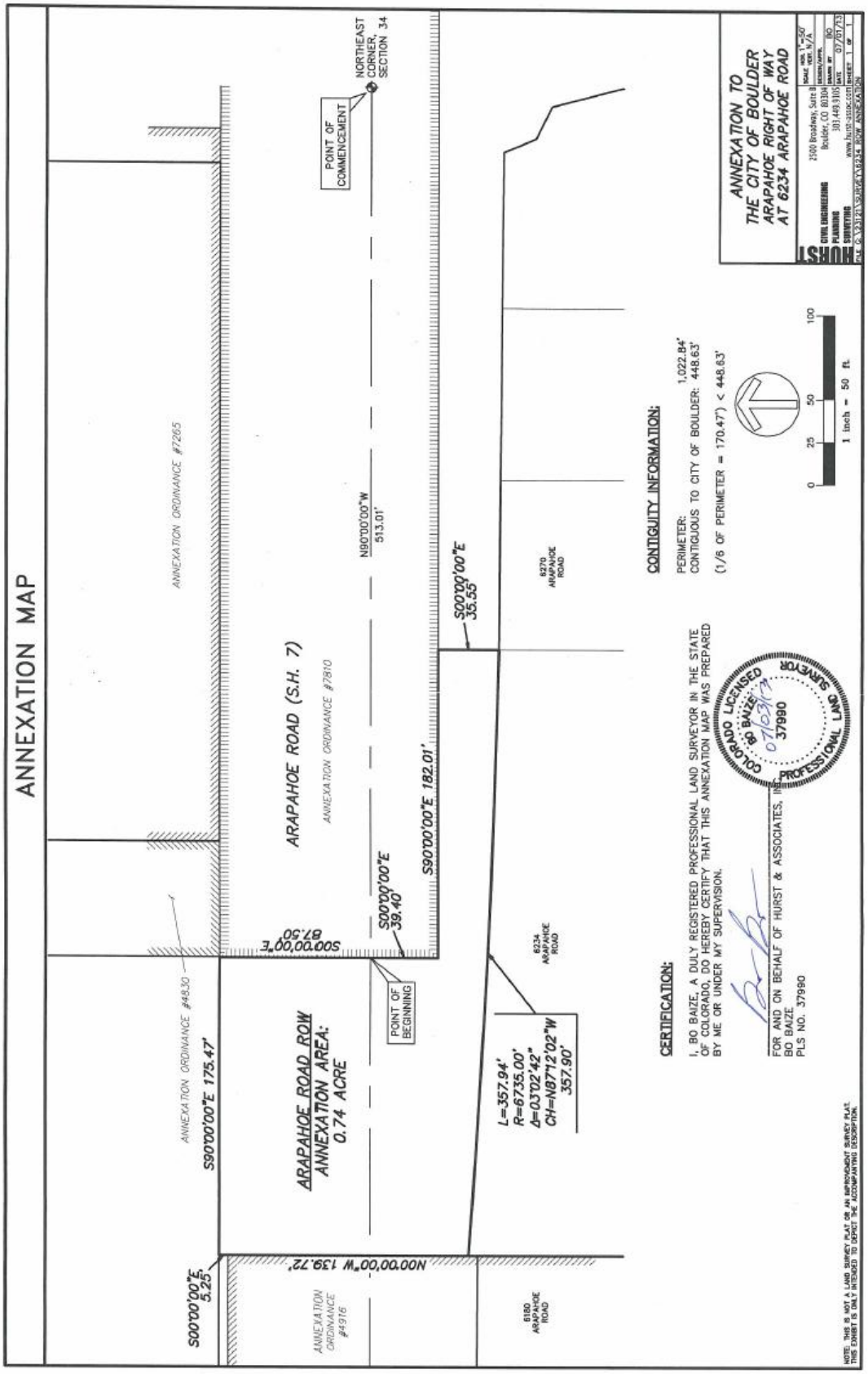


Exhibit A: Annexation No. 2 Legal Description

**ANNEXATION DESCRIPTION:**

A PARCEL OF LAND LOCATED IN THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 70 WEST OF THE 6TH P.M., COUNTY OF BOULDER, STATE OF COLORADO, DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF SAID SECTION 34;
THENCE N90°00'00"W, 331.00 FEET ALONG THE NORTHERLY LINE OF THE NORTHEAST QUARTER OF SECTION 34 TO THE NORTHEASTERLY CORNER OF A PARCEL OF LAND CONVEYED TO THE COLORADO DEPARTMENT OF HIGHWAYS IN A DOCUMENT RECORDED 07/22/1966 AT RECEPTION NO. 821786;
THENCE S00°00'00"E, 74.95 FEET ALONG THE EASTERLY LINE OF SAID PARCEL TO THE SOUTHEASTERLY CORNER OF PARCEL "254B" AS DESCRIBED IN DOCUMENT RECORDED AT RECEPTION NO. 3145809 (RIGHT OF WAY DEDICATED TO THE COLORADO DEPARTMENT OF TRANSPORTATION) AND THE POINT OF BEGINNING;

THENCE CONTINUING S00°00'00"E 360.65 FEET;
THENCE N90°00'00"E, 100.00 FEET;
THENCE S00°00'00"E, 884.40 FEET;
THENCE S90°00'00"W, 657.48 FEET;
THENCE N00°00'00"W, 394.62 FEET TO THE SOUTHWESTERLY CORNER OF A PARCEL DESCRIBED IN A DEED RECORDED 06/02/2008 AT RECEPTION NO. 2399717;
THENCE ALONG THE PERIMETER OF SAID PARCEL THE FOLLOWING THREE COURSES:
1) N90°00'00"E, 2.50 FEET;
2) N00°00'00"W, 169.98 FEET;
3) N89°43'59"W, 2.50 FEET TO A POINT ON THE EASTERLY LINE OF AN ANNEXATION TO THE CITY OF BOULDER (ORDINANCE NUMBER 4665, RECORDED 05/11/1982 AT RECEPTION NO. 494072);
THENCE N00°00'00"W, 319.78 FEET ALONG SAID EASTERLY ANNEXATION LINE TO THE SOUTHWESTERLY CORNER OF AN ANNEXATION TO THE CITY OF BOULDER (ORDINANCE NUMBER 4900, RECORDED 05/23/1985 AT RECEPTION NO. 689989);
THENCE N90°00'00"E, 100.00 FEET ALONG THE SOUTHERLY ANNEXATION LINE TO THE SOUTHWESTERLY CORNER OF AN ANNEXATION TO THE CITY OF BOULDER (ORDINANCE NUMBER 4916, RECORDED 07/23/1985 AT RECEPTION NO. 701439);
THENCE ALONG THE SOUTHERLY AND EASTERLY LINES OF SAID ANNEXATION THE FOLLOWING TWO COURSES:
1) N90°00'00"E, 100.00;
2) N00°00'00"W, 378.13 FEET TO THE SOUTHWESTERLY CORNER OF PARCEL "254B" AS DESCRIBED IN DOCUMENT RECORDED AT RECEPTION NO. 3145809 (RIGHT OF WAY DEDICATED TO THE COLORADO DEPARTMENT OF TRANSPORTATION);
THENCE ALONG THE SOUTHERLY LINE OF SAID PARCEL "254B: THE FOLLOWING COURSE:
357.94 FEET ALONG THE ARC OF A NON-TANGENT CURVE TO THE LEFT, SAID CURVE HAVING A RADIUS OF 6,735.00 FEET, A CENTRAL ANGLE OF 03°02'42", AND A CHORD BEARING S87°12'02"E, 357.90 FEET TO THE POINT OF BEGINNING, CONTAINING 16.36 ACRES, MORE OR LESS.

Exhibit A: Annexation No. 2 Legal Description (Map)

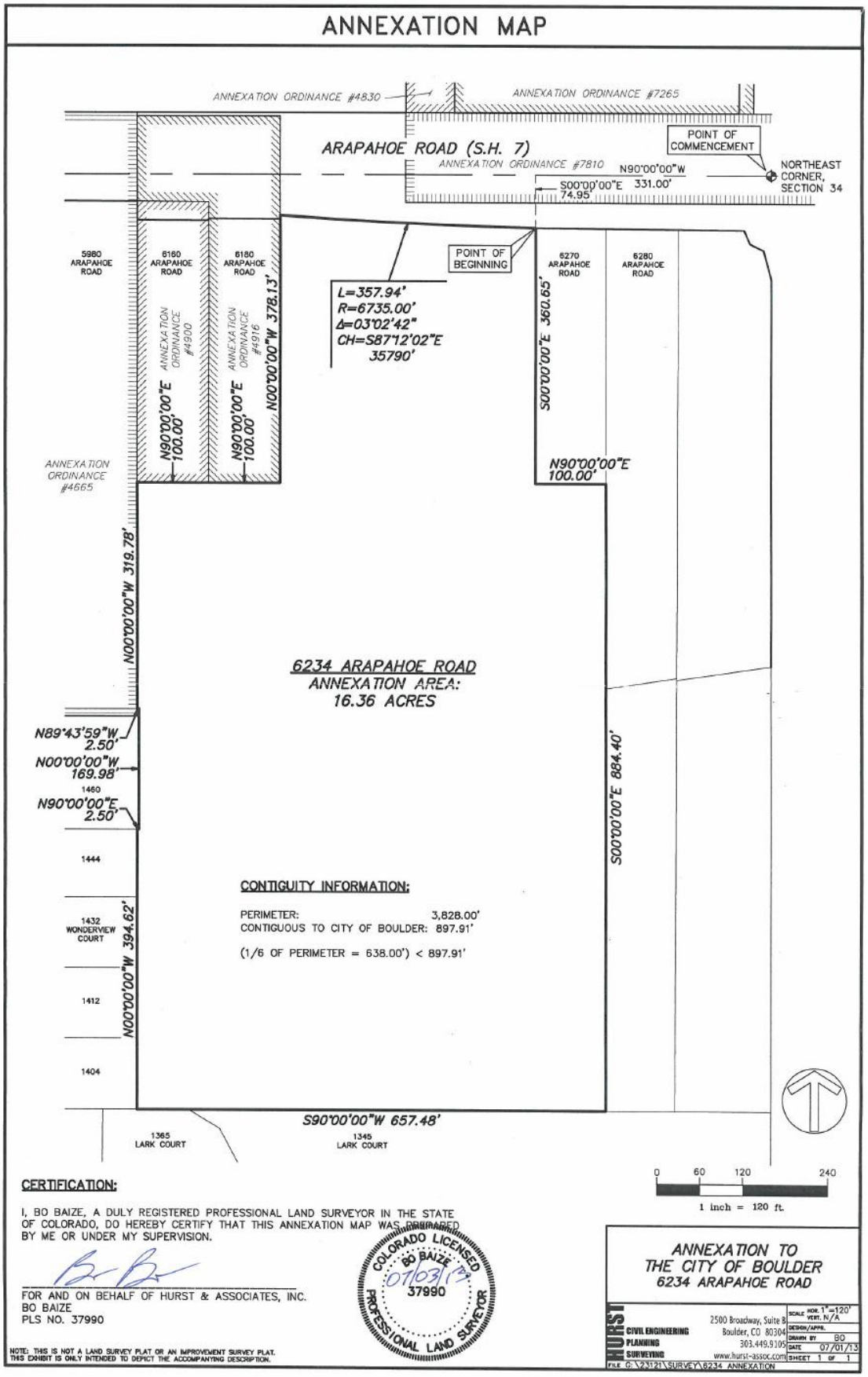


Exhibit A: Annexation No. 3 Legal Description

## ANNEXATION DESCRIPTION:

A PARCEL OF LAND LOCATED IN THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 70 WEST OF THE 6TH P.M., COUNTY OF BOULDER, STATE OF COLORADO, DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF SAID SECTION 34, FROM WHENCE THE NORTH QUARTER CORNER LIES S89°56'35"W, 2,620.17 FEET;

THENCE S00°19'26"E, 30.00 FEET;

THENCE S89°56'35"W, 1,766.96 FEET;

THENCE S00°19'26"E, 573.14 FEET TO A POINT ON THE SOUTHERLY LINE OF AN ANNEXATION TO THE CITY OF BOULDER (ORDINANCE NUMBER 4665, RECORDED 05/11/1982 AT RECEPTION NO. 494072);

THENCE ALONG SAID SOUTHERLY ANNEXATION LINE N89°56'35"E, 9.46 FEET TO THE POINT OF BEGINNING;

THENCE CONTINUING ALONG SOUTHERLY AND WESTERLY ANNEXATION LINE OF ORDINANCE 4665 THE FOLLOWING TWO COURSES:

1) N89°56'35"E 527.54 FEET;
2) S00°19'26"E, 152.24 FEET TO THE NORTHEASTERLY CORNER OF A PARCEL DESCRIBED IN A DEED RECORDED 06/02/2008 AT RECEPTION NO. 2933717;

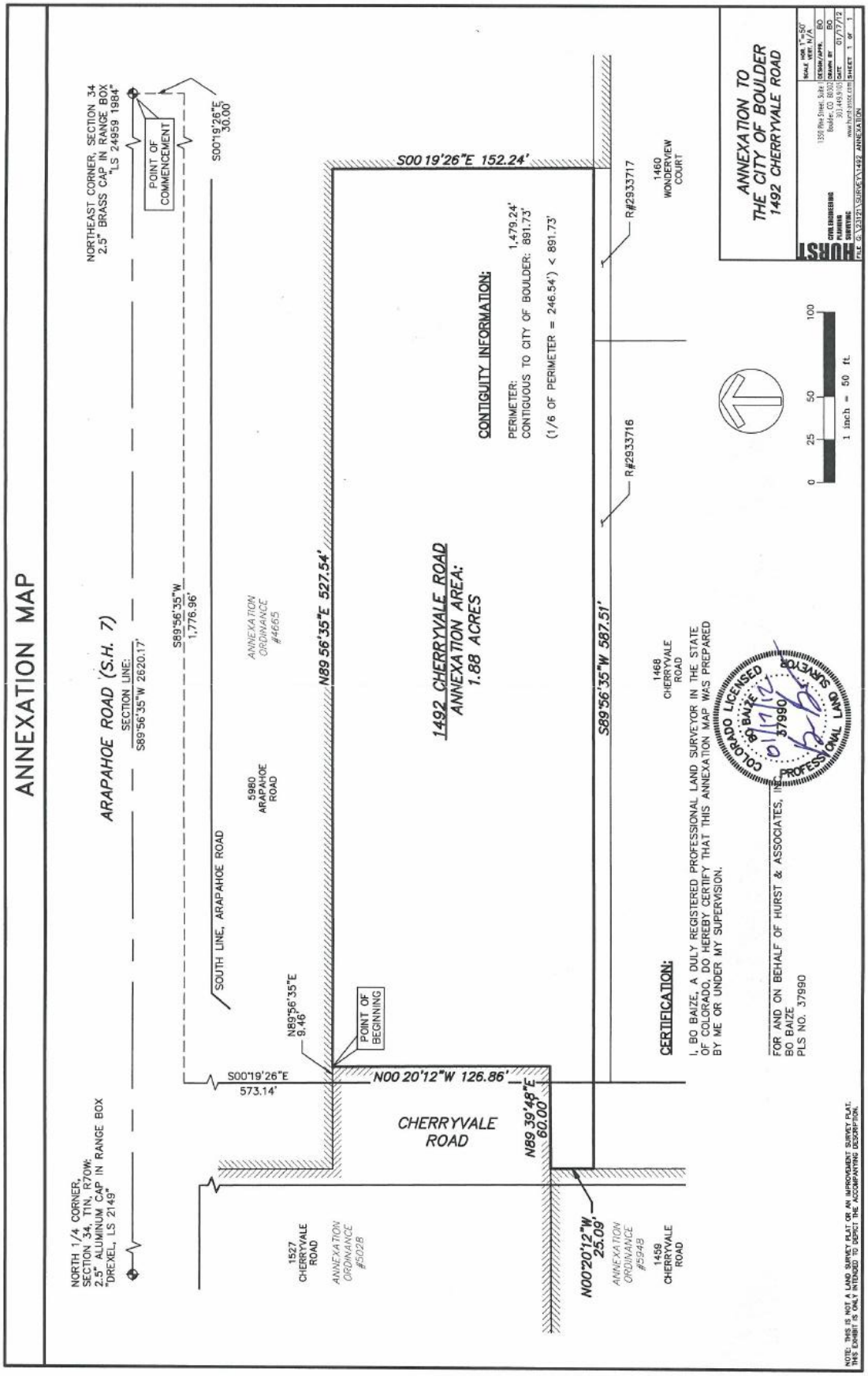
THENCE S89°56'35"W, 587.51 FEET ALONG THE NORTHERLY LINES OF SAID PARCEL AND PARCEL DESCRIBED IN A DEED RECORDED 06/02/2008 AT RECEPTION NO. 2933716 EXTENDED WESTERLY TO THE EASTERLY LINE OF AN ANNEXATION TO THE CITY OF BOULDER (ORDINANCE NUMBER 5948, RECORDED 12/09/1997 AT RECEPTION NO. 1754291);

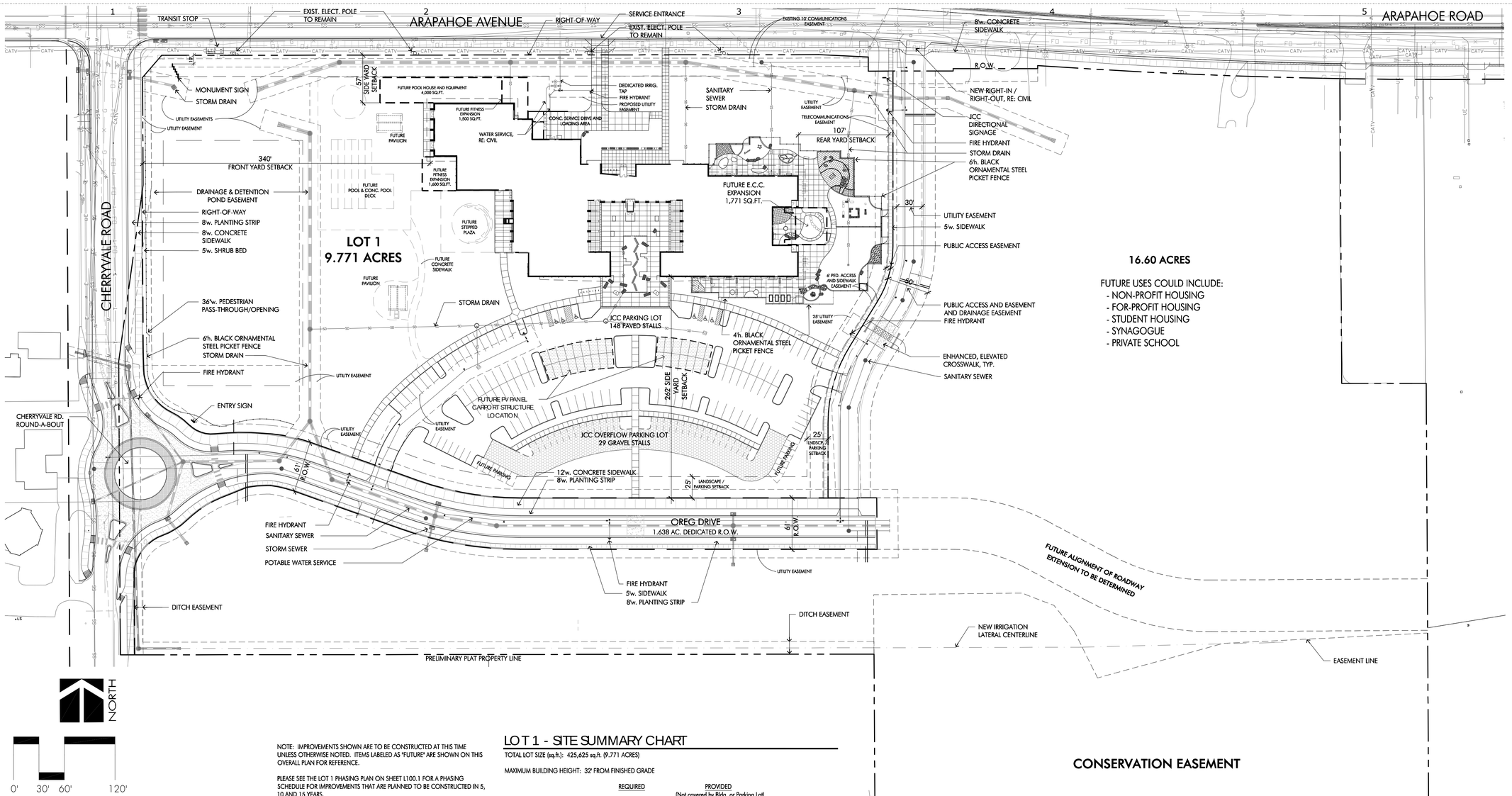
THENCE N00°20'12"W, 25.09 FEET ALONG SAID EASTERLY ANNEXATION LINE TO A POINT ON THE SOUTHERLY LINE OF AN ANNEXATION TO THE CITY OF BOULDER (ORDINANCE NUMBER 5028, RECORDED 01/30/1987 AT RECEPTION NO. 1754291;

THENCE ALONG THE SOUTHERLY AND EASTERLY ANNEXATION LINES OF ORDINANCE 5028 THE FOLLOWING TWO COURSES:

1) N89°39'48"E, 60.00 FEET;
2) N00°20'12"W, 126.86 FEET TO THE POINT OF BEGINNING, CONTAINING 81,824 SQUARE FEET OR 1.88 ACRES, MORE OR LESS.

Exhibit A: Annexation No. 3 Legal Description (Map)






NOTE: IMPROVEMENTS SHOWN ARE TO BE CONSTRUCTED AT THIS TIME UNLESS OTHERWISE NOTED. ITEMS LABELED AS "FUTURE" ARE SHOWN ON THIS OVERALL PLAN FOR REFERENCE.

PLEASE SEE THE LOT 1 PHASING PLAN ON SHEET L100.1 FOR A PHASING SCHEDULE FOR IMPROVEMENTS THAT ARE PLANNED TO BE CONSTRUCTED IN 5, 10 AND 15 YEARS.

## LOT 1 - SITE SUMMARY CHART

TOTAL LOT SIZE (sq.ft.): 425,625 sq.ft. (9.771 ACRES)

MAXIMUM BUILDING HEIGHT: 32' FROM FINISHED GRADE

| | REQUIRED | PROVIDED (Not covered by Bldg. or Parking Lot) |
|---|---|---|
| OPEN SPACE | 15%<br>63,844 sq.ft. | 70.65%<br>300,706 sq.ft. |

OPEN SPACE DETERMINED BY SUBTRACTING VEHICULAR CIRCULATION / PARKING (PAVED, GRAVEL & FUTURE) AND 1ST FLR. BLDG. SQ.FTG. (45,104) AREA(S) FROM TOTAL LOT SQ.FT.

| | | |
|---|---|---|
| BIKE PARKING SUMMARY (10% of TOTAL req'd. off street parking) | 15 | 24 |

| | | |
|---|---|---|
| BUILDING DATA | | 52,444 sq.ft. (First Floor = 45,104 sq.ft., Second Floor = 7,340 sq.ft.) |
| | Future | 11,304 sq.ft. (First Floor = 8,885 sq.ft., Second Floor = 2,419 sq.ft.) |
| | Total | 63,748 sq.ft. |
| ZONING DISTRICT | | RE |

| BUILDING SETBACK | REQUIRED FRONT | REQUIRED REAR | REQUIRED SIDE | PROVIDED FRONT | PROVIDED REAR | PROVIDED SIDE |
|---|---|---|---|---|---|---|
| | 25' | 25' | 25' | 340' | 107' | 59' (NORTH) / 262' (SOUTH) |

FRONT YARD = WEST (CHERRYVALE); REAR YARD = EAST (NEW NORTH-SOUTH ROAD)

LANDSCAPE/PARKING SETBACK 25' MIN. (ALL THREE STREET FRONTAGES)

| | | |
|---|---|---|
| TOTAL PARKING LOT SIZE | | 64,498 sq.ft. |
| | OVERFLOW | 13,622 sq.ft. |
| | FUTURE | 1,695 sq.ft. |
| | | 79,815 sq.ft. Combined Total |

| | REQUIRED | PROVIDED |
|---|---|---|
| INITIAL CONST. PAVED PARKING STALLS | 148 | 148 (133 stand. stalls = 90%, 15 small stalls = 10%) |
| TOTAL NUMBER OF GRAVEL (OVERFLOW) PARKING STALLS | - | 29 (29 small stalls = 100%) |
| FUTURE PARKING STALLS | - | 14 (small cars = 100%) |
| PARKING STALL SUMMARY | 148 | 191 (133 stand. stalls = 70%, 55 small stalls = 30%) |
| ACCESSIBLE PARKING (included within 191 "full build out" identified above) | 6 | 6 |

RB+B Architects, Inc.
315 East Mountain Ave
Suite 100
Fort Collins, CO 80524-2913
T - 970.484.0117
F - 970.484.0264
© 2009 www.rbbarchitects.com

bha
BHA Design Incorporated
1603 Oakridge Drive
Fort Collins, Colorado 80525
voice: 970.223.7577
fax: 970.223.1827

SITE REVIEW RE-SUBMITTAL

# BOULDER JEWISH COMMONS

BOULDER JCC
ARAPAHOE AND CHERRYVALE
BOULDER, CO 80303

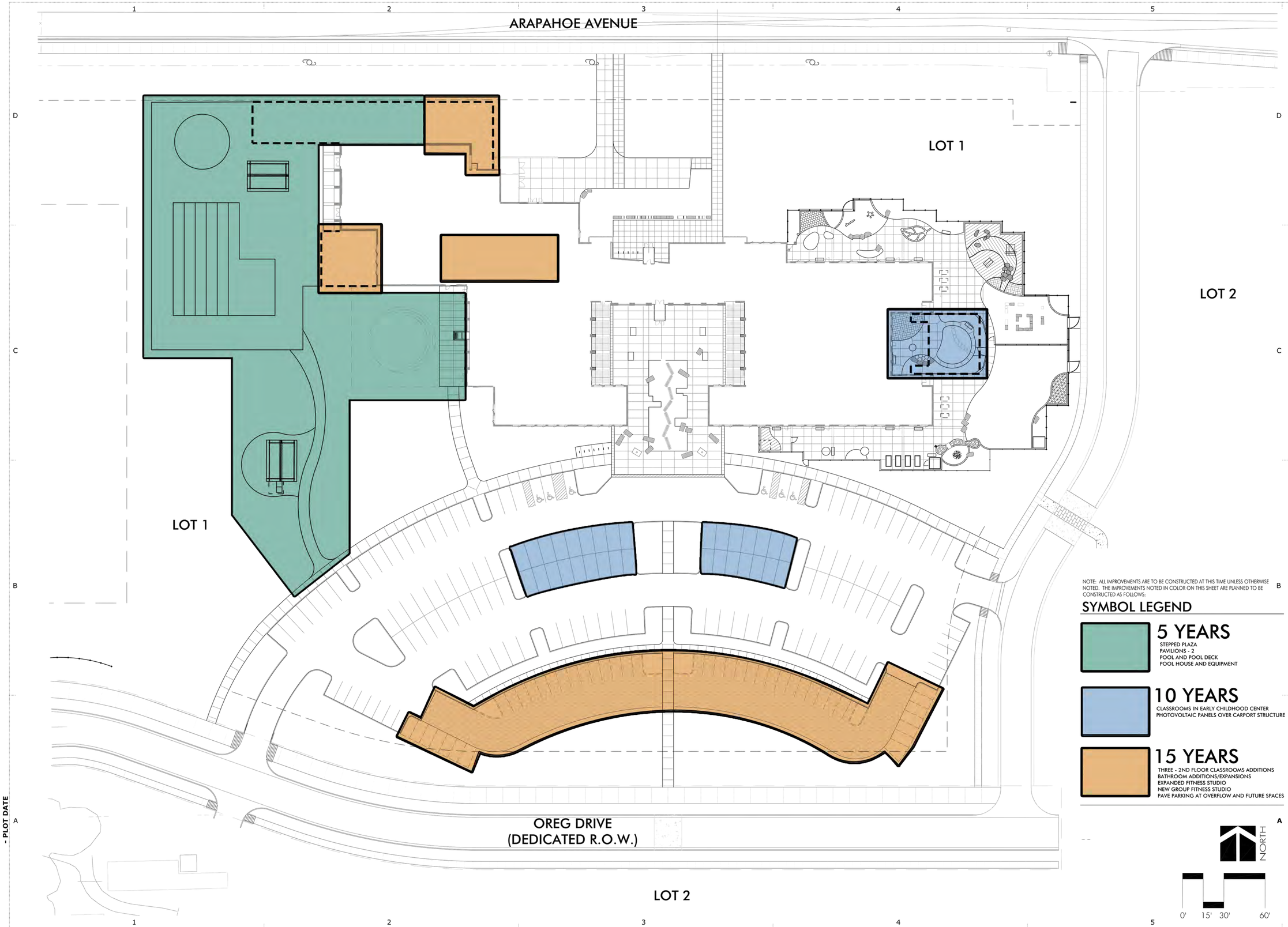
**PROJECT #:** 1118
**ISSUE DATE:** 07.01.13
**DRAWN BY:** BHA
**CHECKED BY:**

**OVERALL DEVELOPMENT SITE PLAN**

**L100**

Know what's below. Call before you dig.

- PLOT DATE 06/05/2012 10:50:02 AM




NOTE: ALL IMPROVEMENTS ARE TO BE CONSTRUCTED AT THIS TIME UNLESS OTHERWISE NOTED. THE IMPROVEMENTS NOTED IN COLOR ON THIS SHEET ARE PLANNED TO BE CONSTRUCTED AS FOLLOWS:

## SYMBOL LEGEND

### 5 YEARS
STEPPED PLAZA
PAVILIONS - 2
POOL AND POOL DECK
POOL HOUSE AND EQUIPMENT

### 10 YEARS
CLASSROOMS IN EARLY CHILDHOOD CENTER
PHOTOVOLTAIC PANELS OVER CARPORT STRUCTURE

### 15 YEARS
THREE - 2ND FLOOR CLASSROOMS ADDITIONS
BATHROOM ADDITIONS/EXPANSIONS
EXPANDED FITNESS STUDIO
NEW GROUP FITNESS STUDIO
PAVE PARKING AT OVERFLOW AND FUTURE SPACES

RB+B Architects, Inc.
315 East Mountain Ave
Suite 100
Fort Collins, CO 80524-2913
T - 970.484.0117
F - 970.484.0264
© 2009 www.rbbarchitects.com

bha
BHA Design Incorporated
1603 Oakridge Drive
Fort Collins, Colorado 80525
voice: 970.223.7577
fax: 970.223.1827

SITE REVIEW
RE-SUBMITTAL

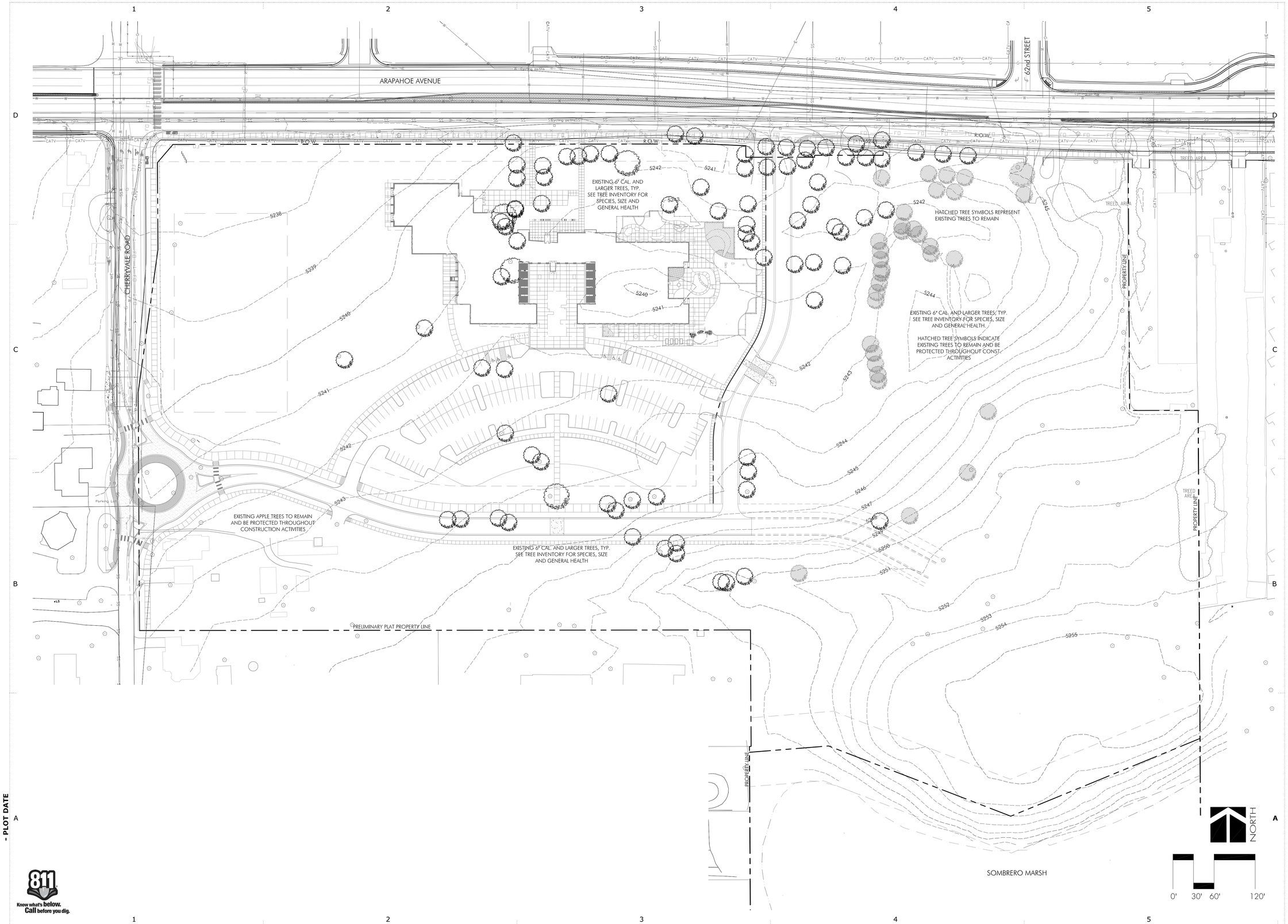
# BOULDER JEWISH COMMONS
BOULDER JCC
ARAPAHOE AND CHERRYVALE
BOULDER, CO 80303

**PROJECT #:** 1118
**ISSUE DATE:** 07/01/13
**DRAWN BY:** BHA
**CHECKED BY:**

**PHASING PLAN**

**L100.1**

06/05/2012 10:50:02 AM - PLOT DATE





RB+B Architects, Inc.
315 East Mountain Ave
Suite 100
Fort Collins, CO 80524-2913
T - 970.484.0117
F - 970.484.0264
© 2009 www.rbbarchitects.com

bha
BHA Design Incorporated
1603 Oakridge Drive
Fort Collins, Colorado 80525
voice: 970.223.7577
fax: 970.223.1827


**SITE REVIEW RE-SUBMITTAL**

# BOULDER JEWISH COMMONS

BOULDER JCC

ARAPAHOE AND CHERRYVALE
BOULDER, CO 80303

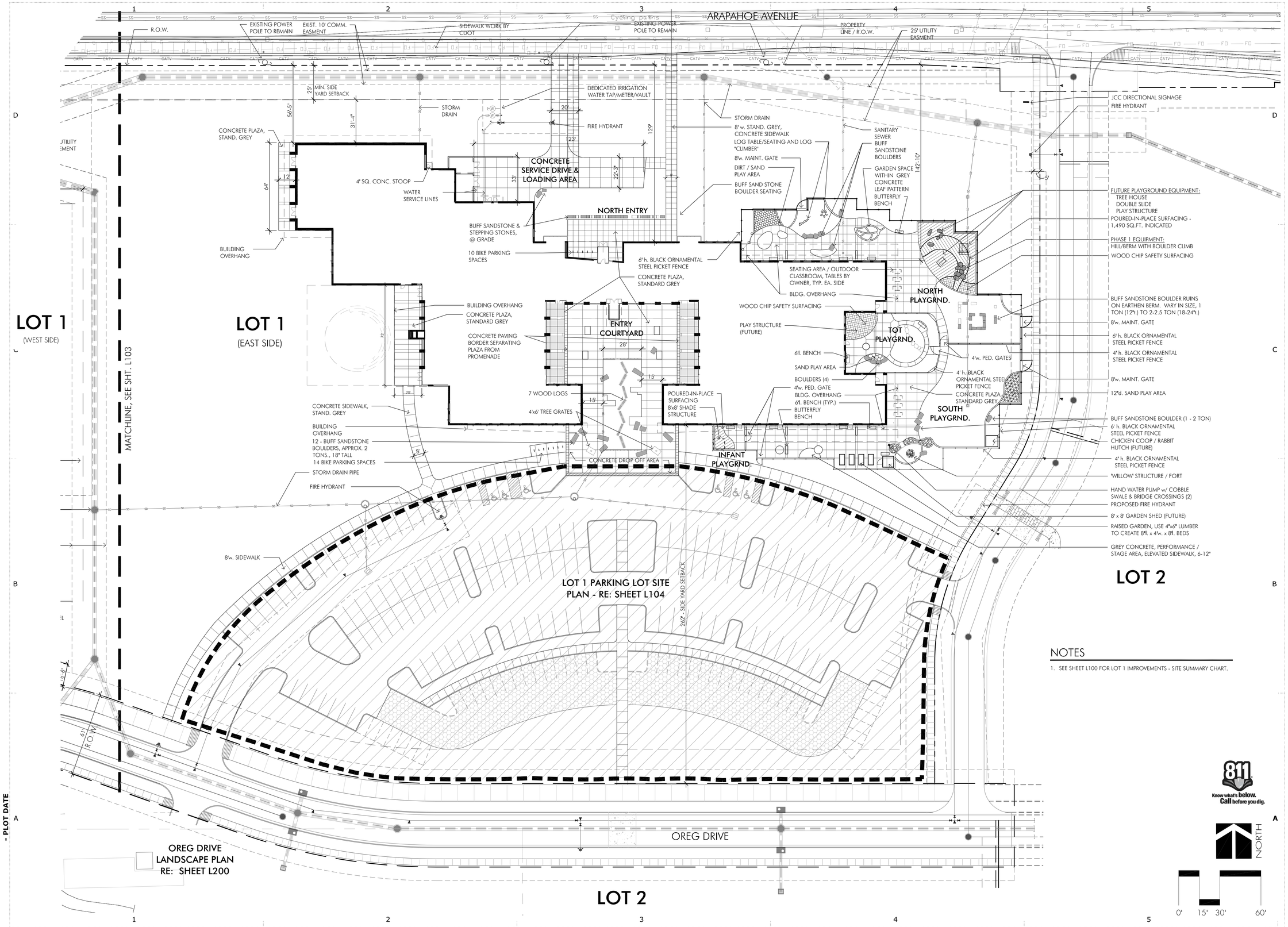
**PROJECT #:** 1118
**ISSUE DATE:** 07/01/13
**DRAWN BY:** BHA
**CHECKED BY:**

**EXISTING TOPOGRAPHIC CHARACTER / TREES - 6" CAL. AND LARGER**

**L101**

**- PLOT DATE**
06/05/2012 10:50:02 AM

Know what's below. Call before you dig.




## NOTES

1. SEE SHEET L100 FOR LOT 1 IMPROVEMENTS - SITE SUMMARY CHART.


RB+B Architects, Inc.
315 East Mountain Ave
Suite 100
Fort Collins, CO 80524-2913
T - 970.484.0117
F - 970.484.0264
© 2009 www.rbbarchitects.com

bha
BHA Design Incorporated
1603 Oakridge Drive
Fort Collins, Colorado 80525
voice: 970.223.7577
fax: 970.223.1827


**SITE REVIEW RE-SUBMITTAL**

# BOULDER JEWISH COMMONS

BOULDER JCC

ARAPAHOE AND CHERRYVALE
BOULDER, CO 80303

**PROJECT #:** 1118
**ISSUE DATE:** 07/01/13
**DRAWN BY:** BHA
**CHECKED BY:**

**LOT 1 SITE PLAN - EAST SIDE**

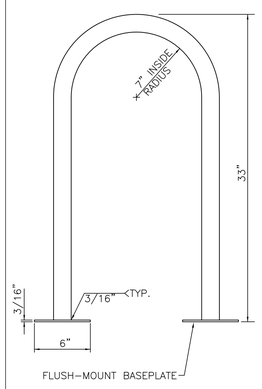
**L102**

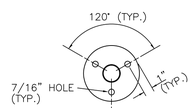
06/05/2012 10:50:02 AM - PLOT DATE

Know what's below. Call before you dig.

NOTES:
DIMENSIONS:
1. HEIGHT–33" FROM THE GROUND
2. CONTINUOUS BEND INSIDE RADIUS=7"

MATERIALS AND CONSTRUCTION:
1. MINIMUM OR 1 1/4" SCHEDULE 40 STEEL PIPE (1 5/8" OUTSIDE DIAMETER)
2. MAXIMUM 1 1/2" SCHEDULE 40 STEEL PIPE (2" OUTSIDE DIAMETER)
3. SOLID ONE–PIECE CONSTRUCTION; CONTINUOUS BEND; LEGS 14"–18" APART
4. GALVANIZED WITH BLACK POWDER COAT FINISH
5. FLUSH MOUNTED WITH WELDED BASE PLATES (6" DIAMETER, 3/16" THICK BASE PLATE). HIDDEN OR VANDAL–RESISTANT FASTENERS (SCREWS OR EXPANSION BOLTS)

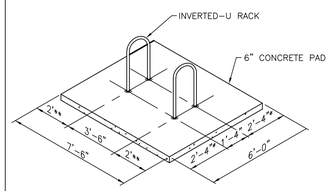



BASEPLATE DETAIL

NOTES:

EXPOSED CONCRETE SURFACE TO BE BROOM FINISHED. PAD SIZE MAY VARY AS DIRECTED BY THE ENGINEER. PAD IS TO BE CONSTRUCTED WITH CLASS B CONCRETE. EXCAVATION AND/OR EMBANKMENT REQUIRED FOR PAD CONSTRUCTION WILL NOT BE PAID FOR SEPERATELY, BUT SHALL BE INCLUDED IN THE COST OF THE PAD. CONCRETE SHALL BE SLOPED AT 2% TO DRAIN.

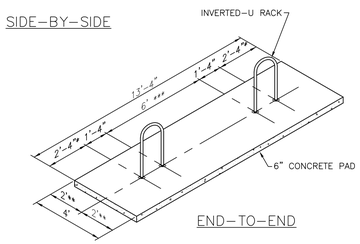



SIDE–BY–SIDE

* 3'–4" MINIMUM WHEN INSTALLED PERPENDICULAR TO A WALL OR CURB.

** 3' MINIMUM WHEN INSTALLED PARALLEL TO A WALL OR CURB. 5' MINIMUM SEPARATION FROM CURB FACE WHEN INSTALLED ADJACENT TO A CURB WITH "HEAD–IN" AUTOMOBILE PARKING.

*** 10' MINIMUM IF MORE THAN TWO "U" RACKS IN A SERIES.




END–TO–END

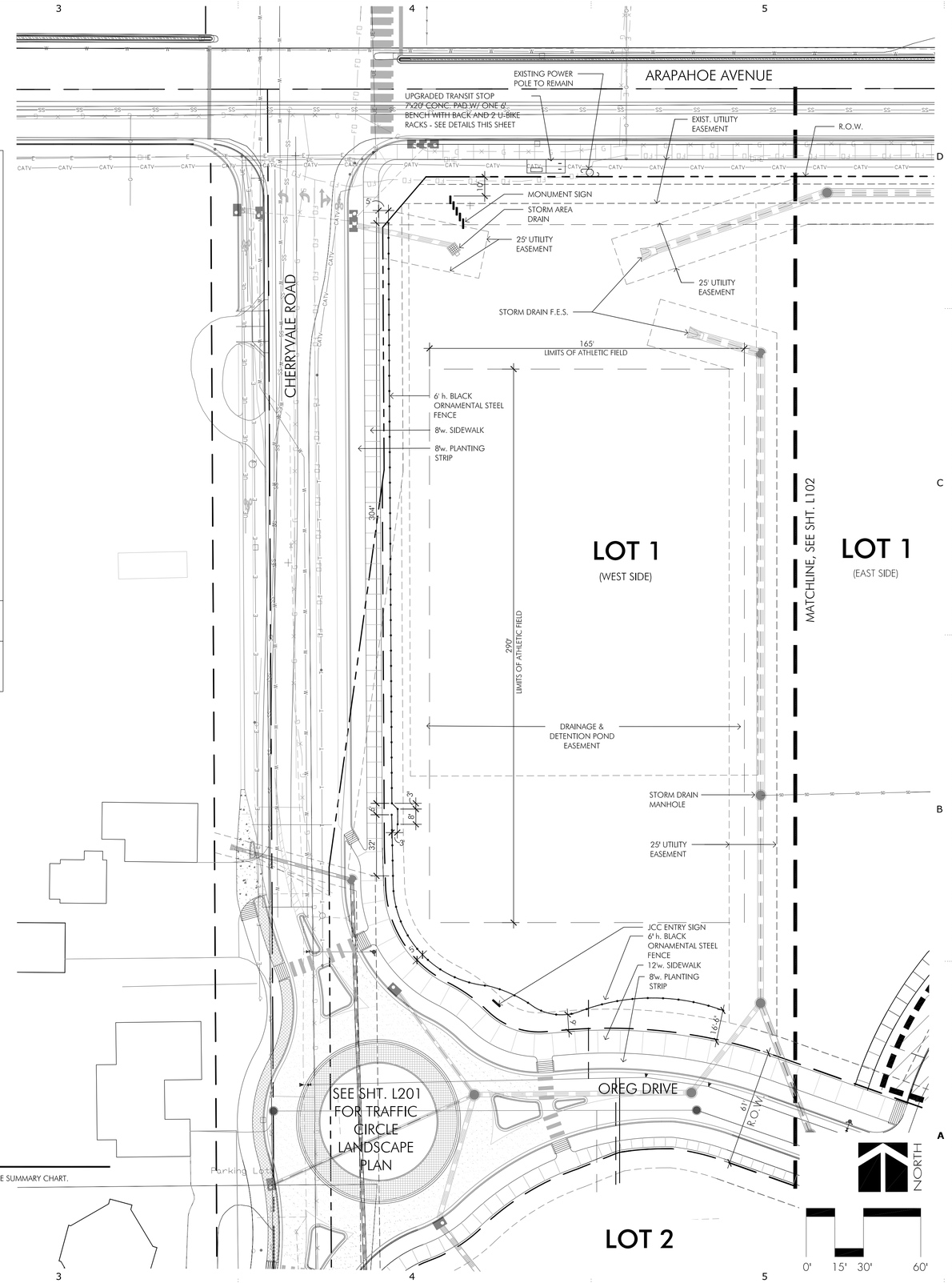
| | | | | | |
|---|---|---|---|---|---|
| DRAWN BY: JSH<br>CHECKED BY: RJH<br>APPROVED BY: DIRECTOR OF PUBLIC WORKS | CITY OF BOULDER, COLORADO<br>INVERTED "U"<br>BICYCLE RACKS | ISSUED: JULY 2, 1998<br>REVISED: OCT 6, 2009<br>DRAWING NO.<br>2.52.A | DRAWN BY: JSH<br>CHECKED BY: RJH<br>APPROVED BY: DIRECTOR OF PUBLIC WORKS | CITY OF BOULDER, COLORADO<br>INVERTED "U"<br>BICYCLE RACKS | ISSUED: JULY 2, 1998<br>REVISED: OCT 6, 2009<br>DRAWING NO.<br>2.52.B |

POWDERCOATED STEEL BIKE RACK

POWDERCOATED 'FAUX WOOD' STEEL BENCH, 6'l.

4'h. and 6'h. BLACK ORNAMENTAL STEEL FENCE

SANDSTONE BOULDERS, BUFF IN COLOR




NOTES

1. SEE SHEET L100 FOR LOT 1 IMPROVEMENTS - SITE SUMMARY CHART.


RB+B Architects, Inc.
315 East Mountain Ave
Suite 100
Fort Collins, CO 80524-2913
T - 970.484.0117
F - 970.484.0264
© 2009 www.rbbarchitects.com

BHA Design Incorporated
1603 Oakridge Drive
Fort Collins, Colorado 80525
voice: 970.223.7577
fax: 970.223.1827


SITE REVIEW
RE-SUBMITTAL

BOULDER JEWISH COMMONS
BOULDER JCC
ARAPAHOE AND CHERRYVALE
BOULDER, CO 80303

PROJECT #: 1118
ISSUE DATE: 07/01/13
DRAWN BY: BHA
CHECKED BY:

LOT 1 SITE PLAN - WEST SIDE

L103

06/05/2012 10:50:02 AM - PLOT DATE

Know what's below. Call before you dig.




PARKING AREA SUMMARY

PAVED PARKING LOT = 64,498 SQ.FT.
15 SMALL (7.75'x15') CAR
133 STANDARD (9'x19') CAR and ADA
148 TOTAL PARKING STALLS (INCLUDES 6 ADA)

GRAVEL OVERFLOW PARKING LOT = 13,622 SQ.FT.
29 SMALL (7.75'x15') CAR
29 TOTAL PARKING STALLS

FUTURE PARKING LOT = 1,695 SQ.FT.
14 SMALL (7.75x15) CAR

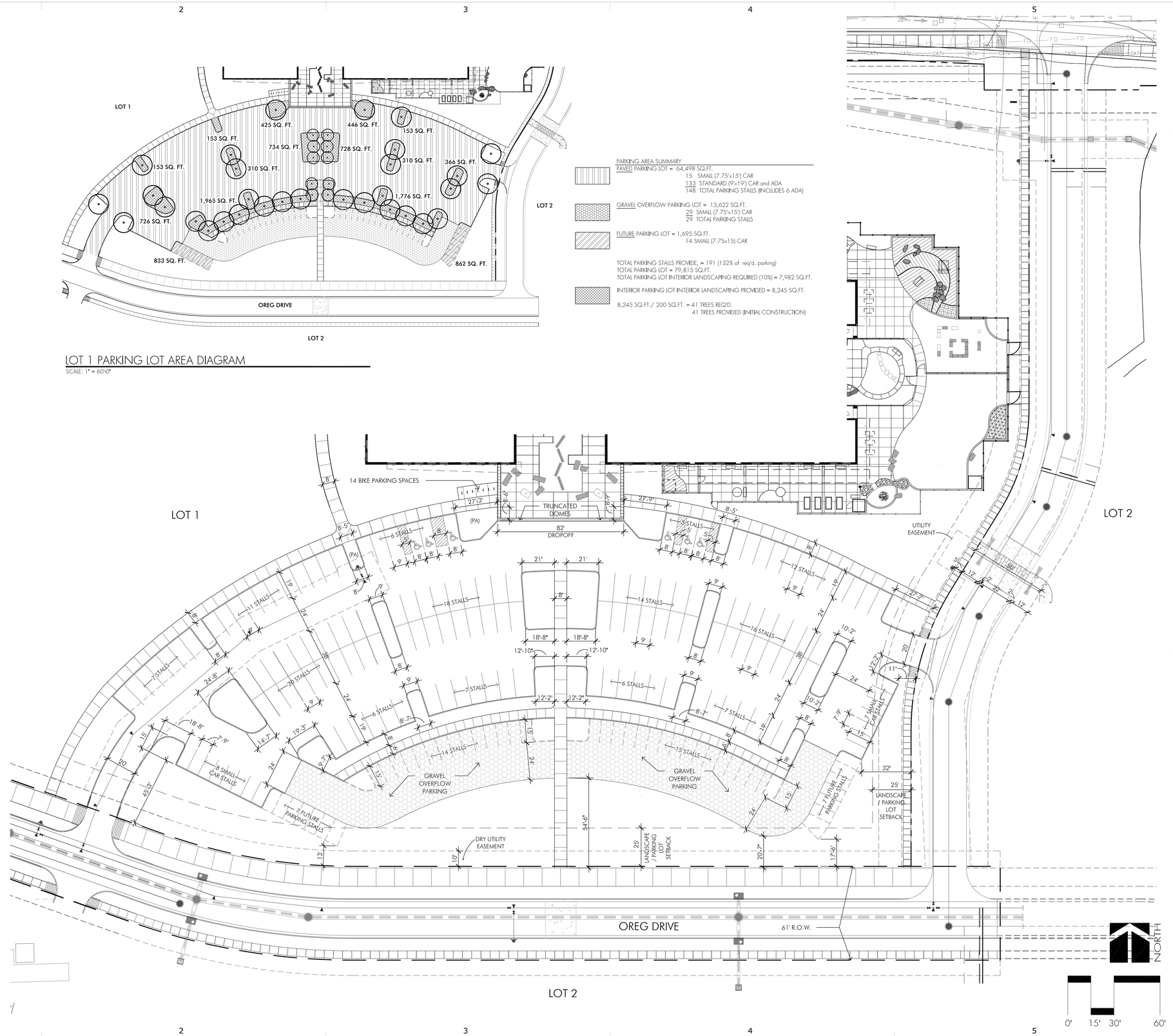
TOTAL PARKING STALLS PROVIDE, = 191 (132% of req'd. parking)
TOTAL PARKING LOT = 79,815 SQ.FT.
TOTAL PARKING LOT INTERIOR LANDSCAPING REQUIRED (10%) = 7,982 SQ.FT.

INTERIOR PARKING LOT INTERIOR LANDSCAPING PROVIDED = 8,245 SQ.FT.

8,245 SQ.FT./ 200 SQ.FT. = 41 TREES REQ'D.
41 TREES PROVIDED (INITIAL CONSTRUCTION)

## LOT 1 PARKING LOT AREA DIAGRAM

SCALE: 1" = 60'-0"





RB+B Architects, Inc.
315 East Mountain Ave
Suite 100
Fort Collins, CO 80524-2913
T - 970.484.0117
F - 970.484.0264

© 2009

www.rbbarchitects.com

bha
BHA Design Incorporated
1603 Oakridge Drive
Fort Collins, Colorado 80525
voice: 970.223.7577
fax: 970.223.1827


**SITE REVIEW RE-SUBMITTAL**

# BOULDER JEWISH COMMONS

BOULDER JCC

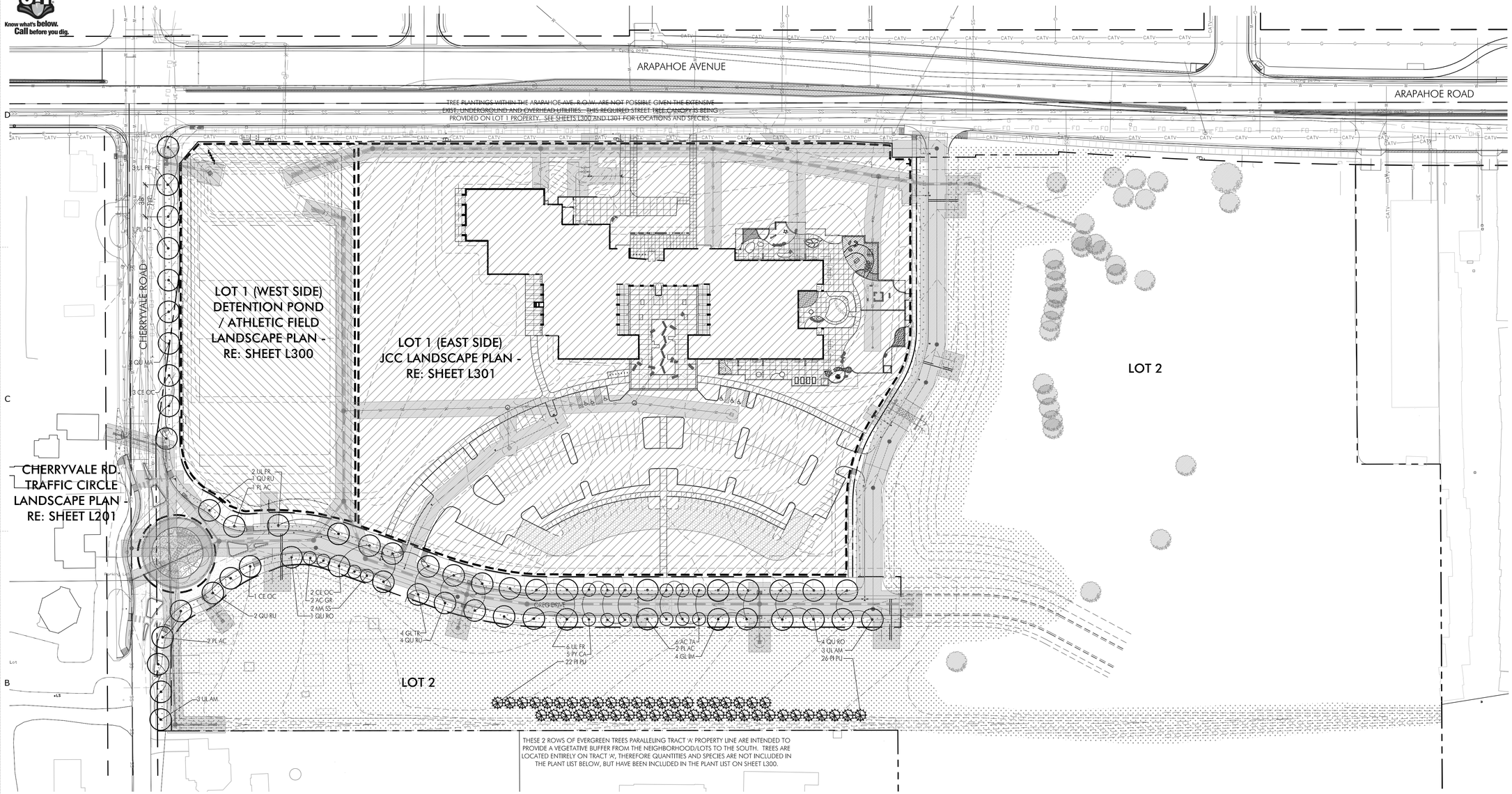
ARAPAHOE AND CHERRYVALE
BOULDER, CO 80303

**PROJECT #:** 1118
**ISSUE DATE:** 07/01/13
**DRAWN BY:** BHA
**CHECKED BY:**

**LOT 1 PARKING LOT ENLARGEMENT & AREA DIAGRAM**

**L104**

06/05/2012 10:50:02 AM
**- PLOT DATE**




## LANDSCAPING TABLE - CHERRYVALE ROAD, ARAPAHOE AVENUE & OREG DRIVE

TOTAL QUANTITY OF LANDSCAPE PLANT MATERIALS (CHERRYVALE TRAFFIC CIRCLE ONLY):

| | REQUIRED | PROVIDED | |
|---|---|---|---|
| TREES | N/A | 3 | |
| SHRUBS | N/A | 66 | |
| ORNAMENTAL GRASSES/PERENNIALS | N/A | 117 | |

TOTAL NUMBER OF STREET TREES:

| | | | |
|---|---|---|---|
| ARAPAHOE AVENUE FRONTAGE = 895 lin. ft. / 40' per tree (See Sheets L300 and L301 for Street Tree locations and species. These trees are NOT located within the ROW, therefore NOT indicated on this ROW Landscape Plan) | 23 | 24 | (All trees located on JCC property and south of the public R.O.W., given the existing and proposed underground utility conflicts and the existing overhead utility lines) |
| CHERRYVALE ROAD FRONTAGE = 800 lin.ft. / 40' per tree | 20 | 20 | (Does not include the 3 trees located within traffic circle) |
| NEW OREG DRIVE R.O.W. FRONTAGE | | | |
| North Side = 750 lin. ft. / 40' per tree | 19 | 22 | |
| South Side = 750 lin. ft. / 40' per tree | 19 | 26 | |

## LEGEND

- DECIDUOUS SHADE TREE
- ORNAMENTAL TREE
- EVERGREEN TREE
- ROLL-TOP STEEL EDGING
- SHRUBS
- ORNAMENTAL GRASSES
- IRRIGATED THERMAL BLUEGRASS SOD (LOWER WATER USE TURF)
- NATIVE SEED - TYPE 1 SEE 'NOTES' FOR SEED MIX
- UTILITY OFFSET - NO TREE PLANTING ALLOWED

## NOTES

1. ROTOR AND SPRAY IRRIGATION HEADS SHALL BE USED IN THERMAL BLUEGRASS (LOWER WATER TURF) SOD AREAS.
2. NATIVE SEEDED AREAS WILL NOT BE IRRIGATED.
3. R.O.W. AREAS WILL BE IRRIGATED WITH SPRAY (OVERHEAD) IRRIGATION AND ZONED SEPARATELY FROM ADJACENT LOTS.
4. WOOD MULCH SHALL BE USED IN SHRUB, PERENNIAL, ORNAMENTAL GRASS, AND TREE RING AREAS.TYPE 1 NATIVE SEED MIX:

PAWNEE BUTTES SEED, INC.
FOOTHILLS NATIVE MIX - 25 LBS. / ACRE

| | |
|---|---|
| 10% | INDIAN RICEGRASS |
| 10% | LITTLE BLUESTEM |
| 5% | BLUEGRAMA |
| 7.5% | YELLOW INDIANGRASS |
| 15% | SWITCHGRASS |
| 10% | ARIZONA / IDAHO FESCUE |
| 10% | SIDEOATS GRAMA |
| 10% | BLUEBUNCH WHEATGRASS |
| 10% | THICKSPIKE WHEATGRASS |
| 2.5% | SAND DROPSEED |

## PLANT LIST (INCLUDES COMBINED: ROW's, CHERRYVALE TRAFFIC CIRCLE))

| Symbol | Key | Botanical name | Common Name | Initial Planting Size | Root | Quantity | Size in Feet |
|---|---|---|---|---|---|---|---|
| DECIDUOUS CANOPY TREES | | | | | | | |
| | CE OC | Celtis occidentalis | Western Hackberry | 2" Cal. | BB | 9 | 50'-60'h. x 40'-50"w. |
| | GL TR | Gleditsia triacanthos inermis 'Shademaster' | Shademaster Honeylocust | 2" Cal. | BB | 4 | 45'h. x 35'w. |
| | GL IM | Gleditsia triacanthos inermis 'Imperial' | Imperial Honeylocust | 2" Cal. | BB | 4 | 35'h. x 35'w. |
| | PL AC | Platanus x acerifolia | London Planetree | 2" Cal. | BB | 5 | 70'h. x 50'w. |
| | QU MA | Quercus macrocarpa | Bur Oak | 2" Cal. | BB | 3 | 50'-80'h. x 50'-80'w. |
| | QU RO | Quercus robur | English Oak | 2" Cal. | BB | 5 | 40'-60'h. x 30'-40'w. |
| | QU RU | Quercus rubra | Northern Red Oak | 2" Cal. | BB | 6 | 40'-60'h. x 40'-60'w. |
| | UL AM | Ulmus americana 'Valley Forge' | Valley Forge Elm | 2" Cal. | BB | 6 | 60'h. x 60'w. |
| | UL FR | Ulmus 'Frontier' | Frontier Elm | 2" Cal. | BB | 10 | 30'h. x 20'w. |
| | | | | | TOTAL = | 52 | |
| ORNAMENTAL TREES | | | | | | | |
| | AC GR | Acer grandidentatum | Wasatch Maple | 2" Cal. | BB | 2 | 20'-30'h. x 20'-30'w. |
| | AC TA | Acer tataricum | Tatarian Maple | 2" Cal. | BB | 6 | 15'-20'h. x 15'-20'w. |
| | MA SS | Malus 'Spring Snow' (White Flowers) | Spring Snow Crabapple | 2" Cal. | BB | 2 | 20'-25'h. x 20'-25'w. |
| | PY CA | Pyrus calleryana 'Chanticleer' | Chanticleer Pear | 2" Cal. | BB | 6 | 20'-30'h x 15'-20'w. |
| | | | | | TOTAL = | 16 | |
| DECIDUOUS and EVERGREEN SHRUBS | | | | | | | |
| | ER NAN | Ericameria nauseosus nauseosus nauseosus | Dwarf Blue Rabbitbrush | 5 Gal. | Cont. | 16 | 36"x36" |
| | PH OP | Physocarpus opulifolius 'Little Devil' | Little Devil Ninebark | 5 Gal. | Cont. | 12 | 36"x36" |
| | PI MU | Pinus mugo 'Mops' | Mineature Mugo Pine | 5 Gal. | Cont. | 20 | 2'-3'h.x2'-3'w. |
| | PR PB | Prunus besseyi 'Pawnee Buttes' | Creeping Western Sandcherry | 5 Gal. | Cont. | 18 | 18"-24"h.x6' |
| ORNAMENTAL GRASSES | | | | | | | |
| | SC SC | Schizachyrium scoparium 'Blaze' | Little Bluestem Grass | 1 Gal. | Cont. | 37 | 24"-36"h. |
| | PE AL | Pennisetum alopecuroides 'Hamlin' | Dwarf Fountain Grass | 1 Gal. | Cont. | 80 | 12"-24"h. |

NORTH

0' 30' 60' 120'

RB+B Architects, Inc.
315 East Mountain Ave
Suite 100
Fort Collins, CO 80524-2913
T - 970.484.0117
F - 970.484.0264
© 2009 www.rbbarchitects.com

bha
BHA Design Incorporated
1603 Oakridge Drive
Fort Collins, Colorado 80525
voice: 970.223.7577
fax: 970.223.1827

SITE REVIEW
RE-SUBMITTAL

# BOULDER JEWISH COMMONS

BOULDER JCC
ARAPAHOE AND CHERRYVALE
BOULDER, CO 80303

**PROJECT #:** 1118
**ISSUE DATE:** 07/01/13
**DRAWN BY:** BHA
**CHECKED BY:**

**ROW STREET TREE & LANDSCAPE PLAN AND LOT 2 LANDSCAPE BUFFER**

**L200**

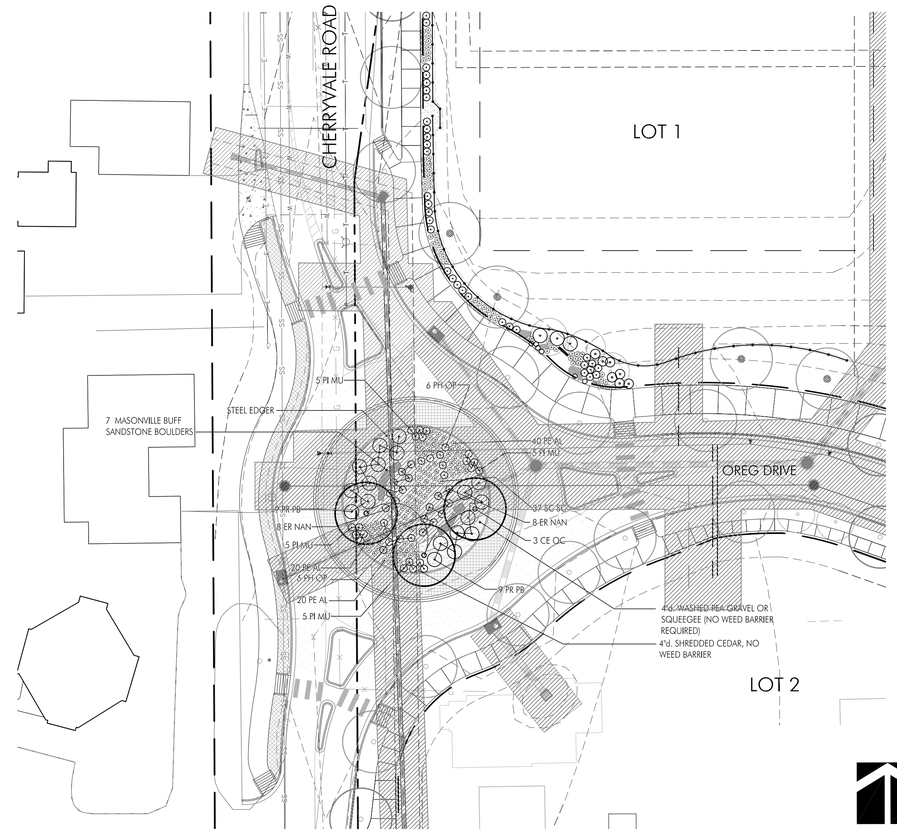
06/05/2012 10:50:02 AM
- PLOT DATE

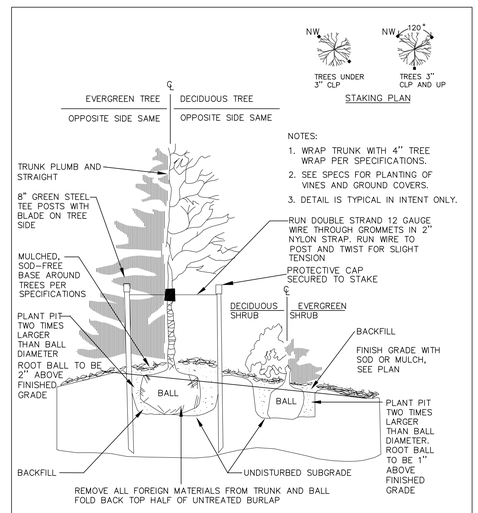
## SYMBOL LEGEND

- 3"d. WASHED PEA GRAVEL OR SQUEEGEE (NO WEED BARRIER)
- ROLL-TOP STEEL EDGING
- SHRUBS
- ORNAMENTAL GRASSES
- PERENNIALS
- MASONVILLE "BUFF" SANDSTONE BOULDERS - SIZE RANGE: 1 TON to 1.5 TON EA.
- UTILITY OFFSET - NO TREE PLANTING ALLOWED

## NOTES

1. TREES, SHRUBS, ORNAMENTAL GRASSES, AND PERENNIALS WITHIN TRAFFIC CIRCLE SHALL BE INDIVIDUALLY DRIP IRRIGATED BY AUTOMATIC SPRINKLER SYSTEM.
2. WOOD MULCH SHALL BE USED IN SHRUB, PERENNIAL, ORNAMENTAL GRASS, AND TREE RING AREAS, UNLESS OTHERWISE INDICATED IN THE SYMBOL LEGEND ABOVE.
3. SEE SHEET L200 FOR THE CHERRYVALE TRAFFIC CIRCLE PLANT LIST




NOTES:
1. WRAP TRUNK WITH 4" TREE WRAP PER SPECIFICATIONS.
2. SEE SPECS FOR PLANTING OF VINES AND GROUND COVERS.
3. DETAIL IS TYPICAL IN INTENT ONLY.

| | | |
|---|---|---|
| DRAWN BY: JSH<br>CHECKED BY: SRW<br>APPROVED BY: DIRECTOR OF PUBLIC WORKS | CITY OF BOULDER, COLORADO<br>TREES AND SHRUBS PLANTING DETAIL | ISSUED: JULY 2, 1998<br>REVISED: OCT. 17, 2000<br>DRAWING NO. 3.02 |

# CHERRYVALE TRAFFIC CIRCLE LANDSCAPE PLAN


RB+B Architects, Inc.
315 East Mountain Ave
Suite 100
Fort Collins, CO 80524-2913
T - 970.484.0117
F - 970.484.0264

© 2009 www.rbbarchitects.com


BHA Design Incorporated
1603 Oakridge Drive
Fort Collins, Colorado 80525
voice: 970.223.7577
fax: 970.223.1827


**SITE REVIEW RE-SUBMITTAL**

**BOULDER JEWISH COMMONS**
BOULDER JCC
ARAPAHOE AND CHERRYVALE
BOULDER, CO 80303

**PROJECT #:** 1118
**ISSUE DATE:** 07/01/13
**DRAWN BY:** BHA
**CHECKED BY:**

**CHERRYVALE ROAD TRAFFIC CIRCLE LANDSCAPE PLAN**

**L201**

06/05/2012 10:50:02 AM
**- PLOT DATE**

# PLANT LIST - LOT 1

| Symbol | Key | Botanical name | Common Name | Size at Planting | Root | Quantity | Size in Feet |
|---|---|---|---|---|---|---|---|
| DECIDUOUS CANOPY TREES | | | | | | | |
| | AC GR | Acer grandidentatum | Wasatch Maple | 2" Cal. | BB | 15 | 15'-25'h x 25'-30'w |
| | AC PL | Acer platanoides 'Emerald Queen' | Emerald Queen Norway Maple | 2" Cal. | BB | 2 | 40' |
| | CA SP | Catalpa speciosa | Western Catalpa | 2" Cal. | BB | 6 | 40'-60' |
| | CE OC | Celtis occidentalis | Western Hackberry | 2" Cal. | BB | 2 | 50'-60'h. x 40'-50'w. |
| | FR AM | Fraxinus americana 'Autumn Purple | Autumn Purple Ash | 2" Cal. | BB | 4 | 50'h. x 45'w. |
| | FR CI | Fraxinus pennsylvanica 'Cimarron' | Cimarron Ash | 2" Cal. | BB | 3 | 60' |
| | GL IM | Gleditsia triacanthos inermis 'Imperial' | Imperial Honeylocust | 2" Cal. | BB | 8 | 35'h. x 35'w. |
| | GL TR | Gleditsia triacanthos inermis 'Shademaster' | Shademaster Honeylocust | 2" Cal. | BB | 8 | 45'h. x 35'w. |
| | PL AC | Platanus x acerifolia | London Planetree | 2" Cal. | BB | 11 | 70'h. x 50'w. |
| | PO SA | Populus sargentii | Plains Cottonwood | 2" Cal. | BB | 3 | 75'h. x 55'w. |
| | | | | 3" Cal. | BB | 2 | |
| | | | | 4" Cal. | BB | 4 | |
| | QU MA | Quercus macrocarpa | Bur Oak | 2" Cal. | BB | 5 | 80' |
| | QU RO | Quercus robur | English Oak | 2" Cal. | BB | 9 | 80' |
| | QU RU | Quercus rubra | Northern Red Oak | 2" Cal. | BB | 2 | 60' |
| | TI CO | Tilia cordata 'Greenspire' | Greenspire Linden | 2" Cal. | BB | 2 | 35'h. x 30'w. |
| | UL AM | Ulmus americana 'Valley Forge' | Valley Forge Elm | 2" Cal. | BB | 3 | 60'h. x 60'w. |
| | UL FR | Ulmus 'Frontier' | Frontier Elm | 2" Cal. | BB | 3 | 30'h. x 20'w. |
| | | | | | TOTAL = | 92 | |
| ORNAMENTAL TREES | | | | | | | |
| | AM AL | Amelanchier alnifolia | Saskatoon Serviceberry | 5 Gal. | Cont. | 5 | 6'-20'h. x 6'-12'w |
| | AC TA | Acer tataricum 'Garrann' | Hot Wings Tatarian Maple | 2" Cal. | BB | 14 | 25'h. x 20'w. |
| | AM GRAB | Amelanchier x grandifolia 'Autumn Brilliance' | Autumn Brilliant Serviceberry | 2" Cal./8'h. | CLUMP & TREE FORM | 10 | 15'-25'h x 20'-25'w |
| | CR CR | Crataegus crus-gali inermis | Thornless Cockspur Hawthorn | 2" Cal. | BB | 2 | 15'-25'h x 15'-20'w |
| | MA SS | Malus 'Spring Snow' | Sping Snow Crabapple | 2" Cal. | BB | 10 | 25'h x 25'w. |
| | MA RR | Malus 'Royal Raindrop' (Red Flowers) | Royal Raindrop Crabapple | 2" Cal. | BB | 8 | 15'-20'h. x 12'-15'w. |
| | MA CO | Malus 'Coralburst' (Pink to White Flowers) | Coralburst Crabapple | 2" Cal. | BB | 4 | 12'-15'h. x 12'-15'w. |
| | PY CA | Pyrus calleryana 'Chanticleer' | Chanticleer Pear | 2" Cal. | BB | 6 | 20'-30'h x 15'-20'w. |
| | PY US | Pyrus ussuriensis 'Prairie Gem' | Prairie Gem Pear | 2" Cal. | BB | 13 | 25'h. x 20'w. |
| | QU FA | Quercus robur 'Fastigata' | Columnar English Oak | 2" Cal. | BB | 10 | 60'(x20'w.) |
| | | | | | TOTAL = | 82 | |
| EVERGREEN TREES | | | | | | | |
| | PI HE | Pinus heldreichii 'leucodermis' | Bosnian Pine | 6' | BB | 2 | 15'-25'h. x 10'-12'w |
| | PI NI | Pinus nigra | Austrian Pine | 6' | BB | 13 | 40'w. x 60'h. |
| | PI PU | Picea pungens | Colorado Spruce | 6' | BB | 68 | 30'w. x 60'h. |
| | PP SD | Picea pungens 'Sester Dwarf' | Dwarf Blue Spruce | 6' | BB | 2 | 6'-8'h. x 3'-5'w |
| | | | | | TOTAL = | 85 | |
| DECIDUOUS and EVERGREEN SHRUBS | | | | | | | |
| | ER NSS | Ericamerica nauseosus albicaulis | Tall Blue Rabbitbrush | 5 Gal. | Cont. | XX | |
| | ER NAG | Ericamerica nauseosus glabra | Tall Green Rabbitbrush | 5 Gal. | Cont. | XX | |
| | ER NAN | Ericamerica nauseosus nauseosus | Dwarf Blue Rabbitbrush | 5 Gal. | Cont. | XX | |
| | CO CO | Cornus stolonifera coloradense | Colorado Dogwood | 5 Gal. | Cont. | XX | |
| | FO NE | Forestiera neomexicana | New Mexico Privet | 5 Gal. | Cont. | XX | |
| | PH OP | Physocarpus opulifolius 'Diablo' | Purple Leaf Ninebark | 5 Gal. | Cont. | XX | |
| | PO SA | Populus sargentii | Plains Cottonwood | 5 Gal. | Cont. | 9 | 75'h. x 55'w. |
| | PR BE | Prunus besseyi | Western Sandcherry | 5 Gal. | Cont. | XX | |
| | PR PB | Prunus besseyi 'Pawnee Buttes' | Creeping Western Sandcherry | 5 Gal. | Cont. | XX | |
| | RI AU | Ribes aureum | Yellow Flowering Currant | 5 Gal. | Cont. | XX | |
| | RI CE | Ribes cereum | Squaw Currant | 5 Gal. | Cont. | XX | |
| | RU DE | Rubus deliciosus | Boulder Raspberry | 5 Gal. | Cont. | XX | |
| | SY AL | Symphoricarpus albus | Common Snowberry | 5 Gal. | Cont. | XX | |
| | | | | | TOTAL = | 487 (DECIDUOUS) | |
| | | | | | | 90 (EVERGREEN) | |
| ORNAMENTAL GRASSES | | | | | | | |
| | CA KF | Calamagrostis acutiflora | Karl Forester Feather Reed Grass | 1 Gal. | Cont. | XX | |
| | HE SE | Helictotrichan sempervirens | Blue Avena Grass | 1 Gal. | Cont. | XX | |
| | PA SH | Panicum virgatum 'Shenandoah' | Red Switchgrass | 1 Gal. | Cont. | XX | |
| | SC SC | Schizachyrium scoparium 'Blaze' | Little Bluestem Grass | 1 Gal. | Cont. | XX | |
| | | | | | TOTAL = | 1,482 | |
| PERENNIALS, GROUNDCOVERS AND VINES | | | | | | | |
| | EC PU | Echinacea purpurea | Purple Coneflower | 1 Gal. | Cont. | XX | |
| | RU FU | Rudbeckia fulgida 'Goldstrum' | Black-Eyed Susan | 1 Gal. | Cont. | XX | |
| | | | | | TOTAL = | 230 | |

# LANDSCAPING TABLE - LOT 1

TOTAL LOT SIZE (sq.ft.): 425,625 sq.ft. (9.771 ACRES)

BUILDING AREA: COMBINED 1st FLOOR (45,104 sq.ft.) & 2nd FLOOR (7,341 sq.ft.) = 52,444 sq.ft.

TOTAL PARKING LOT SIZE
Initial Const. 64,498 sq.ft. (Paved)
13,622 sq.ft. (Gravel - Overflow)
78,120 sq.ft. Total
Future 1,695 sq.ft.
79,815 sq.ft. Total Build Out

TOTAL AREA NOT COVERED BY INITIAL BLDG. OR REQUIRED PARKING/VEHICULAR CIRCULATION = 316,023 sq.ft.

| | REQUIRED | PROVIDED |
|---|---|---|
| TOTAL NUMBER OF PARKING STALLS | 148 | 177 (INITIAL CONST.) 191 (FUTURE BUILD OUT) |
| TOTAL INTERIOR PARKING LOT LANDSCAPE AREA (SEE SHEET L104 FOR PARKING LOT DIAGRAM) | 7,982 sq.ft. | 8,245 sq.ft. |
| % LANDSCAPE WITHIN TOTAL PARKING LOT AREA | 10% | 10.33% |
| TOTAL NUMBER OF TREES IN INTERIOR PARKING LOT AREA (1 TREE PER 200 SQ.FT.) | REQUIRED 40 | PROVIDED 41<br>23 LARGE DECIDUOUS TREES (56.1%)<br>8 MEDIUM DECIDUOUS TREES (19.5%)<br>10 SMALL DECIDUOUS TREES (24.4%)<br>75.6% |
| TOTAL QUANTITY OF LANDSCAPE PLANT MATERIALS (BASED ON 316,023 SQ.FT.) | REQUIRED | PROVIDED |
| TREES (ASSUMES 1 TREE / 1,500 SQ.FT.) | 211 | 259 (48 LOCATED ON SOUTH SIDE OF LOT 2) |
| SHRUBS (ASSUMES 5 SHRUBS / 1,500 SQ.FT.) | 1,053 | 577 |
| ORNAMENTAL GRASSES/PERENNIALS | 0 | 1,712 |

TOTAL NUMBER OF STREET TREES: N/A - SEE LANDSCAPE TABLE ON SHEET L200 FOR STREET TREE LOCATIONS, QUANTITIES & SPECIES

# NOTES

1. ROTOR AND SPRAY IRRIGATION HEADS SHALL BE USED IN BLUEGRASS SOD AND THERMAL BLUEGRASS (LOWER WATER TURF) SOD AREAS.
2. NATIVE SEEDED AREAS WILL NOT BE IRRIGATED.
3. TREES, SHRUBS, ORNAMENTAL GRASSES, AND PERENNIALS (IN PLANTING BEDS) SHALL BE INDIVIDUALLY DRIP IRRIGATED BY SEPARATE WATER USE ZONES.
4. WOOD MULCH SHALL BE USED IN SHRUB, PERENNIAL, ORNAMENTAL GRASS, AND TREE RING AREAS. LIMITED COBBLE MULCH SHALL BE UTILIZED IN LOT 1 PLANTING BED AS A DECORATIVE ELEMENT ONLY.
5. TYPE 1 NATIVE SEED MIX:

   PAWNEE BUTTES SEED, INC.
   FOOTHILLS NATIVE MIX - 25 LBS. / ACRE

   10% INDIAN RICEGRASS
   10% LITTLE BLUESTEM
   5% BLUEGRAMA
   7.5% YELLOW INDIANGRASS
   15% SWITCHGRASS
   10% ARIZONA / IDAHO FESCUE
   10% SIDEOATS GRAMA
   10% BLUEBUNCH WHEATGRASS
   10% THICKSPIKE WHEATGRASS
   2.5% SAND DROPSEED

6. TYPE 2 NATIVE SEED MIX:

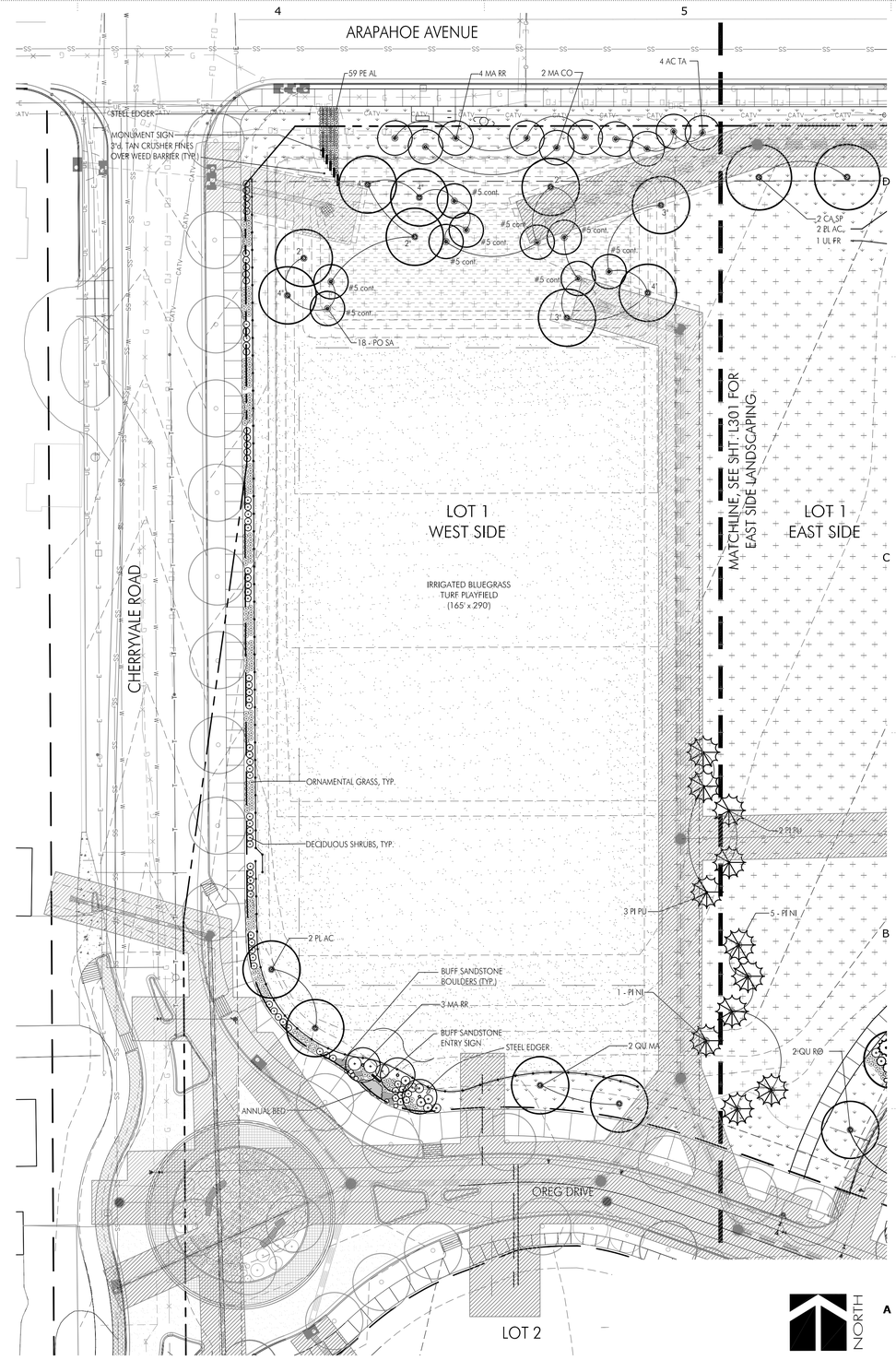
   PAWNEE BUTTES SEED, INC.
   PRAIRIE WETLAND MIX - 10LBS. / ACRE

   12% ALKALI BULBRUSH
   12% SWITCHGRASS
   12% CANADA WILDRYE
   12% PRAIRIE CORDGRASS
   8% SOFTSTEM BULRUSH
   8% NEBRASKA SEDGE
   6% THREE SQUARE BULBRUSH
   6% NUTTALL'S ALKALIGRASS
   6% CREEPING SPIKEGRASS
   6% MEADOW SEDGE
   2% POPCORN SEDGE
   2% INDIAN GRASS
   2% BALTIC RUSH
   2% BIG BLUESTEM
   1.5% TORREY'S RUSH
   1% MARSH SUNFLOWER
   1% YELLOW MONKEY FLOWER
   0.5% COLORADO RUSH

7. SEE SHEET L200 AND L201 FOR R.O.W. LANDSCAPING.

# LEGEND

- IRRIGATED KENTUCKY BLUEGRASS SOD
- IRRIGATED THERMAL BLUEGRASS SOD (LOWER WATER USE TURF)
- NATIVE SEED - TYPE 1 SEE 'NOTES' FOR SEED MIX
- NATIVE SEED - TYPE 2 (NON-IRRIGATED) SEE 'NOTES' FOR SEED MIX
- ROLL-TOP STEEL EDGING
- UTILITY OFFSET - NO TREE PLANTING ALLOWED




# LOT 1 LANDSCAPE PLAN - WEST SIDE

0' 15' 30' 60'


RB+B Architects, Inc.
315 East Mountain Ave
Suite 100
Fort Collins, CO 80524-2913
T - 970.484.0117
F - 970.484.0264

© 2009 www.rbbarchitects.com


bha
BHA Design Incorporated
1603 Oakridge Drive
Fort Collins, Colorado 80525
voice: 970.223.7577
fax: 970.223.1827


SITE REVIEW
RE-SUBMITTAL

BOULDER JEWISH COMMONS
BOULDER JCC
ARAPAHOE AND CHERRYVALE
BOULDER, CO 80303

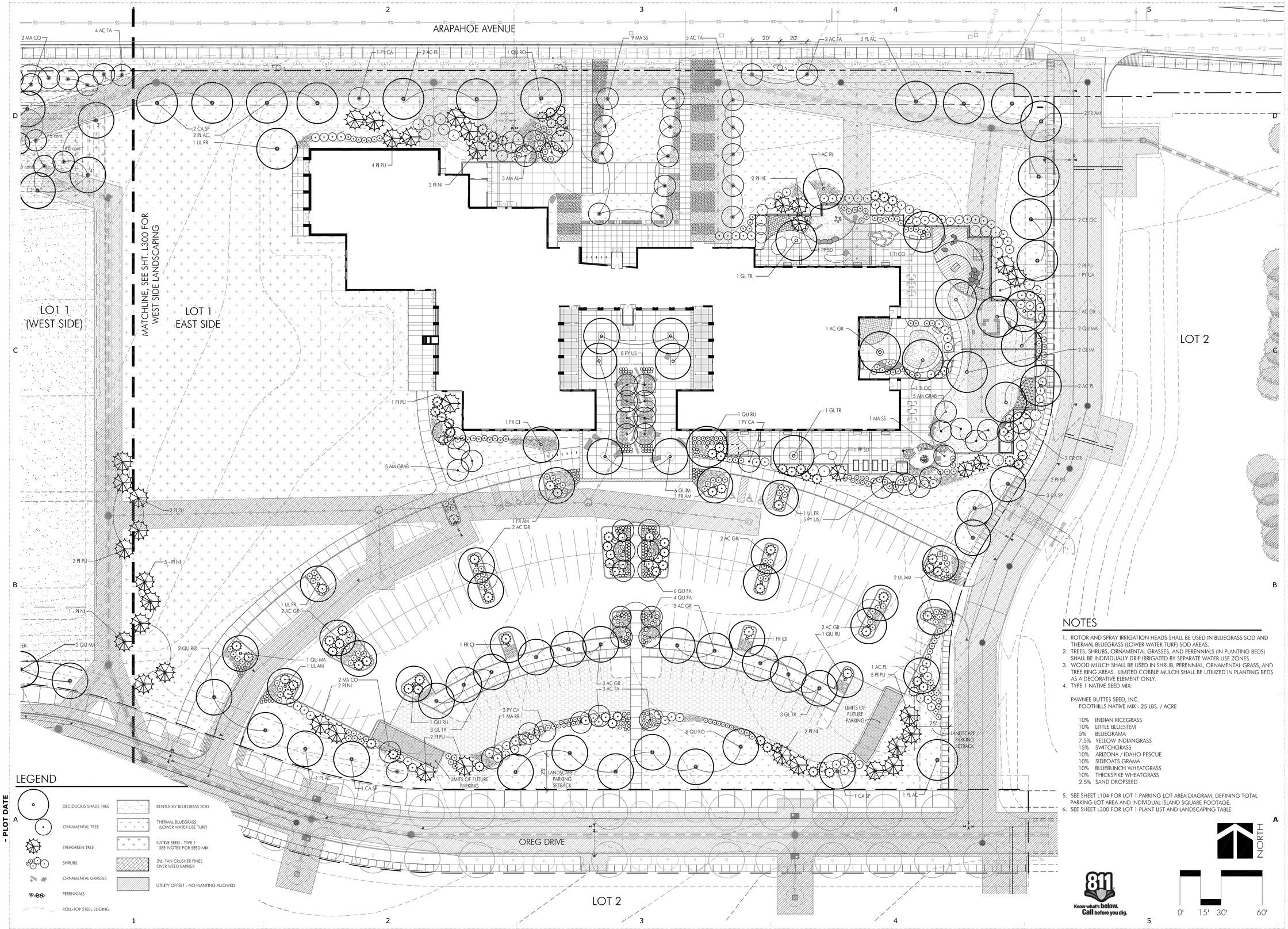
PROJECT #: 1118
ISSUE DATE: 07/01/13
DRAWN BY: BHA
CHECKED BY:

LOT 1 - WEST SIDE LANDSCAPE PLAN

L300

Know what's below. Call before you dig.

06/05/2012 10:50:02 AM - PLOT DATE




## LEGEND

- DECIDUOUS SHADE TREE
- ORNAMENTAL TREE
- EVERGREEN TREE
- SHRUBS
- ORNAMENTAL GRASSES
- PERENNIALS
- ROLL-TOP STEEL EDGING
- KENTUCKY BLUEGRASS SOD
- THERMAL BLUEGRASS (LOWER WATER USE TURF)
- NATIVE SEED - TYPE 1 SEE 'NOTES' FOR SEED MIX
- 3"d. TAN CRUSHER FINES OVER WEED BARRIER
- UTILITY OFFSET - NO PLANTING ALLOWED

## NOTES

1. ROTOR AND SPRAY IRRIGATION HEADS SHALL BE USED IN BLUEGRASS SOD AND THERMAL BLUEGRASS (LOWER WATER TURF) SOD AREAS.
2. TREES, SHRUBS, ORNAMENTAL GRASSES, AND PERENNIALS (IN PLANTING BEDS) SHALL BE INDIVIDUALLY DRIP IRRIGATED BY SEPARATE WATER USE ZONES.
3. WOOD MULCH SHALL BE USED IN SHRUB, PERENNIAL, ORNAMENTAL GRASS, AND TREE RING AREAS. LIMITED COBBLE MULCH SHALL BE UTILIZED IN PLANTING BEDS AS A DECORATIVE ELEMENT ONLY.
4. TYPE 1 NATIVE SEED MIX:

   PAWNEE BUTTES SEED, INC.
   FOOTHILLS NATIVE MIX - 25 LBS. / ACRE

   | | |
   |---|---|
   | 10% | INDIAN RICEGRASS |
   | 10% | LITTLE BLUESTEM |
   | 5% | BLUEGRAMA |
   | 7.5% | YELLOW INDIANGRASS |
   | 15% | SWITCHGRASS |
   | 10% | ARIZONA / IDAHO FESCUE |
   | 10% | SIDEOATS GRAMA |
   | 10% | BLUEBUNCH WHEATGRASS |
   | 10% | THICKSPIKE WHEATGRASS |
   | 2.5% | SAND DROPSEED |

5. SEE SHEET L104 FOR LOT 1 PARKING LOT AREA DIAGRAM, DEFINING TOTAL PARKING LOT AREA AND INDIVIDUAL ISLAND SQUARE FOOTAGE.
6. SEE SHEET L300 FOR LOT 1 PLANT LIST AND LANDSCAPING TABLE

Know what's below. Call before you dig.

NORTH

0' 15' 30' 60'

06/05/2012 10:50:02 AM - PLOT DATE


RB+B Architects, Inc.
315 East Mountain Ave
Suite 100
Fort Collins, CO 80524-2913
T - 970.484.0117
F - 970.484.0264

© 2009 www.rbbarchitects.com


bha
BHA Design Incorporated
1603 Oakridge Drive
Fort Collins, Colorado 80525
voice: 970.223.7577
fax: 970.223.1827


**SITE REVIEW RE-SUBMITTAL**

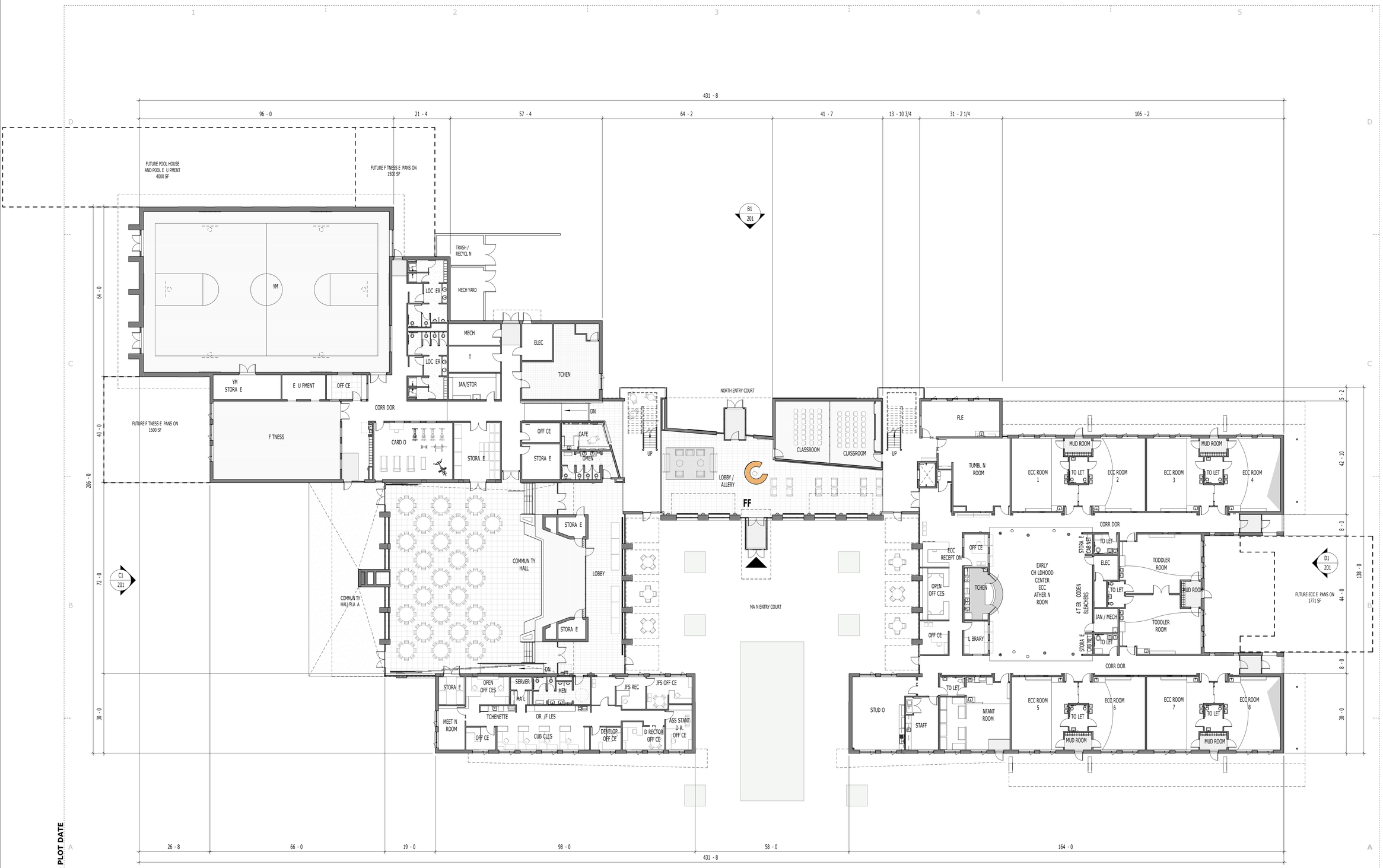
# BOULDER JEWISH COMMONS

BOULDER JCC
ARAPAHOE AND CHERRYVALE
BOULDER, CO 80303

**PROJECT #:** 1118
**ISSUE DATE:** 07/01/13
**DRAWN BY:** BHA
**CHECKED BY:**

**LOT 1 - EAST SIDE LANDSCAPE PLAN**

**L301**




**LEVEL ONE**
**PHASE 1: 10 SF**
**FUTURE: SF**
**TOTAL FUTURE: SF**
**ROSS AREA TO OUTSIDE OF E TERIOR WALLS**

## A1 LEVEL 1
1/16 1-0

8/29/2013 3:35:32 PM - **PLOT DATE**


ARCHITECT

RB+B Architects, Inc.
315 East Mountain Ave
Suite 100
Fort Collins, CO 80524-2913
T - 970.484.0117
F - 970.484.0264

© 2009 www.rbbarchitects.com

SEAL

CONSULTANT

PROJECT PHASE

**SITE REVIEW RE-SUBMITTAL**

PROJECT INFORMATION

# BOULDER JEWISH COMMONS
BOULDER JE SH COMMUN TY CENTER
ARAPAHOE AND CHERRYVALE
BOULDER, CO 80303

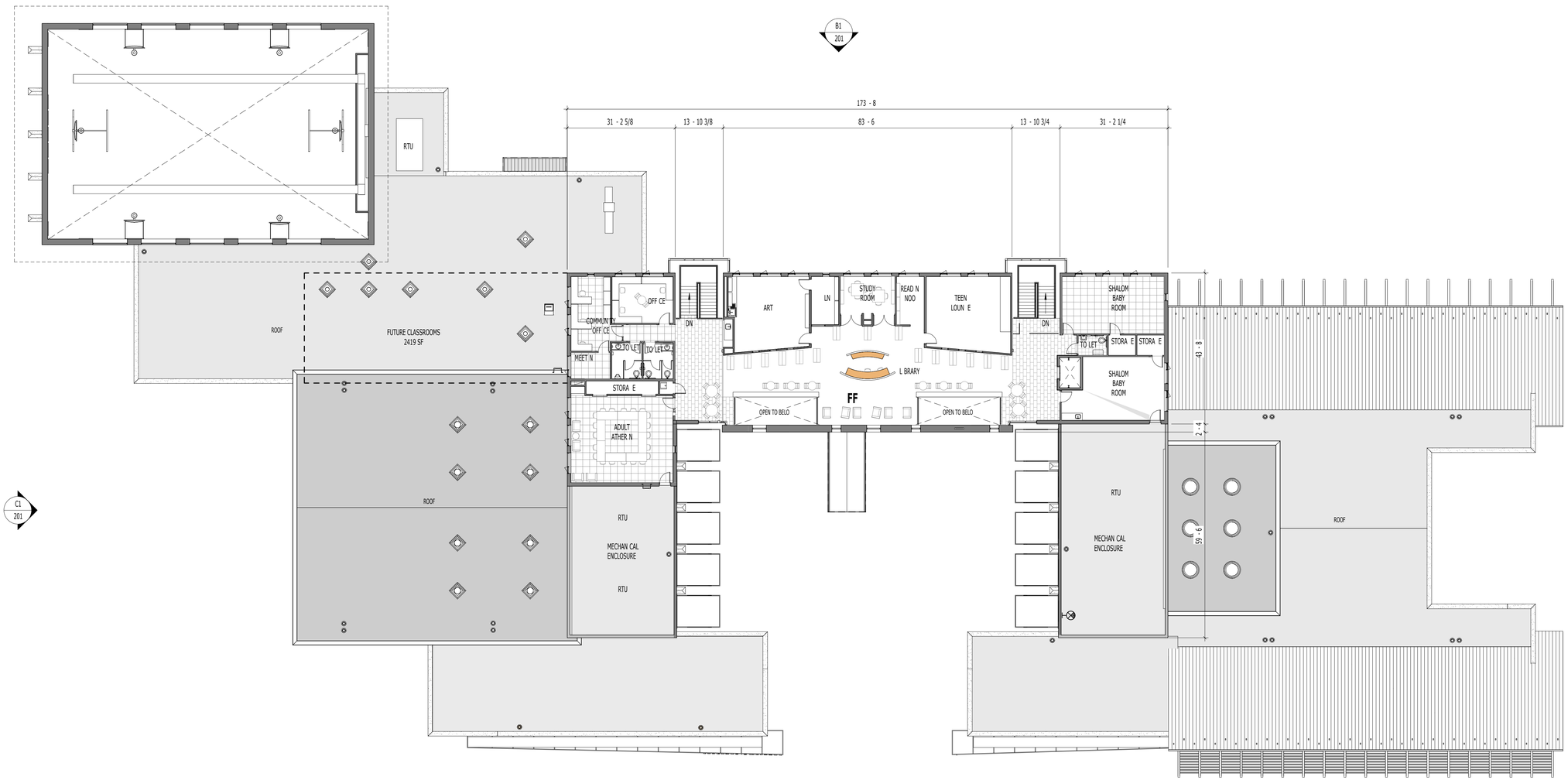
SHEET INFORMATION

**PROJECT #:** 1118

**ISSUE DATE:** 07/01/13

LEVEL ONE PLAN

**101**




**LEVEL TWO**
**PHASE 1: 0 SF**
**FUTURE: 1 SF**
**TOTAL FUTURE: SF**
**ROSS AREA TO OUTSIDE OF E TERIOR WALLS**

N

**A1** **LEVEL**
1/16 1-0

8/29/2013 3:35:50 PM - **PLOT DATE**

ARCHITECT

RB+B Architects, Inc.
315 East Mountain Ave
Suite 100
Fort Collins, CO 80524-2913
T - 970.484.0117
F - 970.484.0264
© 2009 www.rbbarchitects.com

SEAL

CONSULTANT

PROJECT PHASE

**SITE REVIEW**
**RE-SUBMITTAL**

PROJECT INFORMATION

**BOULDER JEWISH COMMONS**
BOULDER JE SH COMMUN TY CENTER
ARAPAHOE AND CHERRYVALE
BOULDER, CO 80303

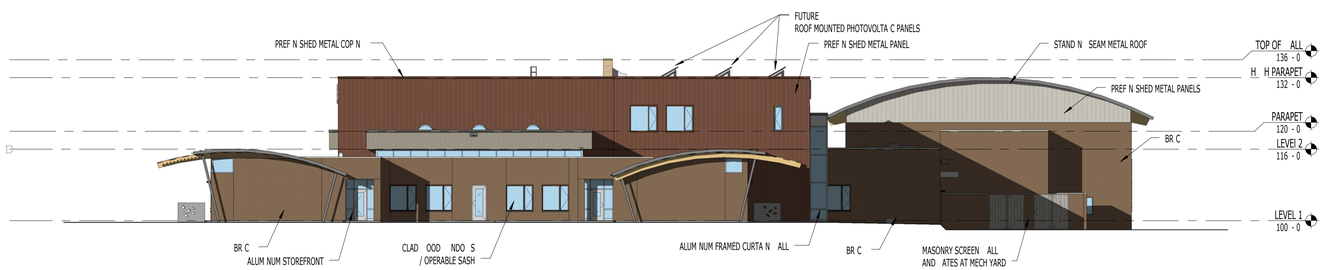
SHEET INFORMATION

**PROJECT #:** 1118

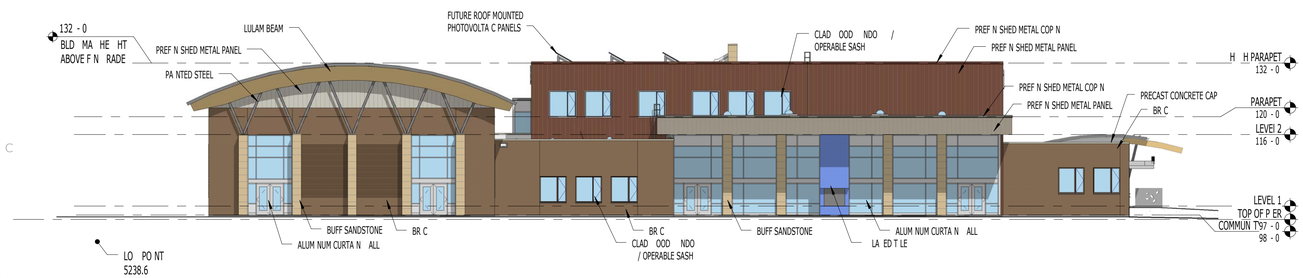
**ISSUE DATE:** 07/01/13

LEVEL T O PLAN

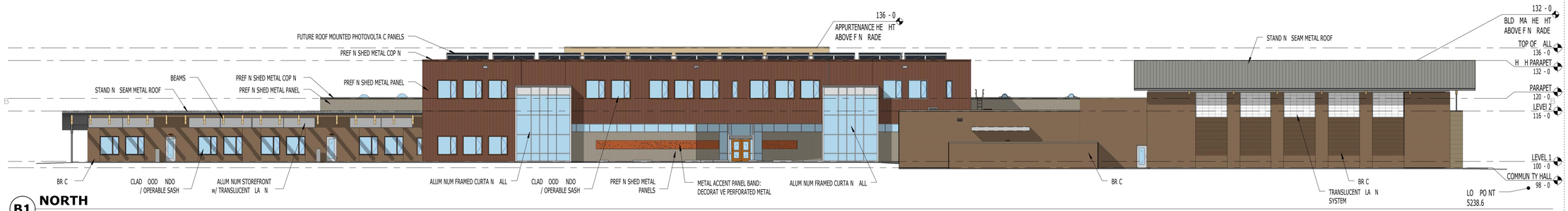
**10**



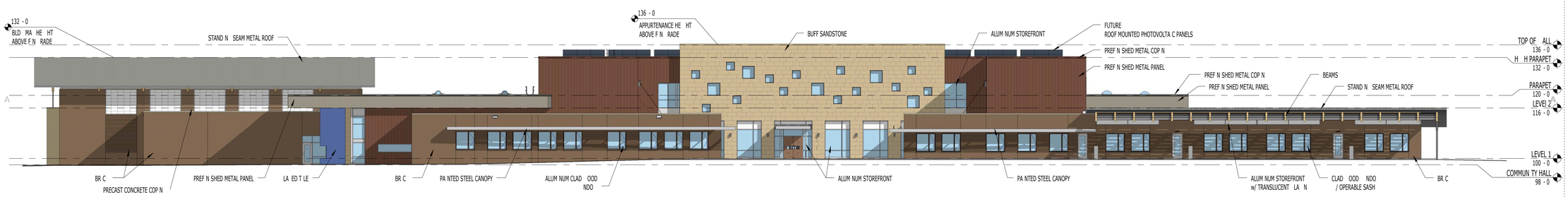

**D1 EAST**
1/16 1 -0




**C1 WEST**
1/16 1 -0




**B1 NORTH**
1/16 1 -0




**A1 SOUTH**
1/16 1 -0

8/29/2013 3:39:55 PM - **PLOT DATE**


ARCHITECT

RB+B Architects, Inc.
315 East Mountain Ave
Suite 100
Fort Collins, CO 80524-2913
T - 970.484.0117
F - 970.484.0264

© 2009 www.rbbarchitects.com

SEAL

CONSULTANT

PROJECT PHASE

**SITE REVIEW**
**RE-SUBMITTAL**

PROJECT INFORMATION

# BOULDER JEWISH COMMONS

BOULDER JE SH COMMUN TY CENTER

ARAPAHOE AND CHERRYVALE
BOULDER, CO 80303

SHEET INFORMATION

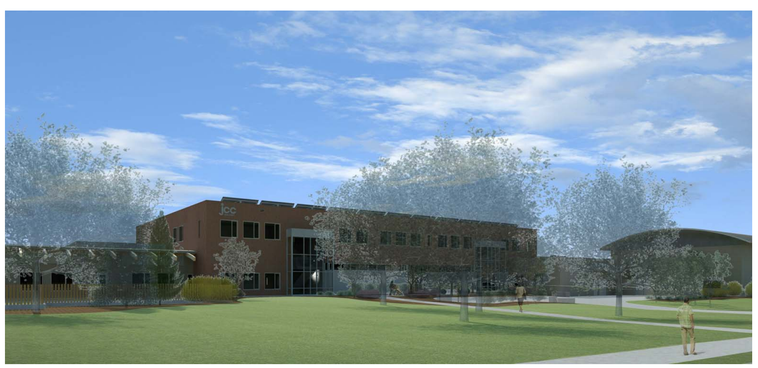
**PROJECT #:** 1118

**ISSUE DATE:** 07/01/13

ELEVAT ONS

**01**

**C** NORTH ENTRY
1/8 1-0



**A1** NORTH ENTRY - EAST
1/8 1-0

**A** NORTH ENTRY - WEST
1/8 1-0


ARCHITECT

RB+B Architects, Inc.
315 East Mountain Ave
Suite 100
Fort Collins, CO 80524-2913
T - 970.484.0117
F - 970.484.0264

© 2009 www.rbbarchitects.com

SEAL

CONSULTANT

PROJECT PHASE

**SITE REVIEW RE-SUBMITTAL**

PROJECT INFORMATION

**BOULDER JEWISH COMMONS**
BOULDER JE SH COMMUN TY CENTER
ARAPAHOE AND CHERRYVALE
BOULDER, CO 80303

SHEET INFORMATION

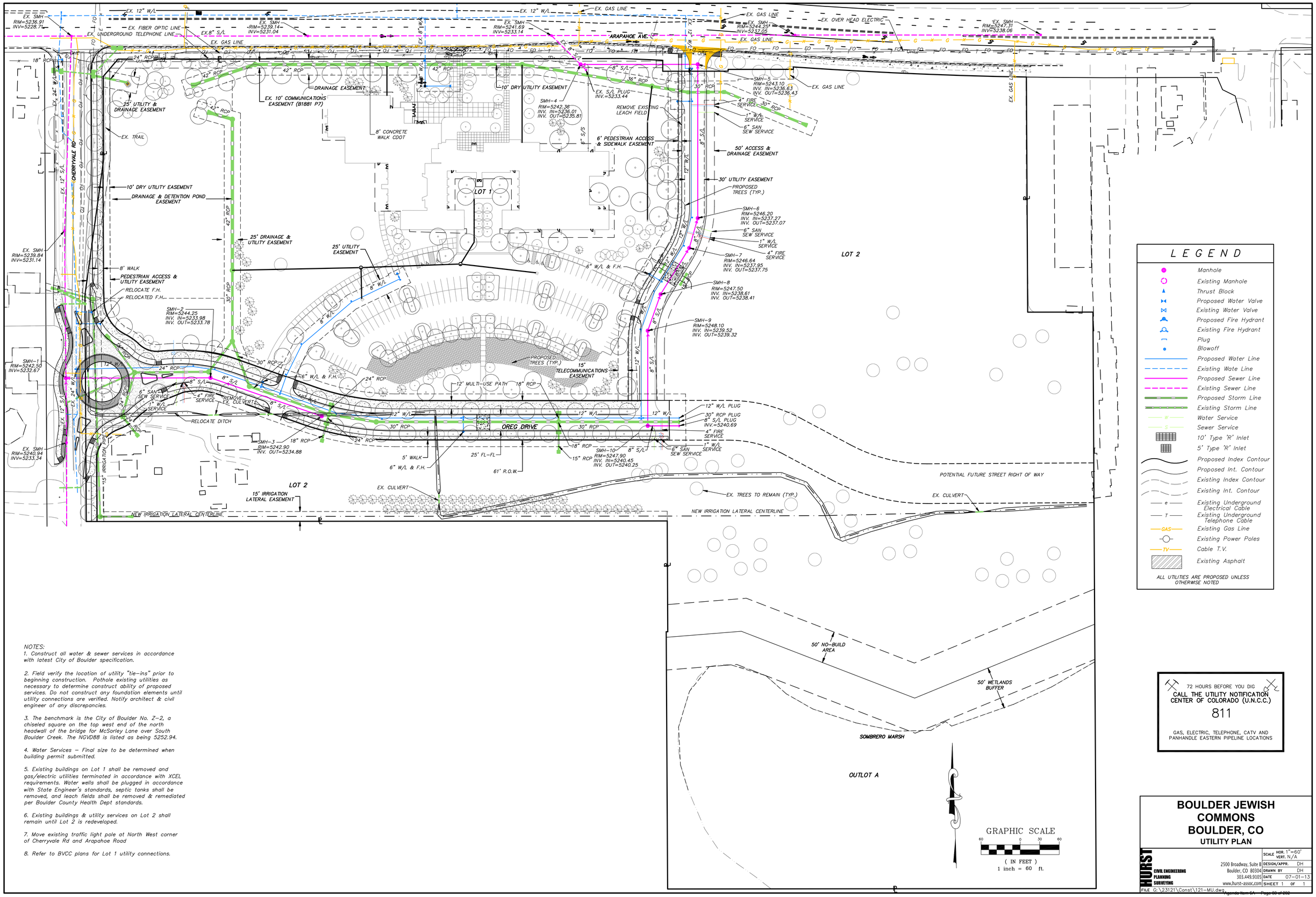
**PROJECT #:** 1118

**ISSUE DATE:** 07/01/13

3-D V E S

**0**

8/29/2013 3:40:41 PM - **PLOT DATE**




NOTES:

1. Construct all water & sewer services in accordance with latest City of Boulder specification.

2. Field verify the location of utility "tie-ins" prior to beginning construction. Pothole existing utilities as necessary to determine construct ability of proposed services. Do not construct any foundation elements until utility connections are verified. Notify architect & civil engineer of any discrepancies.

3. The benchmark is the City of Boulder No. Z-2, a chiseled square on the top west end of the north headwall of the bridge for McSorley Lane over South Boulder Creek. The NGVD88 is listed as being 5252.94.

4. Water Services – Final size to be determined when building permit submitted.

5. Existing buildings on Lot 1 shall be removed and gas/electric utilities terminated in accordance with XCEL requirements. Water wells shall be plugged in accordance with State Engineer's standards, septic tanks shall be removed, and leach fields shall be removed & remediated per Boulder County Health Dept standards.

6. Existing buildings & utility services on Lot 2 shall remain until Lot 2 is redeveloped.

7. Move existing traffic light pole at North West corner of Cherryvale Rd and Arapahoe Road

8. Refer to BVCC plans for Lot 1 utility connections.

72 HOURS BEFORE YOU DIG
CALL THE UTILITY NOTIFICATION CENTER OF COLORADO (U.N.C.C.)
811
GAS, ELECTRIC, TELEPHONE, CATV AND PANHANDLE EASTERN PIPELINE LOCATIONS

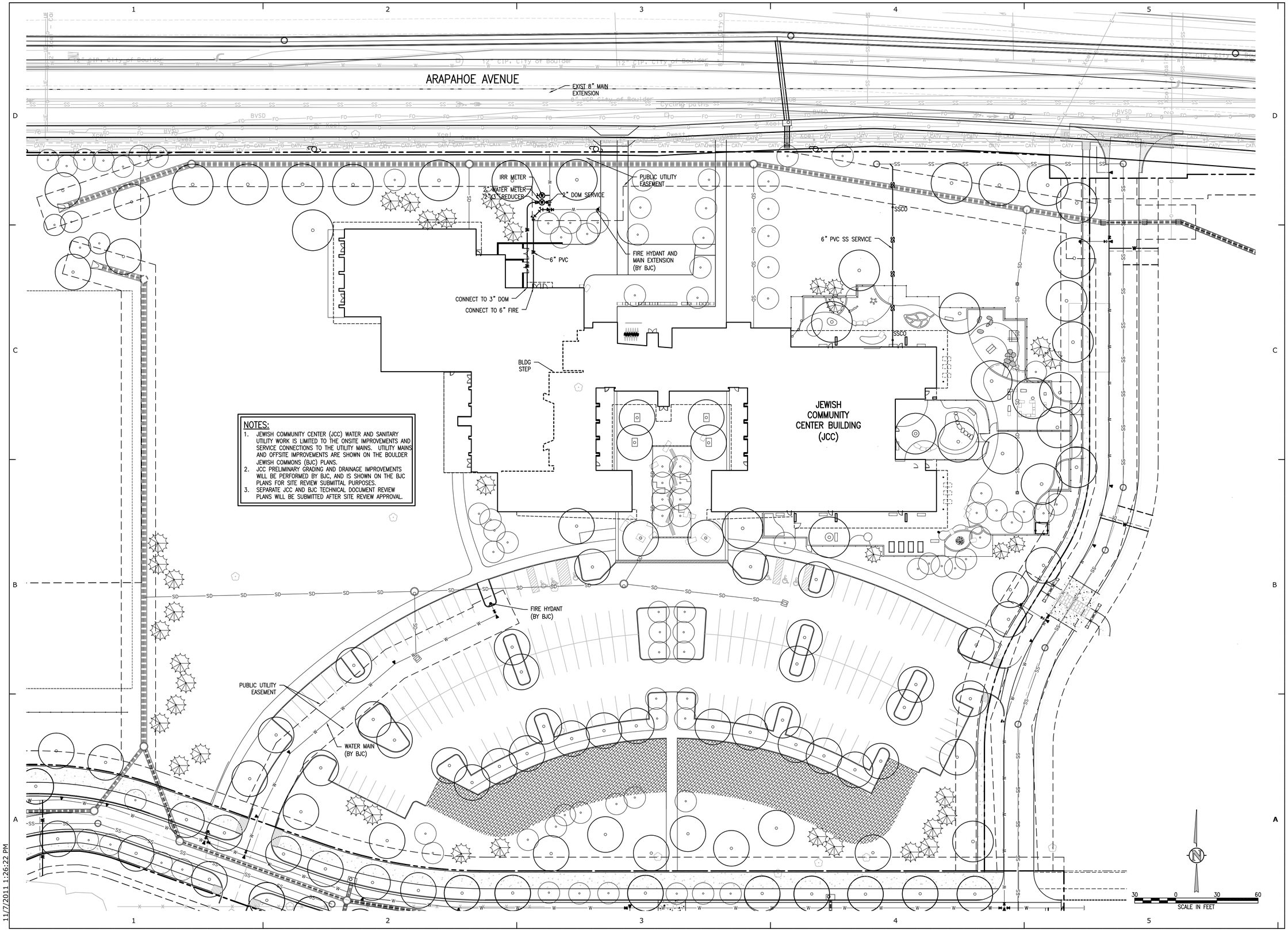
# BOULDER JEWISH COMMONS
# BOULDER, CO
## UTILITY PLAN

HURST
CIVIL ENGINEERING
PLANNING
SURVEYING

2500 Broadway, Suite B
Boulder, CO 80304
303.449.9105
www.hurst-assoc.com

| | |
|---|---|
| SCALE | HOR. 1"=60' VERT. N/A |
| DESIGN/APPR. | DH |
| DRAWN BY | DH |
| DATE | 07-01-13 |
| SHEET | 1 OF 1 |

FILE G:\23121\Const\121-MU.dwg




NOTES:

1. JEWISH COMMUNITY CENTER (JCC) WATER AND SANITARY UTILITY WORK IS LIMITED TO THE ONSITE IMPROVEMENTS AND SERVICE CONNECTIONS TO THE UTILITY MAINS. UTILITY MAINS AND OFFSITE IMPROVEMENTS ARE SHOWN ON THE BOULDER JEWISH COMMONS (BJC) PLANS.
2. JCC PRELIMINARY GRADING AND DRAINAGE IMPROVEMENTS WILL BE PERFORMED BY BJC, AND IS SHOWN ON THE BJC PLANS FOR SITE REVIEW SUBMITTAL PURPOSES.
3. SEPARATE JCC AND BJC TECHNICAL DOCUMENT REVIEW PLANS WILL BE SUBMITTED AFTER SITE REVIEW APPROVAL.

11/7/2011 1:26:22 PM


RB+B Architects, Inc.
315 East Mountain Ave
Suite 100
Fort Collins, CO 80524-2913
T - 970.484.0117
F - 970.484.0264

© 2009 www.rbbarchitects.com


CONSULTING ENGINEERS
JVA, Incorporated
1319 Spruce Street
Boulder, CO 80302
Phone: 303.444.1951
Fax: 303.444.1957
e-mail Info@jvajva.com


**SITE REVIEW RE-SUBMITTAL**

# BOULDER JEWISH COMMONS

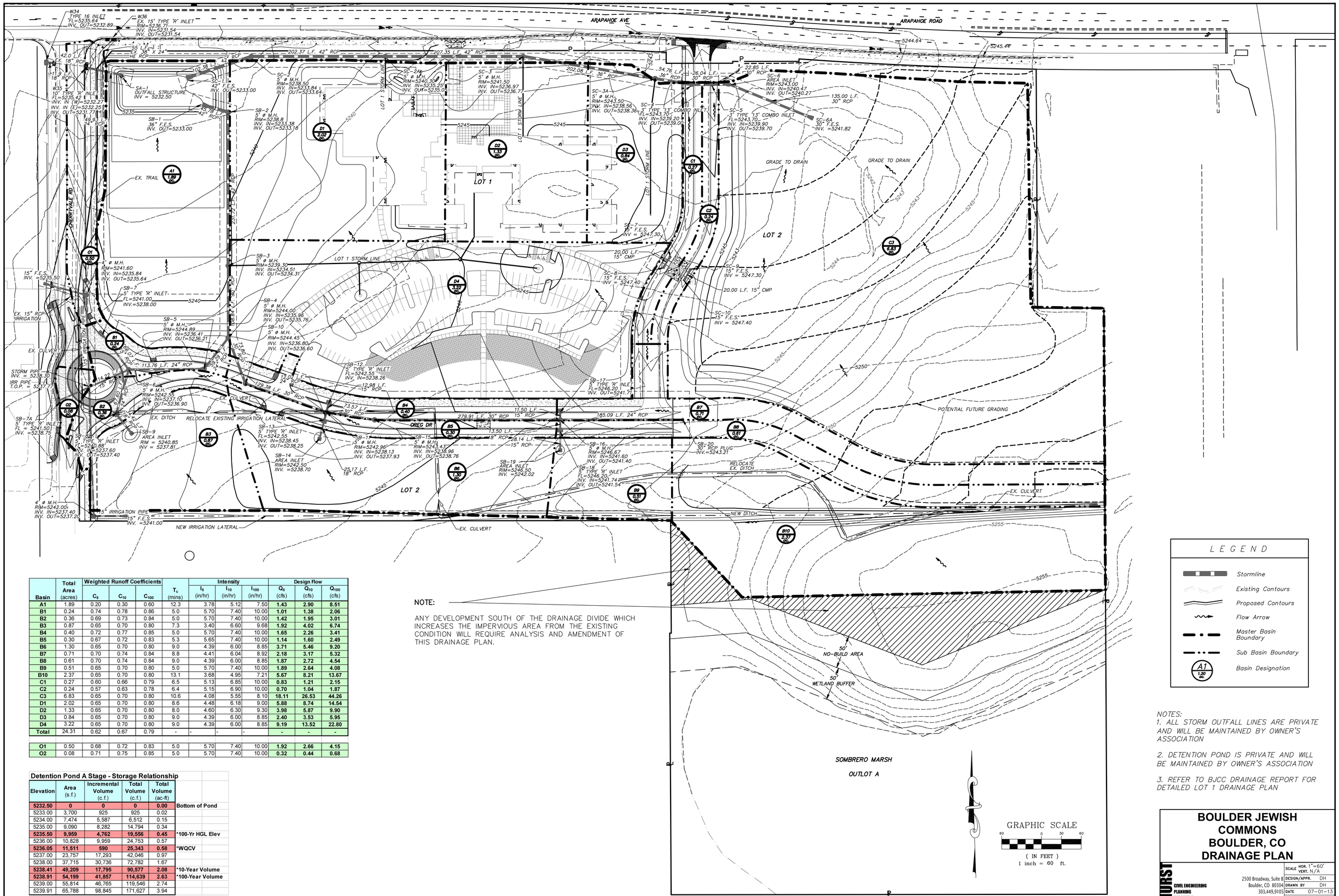
BOULDER JCC
ARAPAHOE AND CHERRYVALE
BOULDER, CO 80303

**PROJECT #:** 1118

**ISSUE DATE:** 07/01/13

UTILITY CONNECTION PLAN

**C2.0**




| Basin | Total Area (acres) | Weighted Runoff Coefficients $C_5$ | $C_{10}$ | $C_{100}$ | $T_c$ (mins) | Intensity $I_5$ (in/hr) | $I_{10}$ (in/hr) | $I_{100}$ (in/hr) | Design Flow $Q_5$ (cfs) | $Q_{10}$ (cfs) | $Q_{100}$ (cfs) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A1 | 1.89 | 0.20 | 0.30 | 0.60 | 12.3 | 3.78 | 5.12 | 7.50 | **1.43** | **2.90** | **8.51** |
| B1 | 0.24 | 0.74 | 0.78 | 0.86 | 5.0 | 5.70 | 7.40 | 10.00 | **1.01** | **1.38** | **2.06** |
| B2 | 0.36 | 0.69 | 0.73 | 0.84 | 5.0 | 5.70 | 7.40 | 10.00 | **1.42** | **1.95** | **3.01** |
| B3 | 0.87 | 0.65 | 0.70 | 0.80 | 7.3 | 3.40 | 6.60 | 9.68 | **1.92** | **4.02** | **6.74** |
| B4 | 0.40 | 0.72 | 0.77 | 0.85 | 5.0 | 5.70 | 7.40 | 10.00 | **1.65** | **2.26** | **3.41** |
| B5 | 0.30 | 0.67 | 0.72 | 0.83 | 5.3 | 5.65 | 7.40 | 10.00 | **1.14** | **1.60** | **2.49** |
| B6 | 1.30 | 0.65 | 0.70 | 0.80 | 9.0 | 4.39 | 6.00 | 8.85 | **3.71** | **5.46** | **9.20** |
| B7 | 0.71 | 0.70 | 0.74 | 0.84 | 8.8 | 4.41 | 6.04 | 8.92 | **2.18** | **3.17** | **5.32** |
| B8 | 0.61 | 0.70 | 0.74 | 0.84 | 9.0 | 4.39 | 6.00 | 8.85 | **1.87** | **2.72** | **4.54** |
| B9 | 0.51 | 0.65 | 0.70 | 0.80 | 5.0 | 5.70 | 7.40 | 10.00 | **1.89** | **2.64** | **4.08** |
| B10 | 2.37 | 0.65 | 0.70 | 0.80 | 13.1 | 3.68 | 4.95 | 7.21 | **5.67** | **8.21** | **13.67** |
| C1 | 0.27 | 0.60 | 0.66 | 0.79 | 6.5 | 5.13 | 6.85 | 10.00 | **0.83** | **1.21** | **2.15** |
| C2 | 0.24 | 0.57 | 0.63 | 0.78 | 6.4 | 5.15 | 6.90 | 10.00 | **0.70** | **1.04** | **1.87** |
| C3 | 6.83 | 0.65 | 0.70 | 0.80 | 10.6 | 4.08 | 5.55 | 8.10 | **18.11** | **26.53** | **44.26** |
| D1 | 2.02 | 0.65 | 0.70 | 0.80 | 8.6 | 4.48 | 6.18 | 9.00 | **5.88** | **8.74** | **14.54** |
| D2 | 1.33 | 0.65 | 0.70 | 0.80 | 8.0 | 4.60 | 6.30 | 9.30 | **3.98** | **5.87** | **9.90** |
| D3 | 0.84 | 0.65 | 0.70 | 0.80 | 9.0 | 4.39 | 6.00 | 8.85 | **2.40** | **3.53** | **5.95** |
| D4 | 3.22 | 0.65 | 0.70 | 0.80 | 9.0 | 4.39 | 6.00 | 8.85 | **9.19** | **13.52** | **22.80** |
| **Total** | 24.31 | 0.62 | 0.67 | 0.79 | - | - | - | - | **-** | **-** | **-** |
| | | | | | | | | | | | |
| O1 | 0.50 | 0.68 | 0.72 | 0.83 | 5.0 | 5.70 | 7.40 | 10.00 | **1.92** | **2.66** | **4.15** |
| O2 | 0.08 | 0.71 | 0.75 | 0.85 | 5.0 | 5.70 | 7.40 | 10.00 | **0.32** | **0.44** | **0.68** |

**Detention Pond A Stage - Storage Relationship**

| Elevation | Area (s.f.) | Incremental Volume (c.f.) | Total Volume (c.f.) | Total Volume (ac-ft) | |
|---|---|---|---|---|---|
| **5232.50** | **0** | **0** | **0** | **0.00** | **Bottom of Pond** |
| 5233.00 | 3,700 | 925 | 925 | 0.02 | |
| 5234.00 | 7,474 | 5,587 | 6,512 | 0.15 | |
| 5235.00 | 9,090 | 8,282 | 14,794 | 0.34 | |
| **5235.50** | **9,959** | **4,762** | **19,556** | **0.45** | ***100-Yr HGL Elev** |
| 5236.00 | 10,828 | 9,959 | 24,753 | 0.57 | |
| **5236.05** | **11,511** | **590** | **25,343** | **0.58** | ***WQCV** |
| 5237.00 | 23,757 | 17,293 | 42,046 | 0.97 | |
| 5238.00 | 37,715 | 30,736 | 72,782 | 1.67 | |
| **5238.41** | **49,209** | **17,795** | **90,577** | **2.08** | ***10-Year Volume** |
| **5238.91** | **54,199** | **41,857** | **114,639** | **2.63** | ***100-Year Volume** |
| 5239.00 | 55,814 | 46,765 | 119,546 | 2.74 | |
| 5239.91 | 65,788 | 98,845 | 171,627 | 3.94 | |

NOTE:

ANY DEVELOPMENT SOUTH OF THE DRAINAGE DIVIDE WHICH INCREASES THE IMPERVIOUS AREA FROM THE EXISTING CONDITION WILL REQUIRE ANALYSIS AND AMENDMENT OF THIS DRAINAGE PLAN.

L E G E N D

- Stormline
- Existing Contours
- Proposed Contours
- Flow Arrow
- Master Basin Boundary
- Sub Basin Boundary
- A1 1.20 ac. — Basin Designation

NOTES:
1. ALL STORM OUTFALL LINES ARE PRIVATE AND WILL BE MAINTAINED BY OWNER'S ASSOCIATION

2. DETENTION POND IS PRIVATE AND WILL BE MAINTAINED BY OWNER'S ASSOCIATION

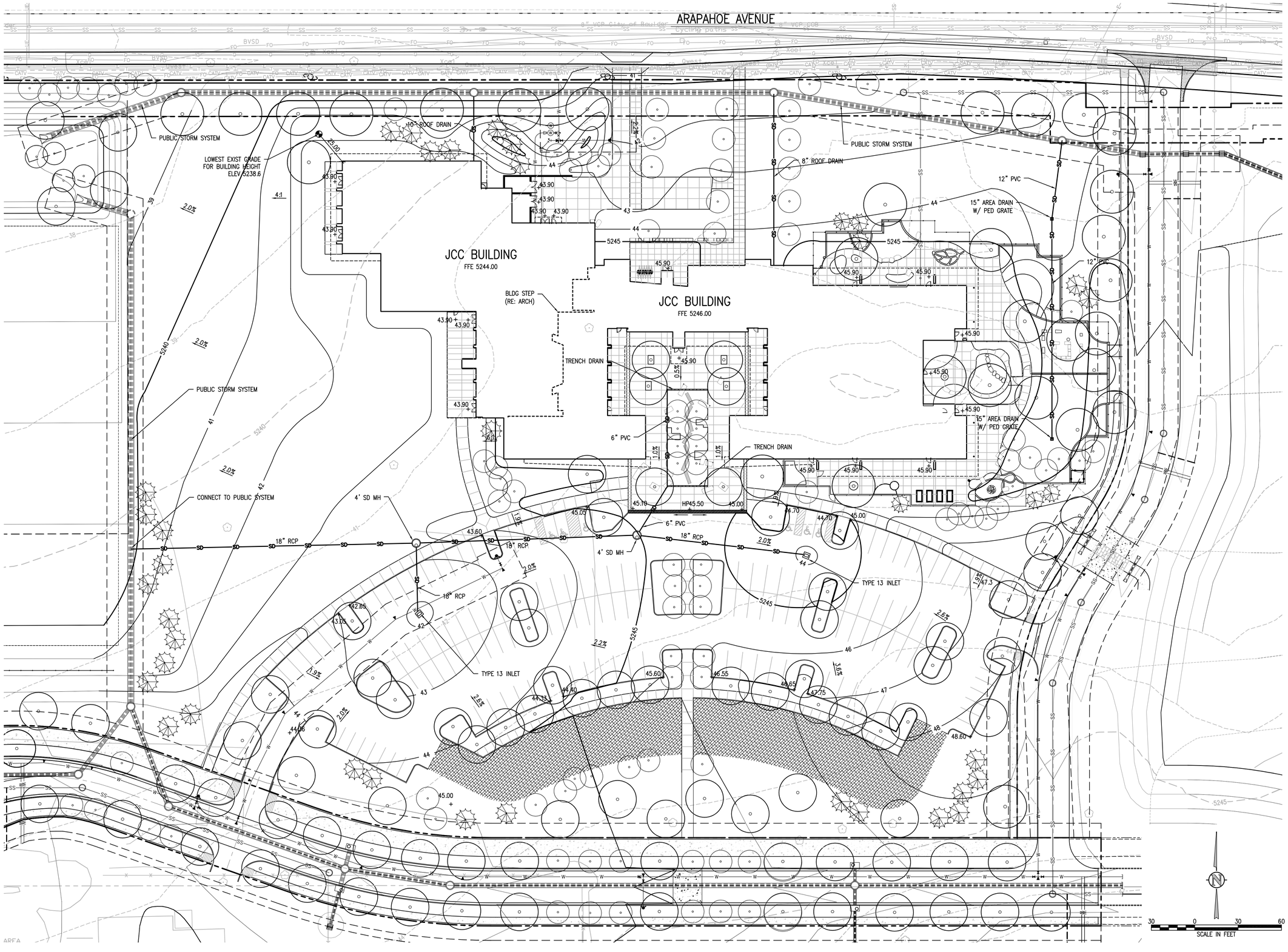
3. REFER TO BJCC DRAINAGE REPORT FOR DETAILED LOT 1 DRAINAGE PLAN

# BOULDER JEWISH COMMONS BOULDER, CO DRAINAGE PLAN

HURST
CIVIL ENGINEERING
PLANNING
SURVEYING
2500 Broadway, Suite B
Boulder, CO 80304
303.449.9105
www.hurst-assoc.com

| | |
|---|---|
| SCALE | HOR. 1"=60' VERT. N/A |
| DESIGN/APPR. | DH |
| DRAWN BY | DH |
| DATE | 07-01-13 |
| SHEET | 1 OF 1 |

FILE G:\23121\Const\121-MD.dwg





RB+B Architects, Inc.
315 East Mountain Ave
Suite 100
Fort Collins, CO 80524-2913
T - 970.484.0117
F - 970.484.0264

© 2009 www.rbbarchitects.com


CONSULTING ENGINEERS
JVA, Incorporated
1319 Spruce Street
Boulder, CO 80302
Phone: 303.444.1951
Fax: 303.444.1957
e-mail Info@jvajva.com


**SITE REVIEW**
**RE-SUBMITTAL**

# BOULDER JEWISH COMMONS

BOULDER JCC
ARAPAHOE AND CHERRYVALE
BOULDER, CO 80303

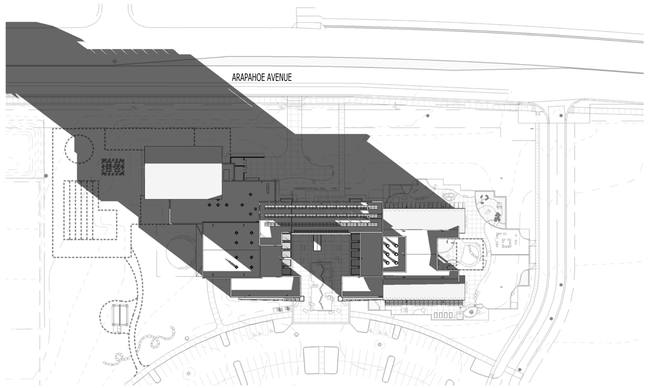
**PROJECT #:** 1118

**ISSUE DATE:** 07/01/13

GRADING AND DRAINAGE PLAN

**C1.0**

11/7/2011 1:26:22 PM

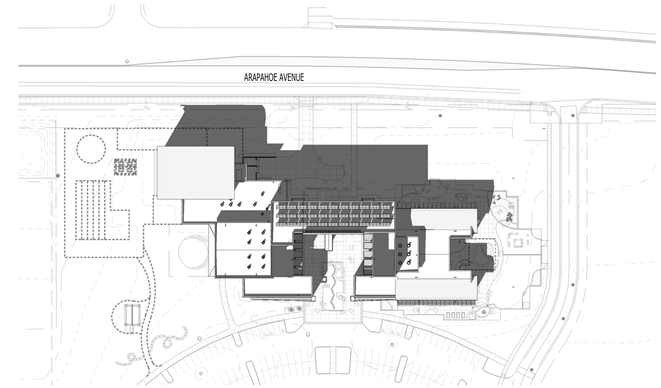



**DEC 1 AM**

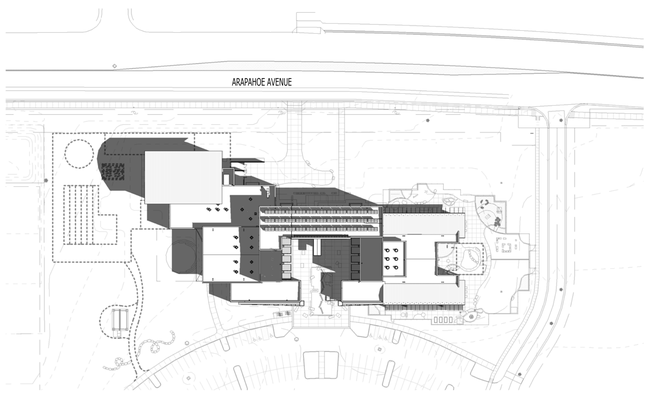
1 100-0

**DEC 1 1 PM**

1 100-0

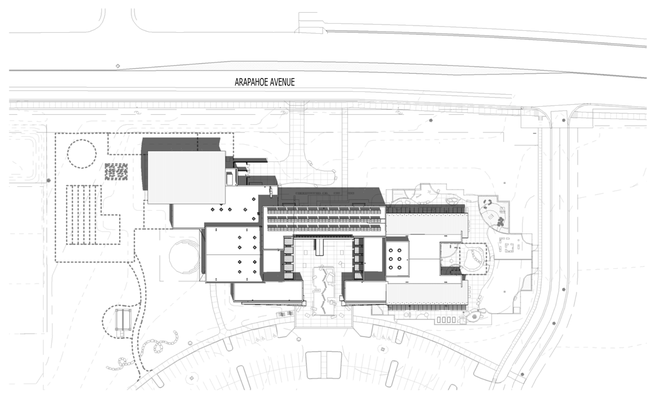



**DEC 1 PM**



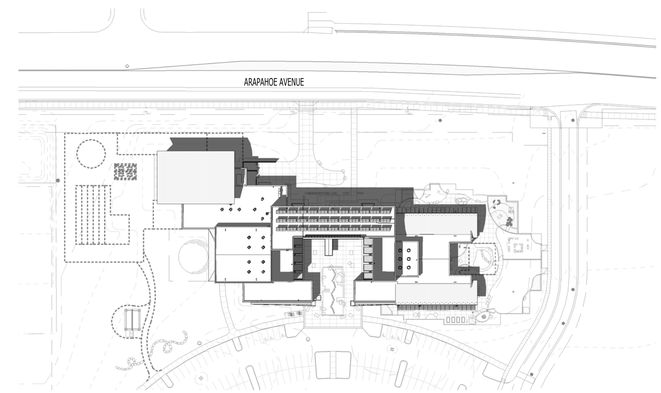

**MAR SEP 1 AM**

1 100-0



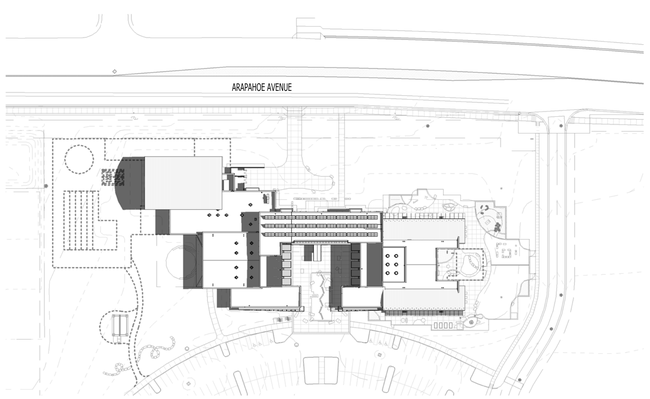

**MAR SEP 1 1 PM**

1 100-0



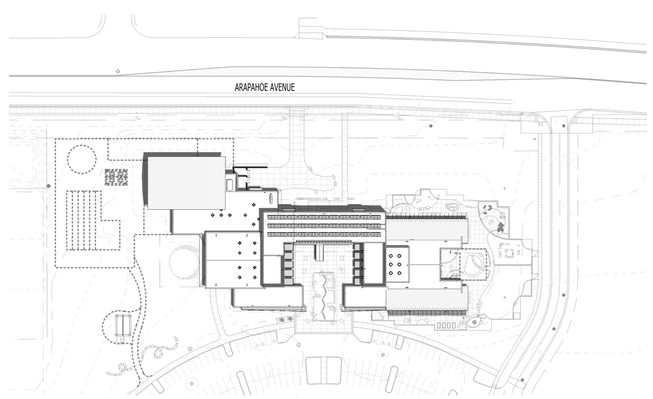

**MAR SEP 1 PM**

1 100-0



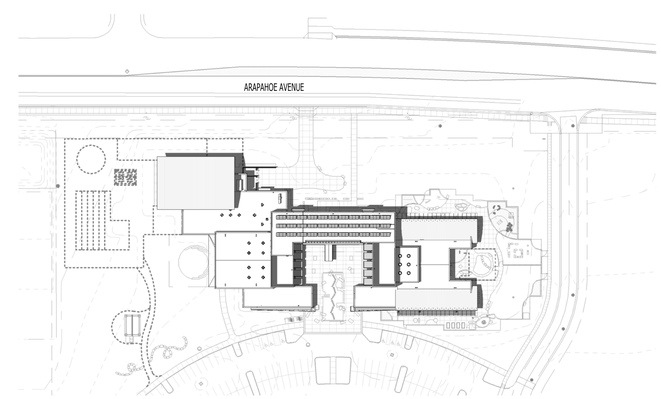

**JUN 1 AM**

1 100-0




**JUN 1 1 PM**

1 100-0




**JUN 1 PM**

1 100-0

8/29/2013 3:42:25 PM - **PLOT DATE**


ARCHITECT

RB+B Architects, Inc.
315 East Mountain Ave
Suite 100
Fort Collins, CO 80524-2913
T - 970.484.0117
F - 970.484.0264

© 2009 www.rbbarchitects.com

SEAL

CONSULTANT

PROJECT PHASE

**SITE REVIEW**
**RE-SUBMITTAL**

PROJECT INFORMATION

# BOULDER JEWISH COMMONS

BOULDER JE SH COMMUN TY CENTER

ARAPAHOE AND CHERRYVALE
BOULDER, CO 80303

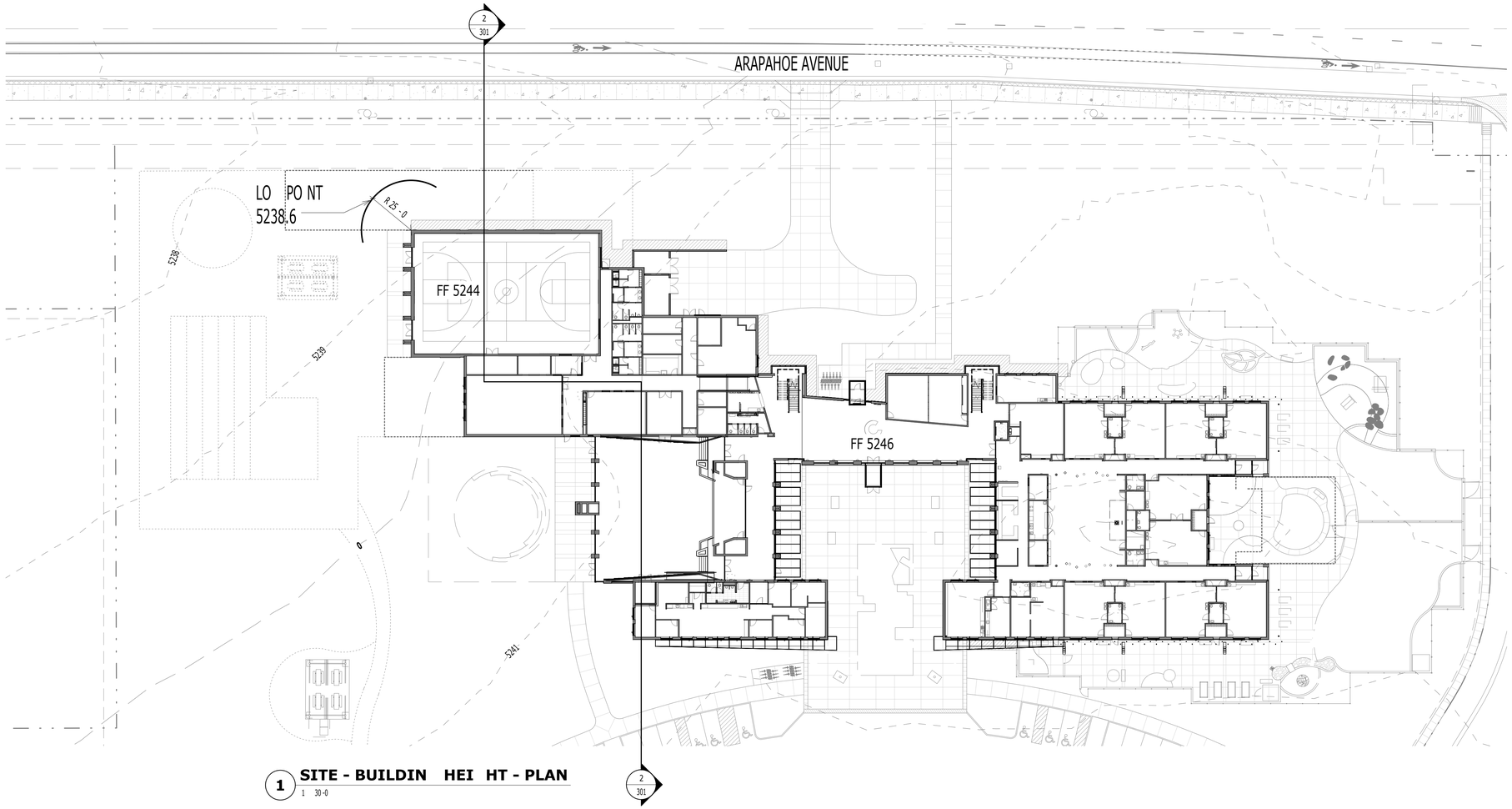
SHEET INFORMATION

**PROJECT #:** 1118

**ISSUE DATE:** 07/01/13

SOLAR ANALYS S

**01**




## 1 SITE - BUILDIN HEI HT - PLAN

1 30-0

## SITE - BUILDIN HEI HT - SECTION

1 30-0

HE HT MOD F CAT ON OF 5 -0 S RE UESTED. THE PROPOSED H HEST PO NT ON THE BU LD N S 32 -0 ABOVE F N SHED RADE. TH S S 4 -5 H HER THAN THE ALLO ED HE HT OF 35 -0 ABOVE E ST N RADE AT LO EST PO NT TH N 25 -0 OF THE BU LD N . THE 25 PER METER HAS BEEN MEASURED FROM THE OUTL NE OF THE PHASE 1 BU LD N FOOTPR NT.

PEDESTR ANS ARE ACCOMODATED AT THE ROUND LEVEL BY A MA N ENTRANCE ON THE SOUTH S DE OF THE BU LD N AND A SECONDARY ENTRANCE ON THE NORTH. AN ATTRACT VE LASS ENTRANCE TH SMALL COURTYARD S PROV DED ON THE NORTH OF THE BU LD N . T HAS BEEN DES NED TO ACCESS THE LOBBY AT THE SAME PO NT AS THE MA N LAR E COURTYARD ENTRANCE ON THE SOUTH. THE PERCENT OF TRANSPARENT MATER AL AT THE ROUND LEVEL S 45 .

S NA E AND RAPH CS ON THE NORTH FACADE LL BE D RECT ONAL TO MA NTA N TH S AS A SECONDARY ENTRANCE. S NA E ON THE SOUTH FACADE LL ND CATE THE FAC L TY BOULDER JE SH COMMUN TY CENTER , STREET ADDRESS AND SAY N EVERYONE S ELCOME . TH S LL BE ATTACHED TO THE BU LD N . A MONUMENT S N AT THE CORNER OF CHERRYVALE ROAD AND ARAPAHOE AVENUE AND AT THE TRAFF C C RCLE ARE ALSO NCLUDED AND LL MEET BOULDER S N CODE RE U REMENTS.

## BUILDIN HEI HT

8/29/2013 3:40:58 PM - **PLOT DATE**


ARCHITECT

RB+B Architects, Inc.
315 East Mountain Ave
Suite 100
Fort Collins, CO 80524-2913
T - 970.484.0117
F - 970.484.0264

© 2009 www.rbbarchitects.com

SEAL

CONSULTANT

PROJECT PHASE

**SITE REVIEW RE-SUBMITTAL**

PROJECT INFORMATION

# BOULDER JEWISH COMMONS

BOULDER JE SH COMMUN TY CENTER
ARAPAHOE AND CHERRYVALE
BOULDER, CO 80303

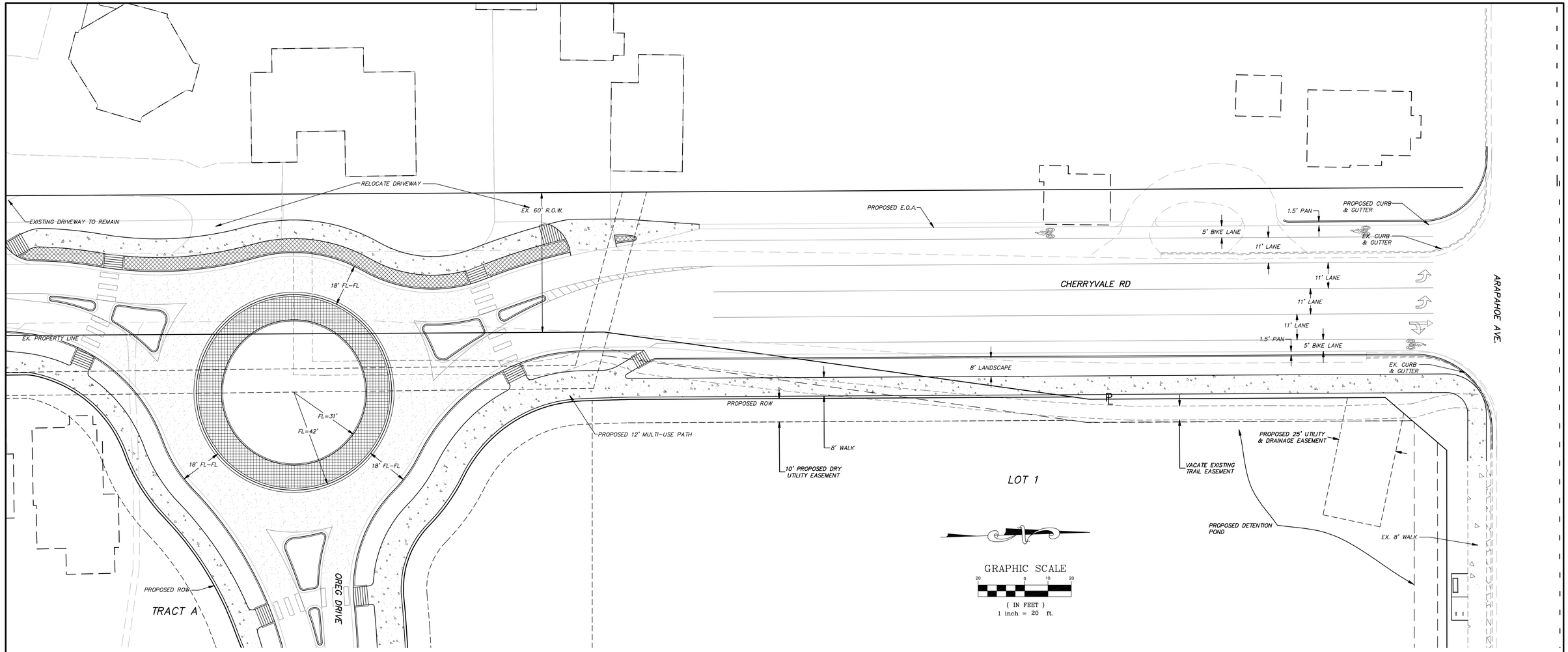
SHEET INFORMATION

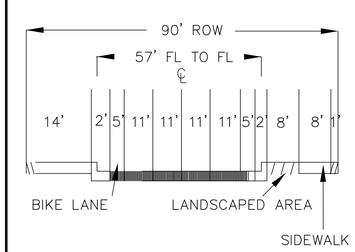
**PROJECT #:** 1118

**ISSUE DATE:** 07/01/13

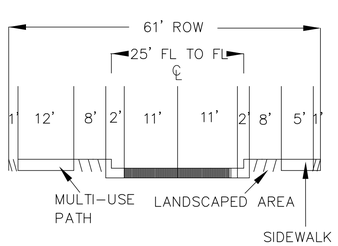
ALLO ABLE BU LD N HE HT

**01**

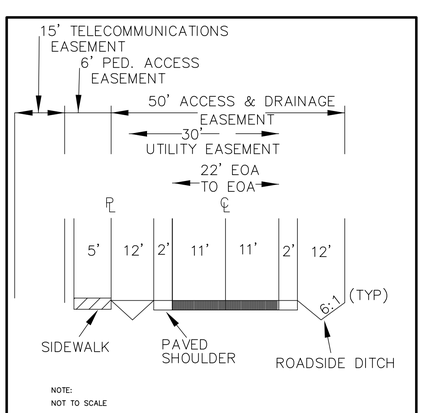


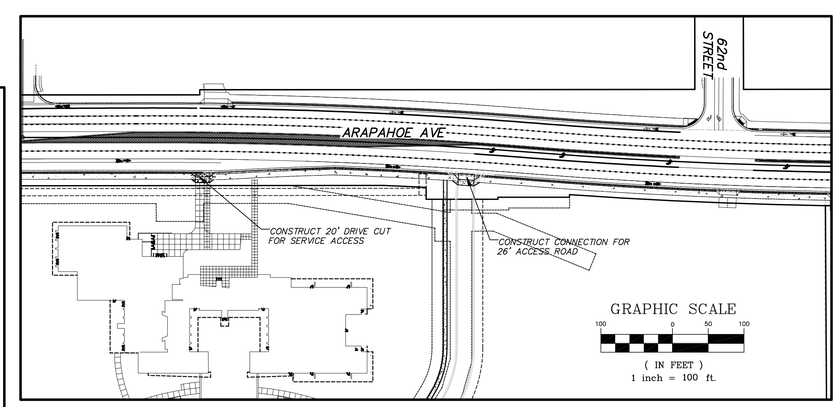

CHERRYVALE ROAD
BOULDER JEWISH COMMONS
PROPOSED STREET CROSS-SECTION




OREG DRIVE
BOULDER JEWISH COMMONS
PROPOSED STREET CROSS-SECTION




PUBLIC ACCESS EASEMENT
BOULDER JEWISH COMMONS
PROPOSED STREET CROSS-SECTION




72 HOURS BEFORE YOU DIG
CALL THE UTILITY NOTIFICATION CENTER OF COLORADO (U.N.C.C.)
811
GAS, ELECTRIC, TELEPHONE, CATV AND PANHANDLE EASTERN PIPELINE LOCATIONS

**BOULDER JEWISH COMMONS**
**BOULDER, CO**
**STREET SECTION**

HURST
CIVIL ENGINEERING
PLANNING
SURVEYING
2500 Broadway, Suite B
Boulder, CO 80304
303.449.9105
www.hurst-assoc.com

| | |
|---|---|
| SCALE | HOR. 1"=60' VERT. N/A |
| DESIGN/APPR. | OCH |
| DRAWN BY | RH |
| DATE | 07-01-13 |
| SHEET | 1 OF 1 |

FILE G:\23121\Const\121-STREET SECTIONS.dwg

# BOULDER JCC
# USE AND PARKING MANAGEMENT PLAN
September 3, 2012

## Overview

The Boulder JCC has operated at our current location—3800 Kalmia Avenue in Boulder—for 11 years. The new Boulder JCC will be located at the southeast corner of Cherryvale Road and Arapahoe Avenue in Boulder, as detailed in our City submission. This new facility will allow the Boulder JCC to enlarge our Early Childhood Center, expand our educational programs, and provide community meeting and celebration space. These are fundamentally similar uses to those that we conduct presently in our current location, but will be enhanced by our larger and more up-to-date facility. *This Use and Parking Management Plan (PMP) is therefore based on our experience at our current location, which informs the assumptions herein about events, use patterns, and parking needs. In short, we know a great deal about how we will use our new facility because of our history in our existing facility*.

***Based on the analysis in this Use and Parking Management Plan, we conclude that the new Boulder JCC facility will need between 165 and 180 parking spaces.*** **For a typical day we will need approximately 160 spaces, but under a maximum use scenario we may need as many as 180.**

## Table of Contents

We have organized this Parking Management Plan as follows:


**I. Background Information** …….. 2
- a. Description of Proposed Facility …… 2
- b. Proposed Hours of Use …….. 2
- c. Number of Employees …… 2

**II. Explanation of Parking Needs** …… 3
- a. Maximum Use Scenario – Requires Approx. 173 Spaces …… 4
- b. Typical Weekday/School Year Use Scenario – Requires Approx. 166 Spaces 6
- c. Typical Weekday/Summer Use Scenario – Requires Approx. 161 Spaces ….. 7

**APPENDIX A: Detailed Explanation of Specific Parking Uses** …….. 8
- a. Three Primary Uses: Early Childhood Center, Summer Camp, and Community Hall …… 8
- b. Other Uses …….. 8
- c. Proposed Future Expansion …… 10

**APPENDIX B: Supporting Data Tables** …… 11

# I. Background Information

### *a. Description of Proposed Facility*

The proposed Boulder JCC will be an approximately 50,000 square foot (gross) building developed on a 9 acre parcel at the southeast corner of Cherryvale Road and Arapahoe Avenue in Boulder. Our City submission also proposes up to 20,000 square feet (gross) of additional future expansion in a later phase.

The Boulder JCC is a multi-use facility catering to all ages—from six-week-old infants to seniors. The proposed building has a number of different programming spaces, including:

- Early Childhood Center (ECC)
- adult classrooms
- gymnasium
- group fitness and cardio rooms
- Community Hall
- baby classrooms
- library
- tumbling room
- community office space
- JCC office space
- teen lounge

The new facility will also have outdoor facilities that include an athletic field and recreation areas. The proposed future expansion includes a larger fitness area, additional ECC classrooms, additional adult classroom space, and the future addition of an outdoor swimming pool.

### *b. Proposed Hours of Use*

To understand the JCC's hours of use it is helpful to break our uses into two categories: *regular uses* and *special uses*.

> *Regular Uses:* Our normal uses occur Monday through Thursday 8:00 a.m. to 9:00 p.m., Fridays 8:00 a.m. to sundown, and Sundays 8:00 a.m. to 8:00 p.m. This includes all of our regular daily uses, such as our pre-school, classroom and fitness, evening programming for seniors, etc. In general we have far less activity on weekends than during the week, and will be open on Sundays only if there is a special program (e.g., we are showing a film, etc.).
>
> *Special Uses:* In addition to these regular uses, we will use our Community Hall for larger lectures or events on a weekday or weekend evening. We also anticipate renting our facility for bar/bat mitzvahs, wedding celebrations, and other special events, particularly on Saturdays and Sundays when we might otherwise be closed. We cannot determine precisely the times such rentals might occur, but we anticipate that they would usually begin in the afternoon and run into the evening (e.g., 4:00 p.m. through 11:00 p.m., for example).

### *c. Number of Employees*

Based on our pro forma and our current use patterns, we anticipate that we will operate in our new building with approximately 50 employees. More than half of these employees will be part-time (around 24 hours). The others will be full-time or ¾ time. If we expand further in the future—as discussed above—the staff could grow to 58, again with half being part time.

The Boulder JCC encourages health and wellness. At our current Kalmia Avenue location, up to 10 staff members ride their bicycles to work and some carpool as well. Our new location at the corner of Cherryvale and Arapahoe has better access to the bike trail system, so we see bicycle use continuing or increasing as we move to our new facility. In addition, our new location is better served by public transportation, and we anticipate that several of our staff members will take the bus from Boulder or Louisville. We plan to continue to encourage our employees to make use of bicycle, carpooling, and public transportation.

## II. Explanation of Parking Needs

***As noted, we have operated the Boulder JCC at our current location for 11 years. Based on this experience, it is very important to understand that the JCC does not generate consistent heavy traffic or parking usage throughout a typical day. Instead, our parking needs vary greatly as different activities take place at our facility.***

To understand the JCC's parking needs, the following basic overview may be helpful. (These are simply guidelines for reference—specific information is provided in the remainder of this PMP.)

(1) *During the regular school year, our primary parking needs are generated by our Early Childhood Center, which operates Monday through Friday only*. Parents come in the morning to drop off their children and return in the afternoon to pick them up. For parking purposes, the Early Childhood Center is essentially a large pre-school facility. At maximum capacity it will hold 150 children. During the summer, our Early Childhood Center operates at a reduced capacity (50 percent or 75 children).

(2) *During the summer, our primary parking needs are generated by our summer camp for kids and teens*. Again, most of our parking needs result from parents dropping off their children in the morning and picking them up in the afternoon.

(3) *Our third major use will be for events taking place in our Community Hall*. This might include showing a film, hosting a speaker, or celebrating a bar/bat mitzvah or a wedding. Some of these will be JCC events and some will be rental events. The Community Hall seats 250 people in a dinner configuration at round tables, or 330 people auditorium-style in rows of seats. *Most of our existing JCC events, however, attract between 50 and 120 people. In addition, larger Community Hall events will take place in the evenings, and therefore will not conflict with the parking needs of either the Early Childhood Center or the summer camp, because they will occur later in the day.*

(4) *All of our other uses—our fitness studio, our gymnasium, our adult classroom spaces, etc.—have relatively low impact on parking demand.* We do not fill these spaces full time, but instead conduct programming in such spaces on and off throughout the day.

***The JCC has a great deal of control over the scheduling of these uses. Our Facilities Director is careful to program our classes and events so that they do not conflict with our Early Childhood Center pick up or drop-off times, for example, and so that adult education classes do not overlap with Community Hall events.***

To explain our parking needs, we present three scenarios for your consideration that illustrate how these uses combine:

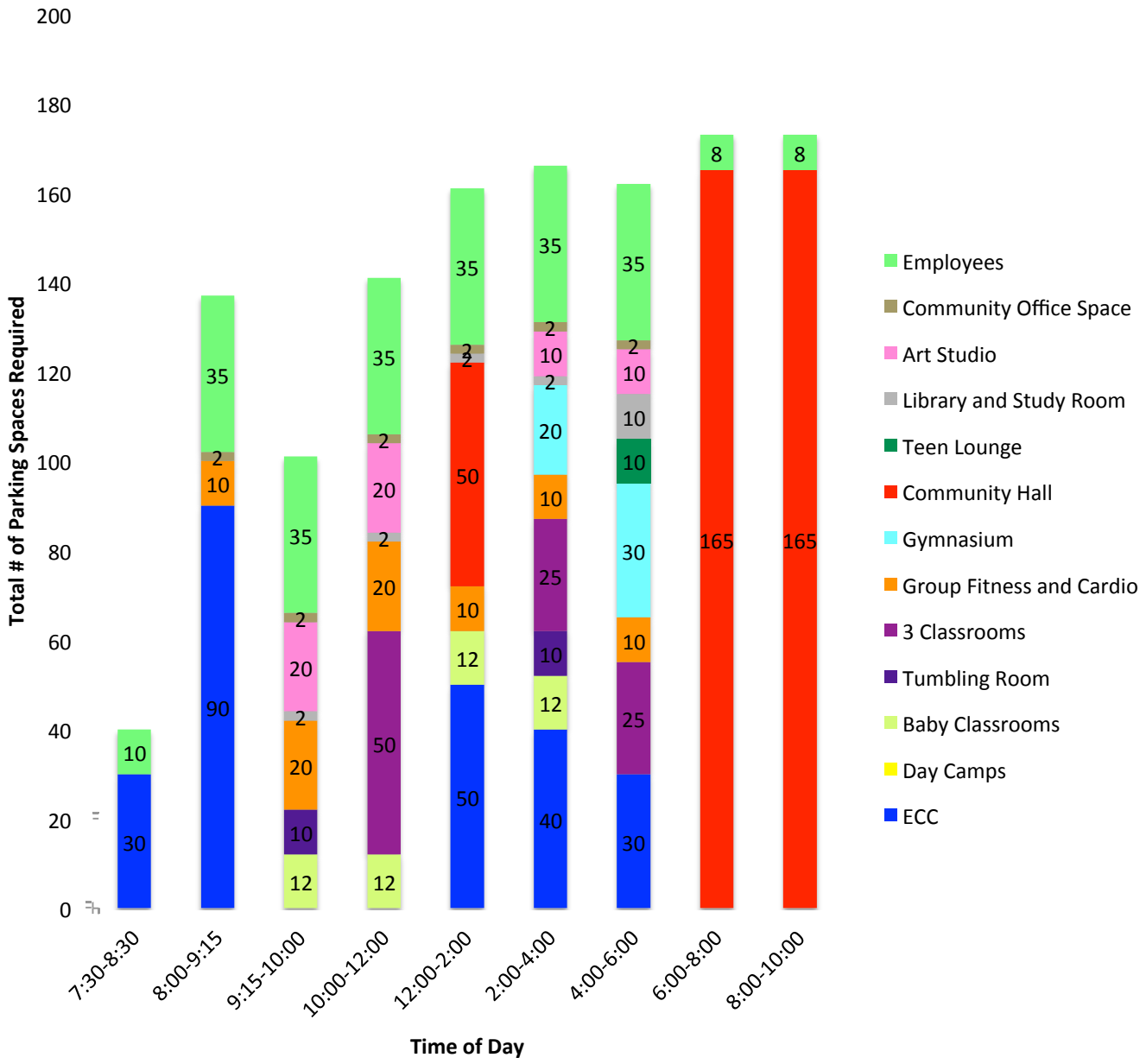
(a) a "Maximum Use Scenario" that shows what our maximum parking needs will be when we have a large community hall event scheduled in the evening;

(b) a "Typical Weekday/School Year Use Scenario" that shows the parking needs for a weekday during the school year when the Early Childhood Center is our primary use; and

(c) a "Typical Weekday/Summer Use Scenario" that shows the parking needs for a weekday during the summer.

### *a. Maximum Use Scenario – Requires Approx. 173 Spaces*

**Figure 1:**
**Parking Space Usage for a School-Year Weekday**
**With 35 Employees Driving,**
**an At-Capacity Early Childhood Center,**
**Regular Programming in All Spaces,**
**and a Very Large Evening Community Hall Event**
**(See Appendix B p. 11 for Detailed Supporting Data)**




We begin with a maximum use scenario: a school-year weekday in which our Early Childhood Center is in session and operating at maximum capacity (150 students), there is programming in all other spaces (such as the adult classrooms, the gymnasium, etc.), and there is a large evening event scheduled in our Community Hall (330 attendees).

Figure 1 shows this maximum use scenario. On the day shown in Figure 1, the morning parking usage is generated by parents dropping off their children at the Early Childhood Center, as well as employees arriving for work. During the middle of the day, usage rises as some parents pick up their children mid-day. Figure 1 then shows a large Community Hall event in the evening. Additionally, smaller spaces such as the Art Studio, Library, Teen Lounge, Gymnasium, Fitness room, or Classrooms are in use throughout the day, although they generate far less parking demand. (Figure 1 is based on the Maximum Use Scenario data chart on page 11 of Appendix B.)

Figure 1 shows that in this maximum use scenario, our largest parking need is for 173 spaces. *The vast majority of days at the JCC are far less busy than Figure 1 suggests, however. In fact, parking demand would be* reduced *by each of the following three factors:*

- Figure 1 assumes that 80 percent of children brought to or picked up from our Early Childhood Center are brought in a car alone with a parent—that only 20 percent are brought with a sibling or in a carpool. Based on our experience at the existing JCC, we predict that in fact a significantly higher percentage of our ECC children will share rides, which will lower parking demand during ECC drop off and pick up times.

- Figure 1 assumes that 35 employees out of 50 will drive to work and require parking spaces. This is roughly equivalent to the percentage of employees that drive to our current facility. We expect a slightly greater percentage to use public transportation, bicycles, or carpooling in our new facility, however, and we will encourage employees to use such shared forms of transportation.

- Figure 1 shows a 330 person auditorium-style seating event in the Community Hall during the evening. *This would be an extremely large event for the JCC*. Most auditorium-style events in the Community Hall would be far smaller—perhaps 50-125 people. Dinner-style events in the Community Hall would hold up to 250 people.

  In addition, Figure 1 assumes that an event of this size would need 165 parking places (for a total during that time period, including employee parking spaces, of 173). To reach this figure, we assume that 45% (75 cars) of the cars attending this event would bring only one person; approximately 25% (40 cars) would bring 2 people; 15% (25 cars) would bring 3 people; and 15% (25 cars) would bring 4 people. This totals 165 cars and parking spaces.

  This mix of ride types (e.g., 1-person, 2-person, etc.) most likely *overestimates* the number of parking spaces needed. Boulder JCC events are almost always family-oriented, and therefore a majority of our patrons arrive in vehicles carrying 2-4 people. In addition, our senior patrons often carpool, again leading to a majority of vehicles with multiple occupants. The JCC encourages such carpooling, and if we ever hold an event as large as the one depicted in Figure 1, we would certainly encourage shared vehicle occupancy to reduce the parking demand. We could also offer incentives at such an event—for example, a reduced ticket price—for patrons that carpool. All of this would most likely mean that we would need fewer than 165 parking spaces for such an event.

  (Note that even a very different mix of ride types would generate need for no more than 165 parking spaces. For example, if we assume that most attendees to such an event came in cars as couples, rather than as families, we might assume 18% (30 cars) of the cars attending would bring only one person; 67% (110 cars) would bring two; 9% (15 cars) would bring three; and 6% (10 cars) would bring four people. This again totals 165 cars/parking spaces for a 330 person event.)

In summary, Figure 1 shows a maximum use scenario under which both of our largest parking uses—the Early Childhood Center and the Community Hall—are at maximum capacity. This scenario would require a maximum of approximately 173 parking spaces.

### *b. Typical Weekday/School Year Use Scenario – Requires Approx. 166 Spaces*

**Figure 2:**
**Parking Space Usage for a School-Year Weekday**
**With Normal Early Childhood Center Use,**
**Normal Programming in All Spaces,**
**and an Evening Community Hall Event**
**(See Appendix B p. 12 for Detailed Supporting Data)**

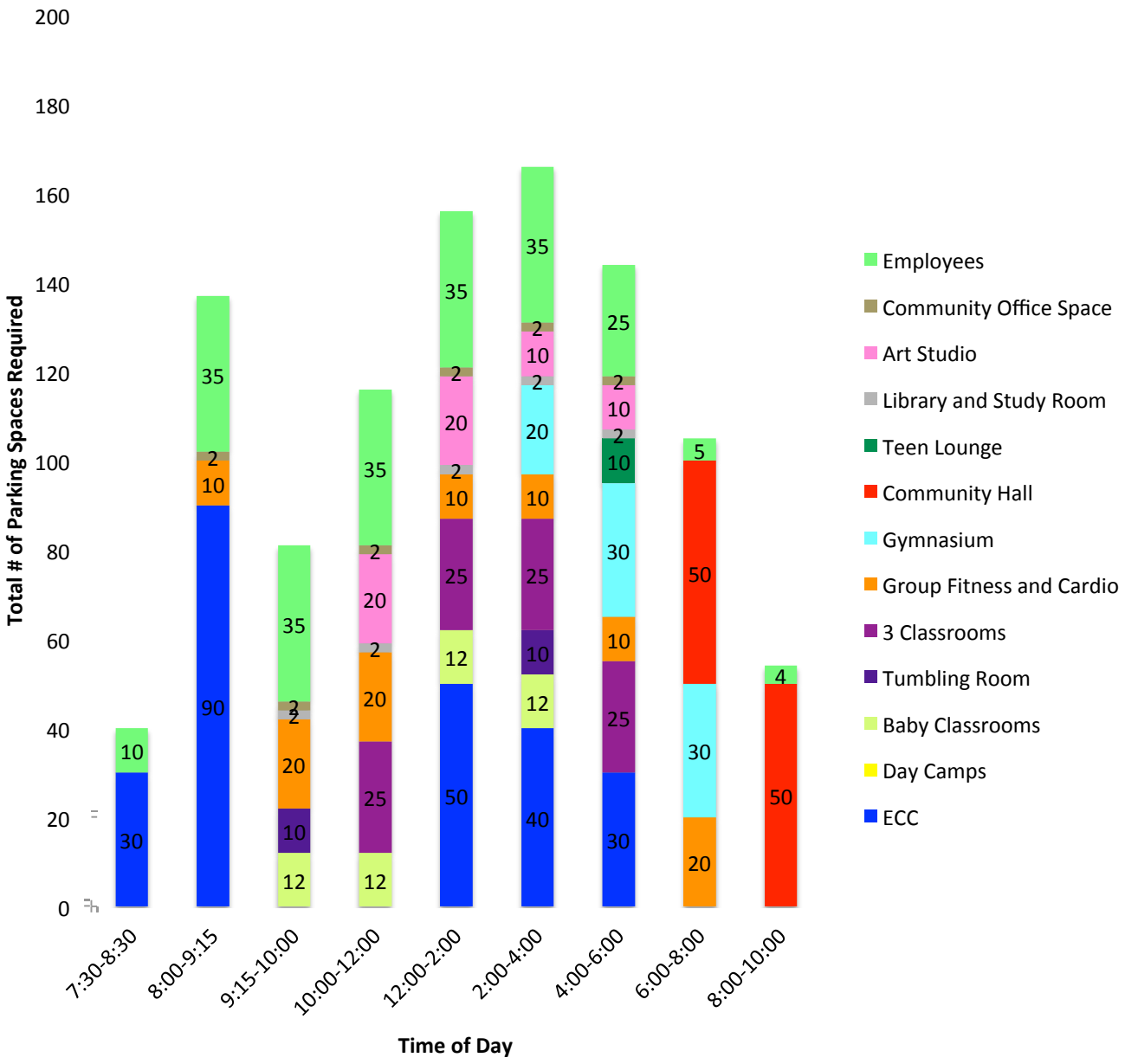



Figure 2 shows a far more typical Boulder JCC weekday during the school year. The parking needs for a typical day are lower than for the "Maximum Use" scenario. The day begins with Early Childhood Center drop-offs in the early morning and the arrival of our employees. Although programming in our various classroom, fitness, and gymnasium spaces adds some parking demand on-and-off throughout the day, the Early Childhood Center pickup/drop-off at mid-day again accounts for the greatest parking need. Figure 2 assumes an evening event in the Community Hall that requires 50 parking spaces. In this typical school year weekday scenario, our maximum parking need would be approximately 166 spaces.

### *c. Typical Weekday/Summer Use Scenario – Requires Approx. 161 Spaces*

**Figure 3:**
**Parking Space Usage for a Summer Weekday**
**With Normal Early Childhood Center Summer Use,**
**Normal Summer Camp Use,**
**Normal Programming in all Spaces**
**And an Evening Community Hall Event**
**(See Appendix B p. 12 for Detailed Supporting Data)**

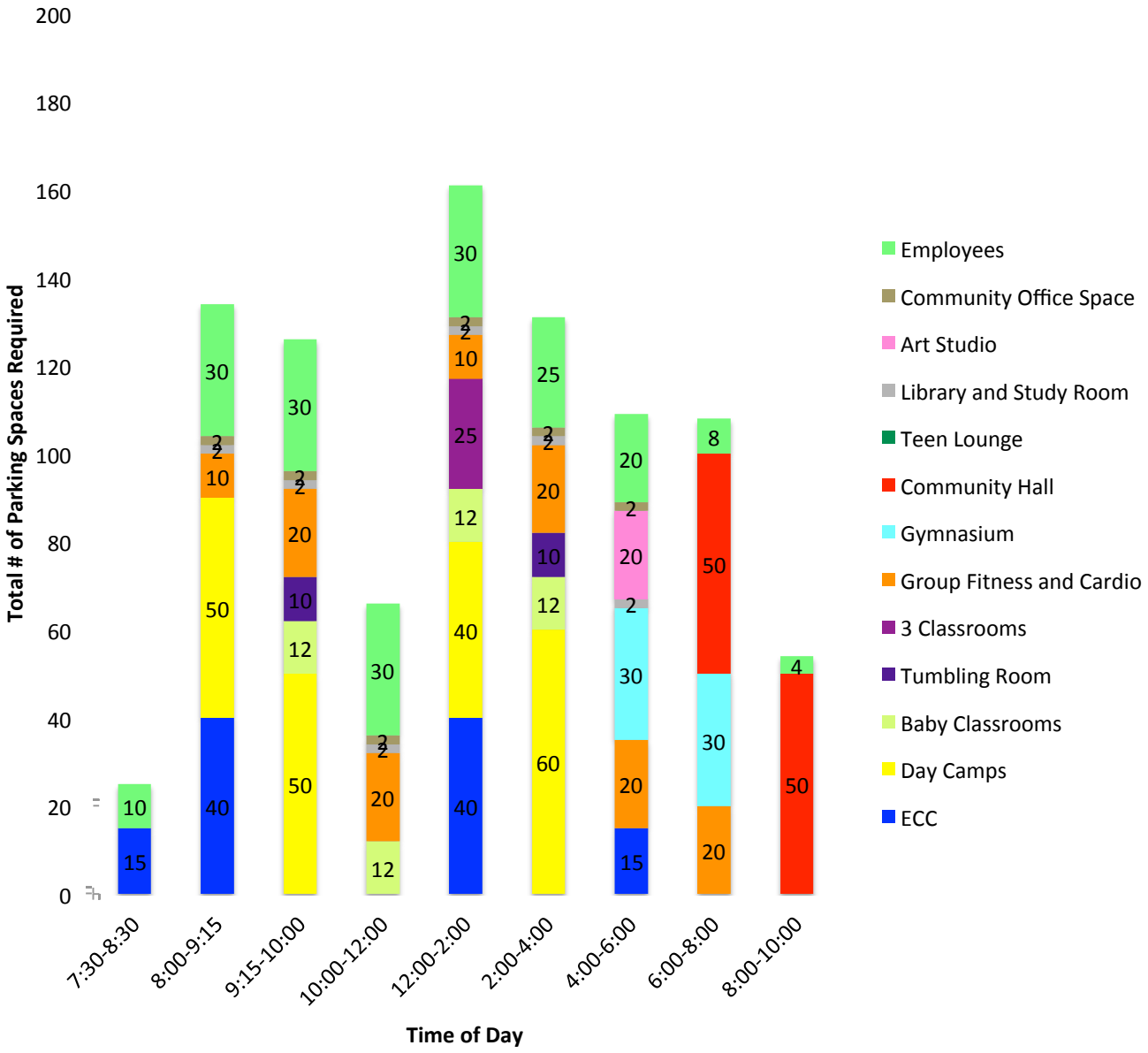



Figure 3 shows a typical summer day. As noted, during the summer our Early Childhood Center is open at a reduced capacity—roughly 40-50 percent (or 75 students). At the same time, we operate a summer camp for elementary-aged children and teens. As a result, Figure 3 shows usage in the morning for ECC and summer camp drop-offs. Figure 3 also shows a Community Hall event requiring 50 parking spaces in the evening, just to illustrate that such events do not overlap with either the ECC or the summer camp. In this typical summer weekday scenario, our maximum parking need would be approximately 161 spaces.

## APPENDIX A:
## DETAILED EXPLANATION OF SPECIFIC PARKING USES

As explained above, our three primary uses that affect parking are our Early Childhood Center, our summer camp, and our Community Hall. In this Appendix we describe those three uses in detail. In addition, we describe each of our other uses in detail. As noted, however, even in combination all of the other uses of the JCC's facility are relatively small compared to these three primary uses.

### *a. Three Primary Uses: Early Childhood Center, Summer Camp, and Community Hall*

(1) Early Childhood Center: The ECC will serve families with children from 6 weeks old to pre-kindergarten. The total capacity of the school at any given time will be 150 students. These students will be picked up and dropped off at different times depending on their choice of half-day, extended day, or full-day. Many of these students are siblings and many carpool as well. This function requires 30 spaces between 7:30-8:30am (for early drop-off), 90 spaces between 8:30-9:15am (for regular drop-off) and about 70 spaces between 12-2pm (for pick-up). It also requires 30 spaces between 2-4pm and 30 spaces between 4-6 pm (as some families choose extended day options). The spaces will be used for about 20 minutes to allow time for parents to walk their children into the building and leave.

During the summer our ECC operates at 40-50% capacity. We therefore estimate needing 15 spaces between 7:30-8:30am and 40 spaces between 8:30-9:15am (for drop-off), 40 spaces between 12-2pm (for pickup), and 15 spaces between 4-6pm (for late pickup).

(2) Summer Camp: The Boulder JCC operates a day camp during the summer for elementary and middle school children. The camp utilizes much of the space in the building, meaning that we offer limited other (adult) programming.

When we reach capacity, we anticipate that our elementary age camp will serve approximately 150 campers (many siblings of Early Childhood Center summer attendees and many siblings of other campers). We will start our camp slightly later than our Summer ECC to ease parking demand and traffic flow. Depending on the number of children, we will stagger the starts of these programs to ensure safety in the parking lots.

(3) Community Hall: The Community Hall's primary use will be in the evening when larger events and rentals will use the space. The largest of the JCC programs currently attract about 120 people, but most events are closer to 50 people. If a larger event is planned we will ensure that no other events that require parking will occur during the same time. During the summer, the Community Hall will be used for camp during the day, so no additional parking will be necessary. The largest events will be rentals that will take place on Friday night and Saturday when the JCC does not have any other programming, so the entire parking lot will be allocated to the Community Hall, as indicated in the Maximum Use Scenario.

### *b. Other Uses*

Adult Classroom Space: The two classrooms on the first floor and the adult gathering space on the second floor provide space to hold meetings, educational lectures, films, receptions, and other cultural events. Each of the three rooms can hold 25 people. Meetings are scattered throughout the day. At any given time, we anticipate that these rooms will require up to 50 spaces, but they will not be scheduled to start at the same time as the primary drop-off and pick-up times of the ECC. During the summer, we will not host many events in these rooms. Instead, in the summer these rooms will be used for camp.

Gymnasium: During the day in the school-year from 9am-3pm the gymnasium will be used as activity space for the ECC, so no additional spaces will be necessary. From 3pm-6pm, the gym will be used for afterschool programming that will require approximately 20 parking spaces. From 6pm-8pm the gymnasium will be used for leagues. We

anticipate that about 30 cars will be parked at this time. (If the gymnasium generates more than 30 parking spaces in the evening, we will ensure that such gymnasium use does not occur if a large Community Hall event is taking place, so that the two uses do not simultaneously generate parking demand.) During the summer, the gymnasium will be used for our day camps.

Group Fitness and Small Cardio Rooms: These two small fitness rooms hold 20 and 12 people, respectively. We plan to use the Group Fitness room for small classes throughout the day. Most of the attendees will be parents dropping off or picking up their children at our ECC or summer camp. During those drop-off and pickup times, therefore, we estimate needing 8-10 additional parking spaces for the group fitness room; during other times we estimate needing 15-20 spaces. The Small Cardio Room will be used primarily by staff and for personal training sessions. The vast majority of personal training attendees will be parents dropping off or picking up their children from our ECC or summer camp. We therefore estimate needing only 1-2 additional spaces for this cardio room.

Baby Classrooms: There are classes that run throughout the day from 9:30-4pm. Each of these classes has at most 12 baby participants (parent and child). There are two classrooms where this programming will take place and they rarely occur at the same time. We therefore anticipate that there will be at most 12 cars parked for these activities at any given time. During the summer the programming is limited as the day camps use these classrooms. There is little to no programming on the weekends in these rooms.

Tumbling Room: The tumbling room is shared between the ECC, Baby Classes, and Open (public) Tumbling Times. There will be up to 2 tumbling classes a day (but not every day and not on weekends). At most, at any given time, we anticipate 10 cars parked to use this space.

Teen Lounge: The teen lounge will mostly be used in afterschool programming and some evening activities. Many of these teens do not drive, so they will be dropped off. We anticipate that this program will serve about 20 teens during the afterschool time with about 10 cars parking at any given time.

Library and Study Room: The heaviest use of the library is from our ECC. Other than these children, most of the use comes from people in the building for other reasons. We have about 300 check-outs a year. Therefore, we anticipate at any given time that there will be at most 2 additional people parked to check-out, meet, or study in the library. In addition, the Library has a small Study Room. We expect at most 10 cars once or twice a day if meetings are held in this room.

Art Studio: The small art studio will be used for art-related classes. In the mornings we will hold art classes for adults, which may require up to 20 parking spaces. In the afternoons this art studio will be used for kids art classes. The majority of students will be attendees at our ECC or summer camp that stay for additional class time. In addition, attendees to these afternoon or after school classes will often be siblings of ECC or summer camp children, and/or will carpool with other students. We therefore expect to need 10 parking spaces for the art studio classes in the afternoons.

Community Office Space: The new Boulder JCC will provide office space to several affiliated organizations. For example, the JCC is home to Jewish Family Service. JFS operates with 1.25 employees and anticipates the same as they move into the new building. Most of their services are provided out of the building in senior centers around Boulder County. The programs they operate are joint programming with the Boulder JCC and included in the estimates for parking in our adult classrooms. We have similarly accounted for the possibility of other future users of our community office space by accounting for them as employees in our parking estimates.

### *c. Proposed Future Expansion*

In our City submission we have indicated the future expansions that we envision for the JCC. Here we provide descriptions of the parking needs of these possible future expansions. We anticipate that with these future expansions, the JCC would require a total of 200 parking spaces, 40 more than needed prior to expansion for typical use and 20 more than needed prior to expansion for maximum use.

Swimming Pool: The Boulder JCC swimming pool will be an outdoor pool that will operate from Memorial Day to Labor Day. During the limited part of the school year that the pool is open, the pool will be used by our Early Childhood Center. During the summer, it will be used by our day camp, swim team, as well as JCC members. It will also be open to JCC members in the evening and on weekends. Based on current projections we anticipate that in mornings we would allow swim team and camp to use the pool from 7:30-11:00am, and the pool being open to JCC members from 11:00am-6:00pm. The early morning swim team use will require 20 parking spaces between 7:30-8:30. The membership use from 11:00am-6:00pm will require between 15 and 30 parking spaces—many pool users are likely to also be ECC or summer camp parents. Finally, we will close the pool when a large event (e.g., a bar/bat mitzvah or wedding) is scheduled in the Community Hall.

Fitness Area: In the future we have set aside space to house a 2000 - 3000 SF fitness area. Hours of operation are anticipated to be 9:00am-8:00pm. We see this area being used by many of our parents that drop off their children in our Early Childhood Center as well as other members of the community surrounding the JCC. With this size facility we anticipate that at any given time there will be up to 20 additional cars on top of the cars that park for other reasons and utilize the facility.

2 additional early childhood classes: With the growth of our Early Childhood Center and the demand we see currently, we anticipate that we might need to build two additional classrooms. These classrooms would provide space for an additional 24 children, again with many siblings, carpools, and alternative transportation methods.

3 Additional Classrooms: With the growth of our camps, we may need additional space to house them during the summer. These additional classrooms would provide gathering spaces for the campers. These additional classrooms would not require additional parking spaces, because they would not increase the size of our camp—merely provide more spaces for our camp experience.

## APPENDIX B: SUPPORTING DATA TABLES

### *Figure 1: Maximum Use Scenario*

| Mon.-Fri. School-Year with Maximum Use Assumptions | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | # of Cars Parked During Time-Frame Listed | | | | | | | | |
| **Type** | **7:30-8:30am** | **8:30-9:15am** | **9:15-10am** | **10- 12pm** | **12-2pm** | **2-4pm** | **4-6pm** | **6-8pm** | **8-10pm** |
| Early Childhood Center | 30 | 90 | | | 50 | 40 | 30 | | |
| Day Camps | | | | | | | | | |
| Baby Classrooms | | | 12 | 12 | 12 | 12 | | | |
| Tumbling Room | | ECC* | 10 | ECC* | ECC* | 10 | | | |
| 3 Classrooms | | | | 50 | | 25 | 25 | | |
| Group Fitness and Cardio | | 10 | 20 | 20 | 10 | 10 | 10 | | |
| Gymnasium | | ECC* | ECC* | ECC* | | 20 | 30 | | |
| Community Hall | | | | | 50 | | | 165 | 165 |
| Teen Lounge | | | | | | | 10 | | |
| Library and Study Room | | | 2 | 2 | 2 | 2 | 10 | | |
| Art Studio | | | 20 | 20 | | 10 | 10 | | |
| Community Office Space | | 2 | 2 | 2 | 2 | 2 | 2 | | |
| Employees | 10 | 35 | 35 | 35 | 35 | 35 | 35 | 8 | 8 |
| **TOTALS** | 40 | 137 | 101 | 141 | 161 | 166 | 162 | 173 | 173 |
| | | *ECC means that the early childhood center will be using it therefore there are no additional cars | | | | | | | |

### *Figure 2: Typical School Year Weekday*

| Mon.-Fri. School-Year Weekday with Typical Use | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | # of Cars Parked During Time-Frame Listed | | | | | | | | |
| **Type** | **7:30-8:30am** | **8:30-9:15am** | **9:15-10am** | **10- 12pm** | **12-2pm** | **2-4pm** | **4-6pm** | **6-8pm** | **8-10pm** |
| Early Childhood Center | 30 | 90 | | | 50 | 40 | 30 | | |
| Day Camps | | | | | | | | | |
| Baby Classrooms | | | 12 | 12 | 12 | 12 | | | |
| Tumbling Room | | ECC* | 10 | ECC* | ECC* | 10 | | | |
| 3 Classrooms | | | | 25 | 25 | 25 | 25 | | |
| Group Fitness and Cardio | | 10 | 20 | 20 | 10 | 10 | 10 | 20 | |
| Gymnasium | | ECC* | ECC* | ECC* | | 20 | 30 | 30 | |
| Community Hall | | | | | | | | 50 | 50 |
| Teen Lounge | | | | | | | 10 | | |
| Library and Study Room | | | 2 | 2 | 2 | 2 | 2 | | |
| Art Studio | | | | 20 | 20 | 10 | 10 | | |
| Community Office Space | | 2 | 2 | 2 | 2 | 2 | 2 | | |
| Employees | 10 | 35 | 35 | 35 | 35 | 35 | 25 | 5 | 4 |
| **TOTALS** | 40 | 137 | 81 | 116 | 156 | 166 | 144 | 105 | 54 |
| | | *ECC means that the early childhood center will be using it therefore there are no additional cars | | | | | | | |

### *Figure 3: Typical Summer Weekday*

| Mon.-Fri. Summer Weekday with Typical Use | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | # of Cars Parked During Time-Frame Listed | | | | | | | | |
| **Type** | **7:30-8:30am** | **8:30-9:15am** | **9:15-10am** | **10- 12pm** | **12-2pm** | **2-4pm** | **4-6pm** | **6-8pm** | **8-10pm** |
| Early Childhood Center | 15 | 40 | | | 40 | | 15 | | |
| Day Camps | | 50 | 50 | | 40 | 60 | | | |
| Baby Classrooms | | | 12 | 12 | 12 | 12 | | | |
| Tumbling Room | | ECC* | 10 | ECC* | ECC* | 10 | | | |
| 3 Classrooms | | CAMP** | CAMP** | CAMP** | 25 | CAMP** | | | |
| Group Fitness and Cardio | | 10 | 20 | 20 | 10 | 20 | 20 | 20 | |
| Gymnasium | | CAMP** | CAMP** | CAMP** | CAMP ** | CAMP** | 30 | 30 | |
| Community Hall | | CAMP** | CAMP** | CAMP** | CAMP** | CAMP** | | 50 | 50 |
| Teen Lounge | | CAMP** | CAMP** | CAMP** | CAMP** | CAMP** | | | |
| Library and Study Room | | 2 | 2 | 2 | 2 | 2 | 2 | | |
| Art Studio | | CAMP** | CAMP** | CAMP** | CAMP** | CAMP** | 20 | | |
| Community Office Space | | 2 | 2 | 2 | 2 | 2 | 2 | | |
| Employees | 10 | 30 | 30 | 30 | 30 | 25 | 20 | 8 | 4 |
| **TOTALS** | 25 | 134 | 126 | 66 | 161 | 131 | 109 | 108 | 54 |
| | | *ECC means that the early childhood center will be using it therefore there are no additional cars<br>** Our day camps use most of the building during the summer, precluding other classes and uses | | | | | | | |

**OREG FOUNDATION**

**P.O. Box 20587**
**Boulder, Colorado 80308**
**720-565-4064**

Addendum re: programs and events at the Boulder JCC Community Hall

Many donors to the JCC building have contributed because they have a special interest in event space for life cycle event celebrations like bar and bat mitzvahs and weddings. In response to this interest, the JCC has incorporated larger event space into its design and has built the revenue to be generated from this space into its operations budget. The JCC can only offer this program and event space to the community if it generates sufficient revenue to operate the facility.

Event Rental is part of the Boulder JCC program and a source of auxiliary income. We are hopeful that our new building in Boulder will provide the broader Boulder community with a beautiful space to celebrate life cycle events. Perhaps we will see two to three of these events per month. This refers to large rental events with smaller rentals with fewer people occurring from time to time. These events are likely to include weddings, Bar and Bat Mitzvah parties, and other gatherings of significance to our community.

The Boulder JCC is designed in response to identified community need and demand. The Community Hall is conceived as a flexible space capable of offering auditorium style seating for up to 330 people or for up to 250 people seated at tables. We anticipate rentals will comprise less than 5% of our overall operating budget and will occupy less than 4% of the operating time of the JCC.

Please note that these types of events were contemplated in our Parking Management Plan, and should pose no issue in terms of parking capacity.

# TRAFFIC IMPACT ANALYSIS

# BOULDER JEWISH COMMONS

## BOULDER, COLORADO

TRANSPORTATION CONSULTANTS, INC.

**LSC TRANSPORTATION CONSULTANTS, INC.**

**1889 York Street**
**Denver, CO 80206**
**(303) 333-1105**
**FAX (303) 333-1107**
**E-mail: lsc@lscdenver.com**

August 20, 2013

Ms. Julie Shaffer
Cherryvale Commons
PO Box 20587
Boulder, CO 80308

Re: Boulder Jewish Commons
Boulder, Colorado
(LSC #110400)

Dear Ms. Shaffer:

We are pleased to submit our Traffic Impact Analysis (TIA) report of the proposed Boulder Jewish Commons development to be located in Boulder, Colorado. This traffic impact study first provides a summary of the existing roadways and traffic volumes in the vicinity of the proposed development, followed by estimates of the amount and directional distribution of vehicular traffic likely to be generated. This information is then combined with projected future traffic volumes in the vicinity to evaluate the impact of the new development on the existing and future roadway system and, where appropriate, to make recommendations for the necessary roadway improvements.

We trust that our findings and recommendations will assist in the planning of the proposed development. Please call if we can be of further assistance.

Respectfully submitted,

LSC Transportation Consultants, Inc.

COLORADO LICENSED
CHRISTOPHER S. McGRANAHAN
39018
PROFESSIONAL ENGINEER

By:_____
Christopher S. McGranahan, P.E., PTOE
Principal

8-20-13

CSM/wc

Z:\LSC\Projects\2011\110400-BoulderJewishCommons\August-2013\BJC-TOC.wpd

**Traffic Impact Analysis**

# Boulder Jewish Commons

**Boulder, Colorado**

Prepared for

Cherryvale Commons
PO Box 20587
Boulder, CO 80308

Prepared by

LSC Transportation Consultants, Inc.
1889 York Street
Denver, CO 80206
(303) 333-1105

November 8, 2011
Revised: November 18, 2011
Revised: October 29, 2012
Revised: March 28, 2013
Revised: August 20, 2013
(LSC #110400)

# TABLE OF CONTENTS


| Section | Description | Page |
|---|---|---|
| A | Introduction | 1 |
| B | Roadway and Traffic Conditions | 2 |
| C | Travel Demand Management and Traffic Generation | 9 |
| D | Distribution and Assignment | 14 |
| E | Traffic Impacts | 21 |
| F | Access Recommendations | 26 |
| G | Roundabout Analyses | 29 |
| H | Conclusions | 42 |
| Appendix A: Traffic Counts | | |
| Appendix B: Capacity Analysis | | |
| Appendix C: Queuing Analyses | | |


# LIST OF ILLUSTRATIONS


| Figure | Description | Page |
|---|---|---|
| 1 | Vicinity Map | 4 |
| 2 | Site Plan for Western Portion of the Site | 5 |
| 3 | Existing Traffic, Traffic Control, and Lane Geometry | 6 |
| 4 | Year 2015 Background Traffic, Lane Geometry and Traffic Control | 7 |
| 5 | Year 2035 Background Traffic, Lane Geometry and Traffic Control | 8 |
| 6 | Directional Distribution of Site-Generated Traffic | 16 |
| 7 | Year 2015 Assignment of Site-Generated Traffic | 17 |
| 8 | Year 2035 Assignment of Site-Generated Traffic | 18 |
| 9 | Year 2015 Total Traffic | 19 |
| 10 | Year 2035 Total Traffic | 20 |
| 11 | Year 2035 Average Daily Traffic Impacts | 23 |
| 12 | Overall Recommended Improvements | 27 |
| 13 | Cherryvale Road Recommended Improvements | 28 |
| 14 | Roundabout Dimensions | 30 |
| 15-20 | B-40 and WB-50 AutoTurn Movements | 31-36 |
| 21 | Passenger Car AutoTurn Movements and Sight Distance | 37 |
| 22-25 | Roundabout Fastest Paths Analyses | 38-41 |


# LIST OF TABULATIONS


| Table | Description | Page |
|---|---|---|
| 1 | BJC TDM Plan | 12 |
| 2 | Estimated Traffic Generation | 13 |
| 3 | Intersection Level of Service | 24 |
| 4 | Queuing Analysis for Arapahoe Road/Cherryvale Road Intersection | 25 |

# SECTION A
# Introduction

The proposed Boulder Jewish Commons is to be located south of Arapahoe Road (SH 7) and east of Cherryvale Road in Boulder, Colorado. One right-in/right-out access is proposed on SH 7 and one full movement roundabout access is planned on Cherryvale Road. A secondary right-in/right-out service access is proposed on SH 7. The proposed site plan accommodates a future connection east to 63rd Street and is assumed as part of the 2035 analysis.

Cherryvale Commons has retained LSC Transportation Consultants, Inc. to determine the traffic impacts of the proposed development on the surrounding roadway system. The following analysis procedures were utilized in the evaluation:

- A review and analysis of present roadway and traffic conditions in the vicinity of the site. This task included the collection of intersection turning movement traffic counts at the intersections of Arapahoe Road/Cherryvale Road and Arapahoe Road/63rd Street, two-day machine traffic counts on Arapahoe Road east of Cherryvale Road and on Cherryvale Road, and a review of the planned and proposed roadway improvements in the general vicinity.

- A projection of future background traffic volumes on the adjacent roadway system for future Years 2015 and 2035.

- A determination of the average weekday and peak-hour traffic that would be generated by the proposed development.

- An analysis of the estimated directional distribution of site-generated traffic and an assignment of that traffic to the adjacent roadway network.

- A determination of future traffic impacts associated with the proposed development. These impacts are based upon estimates of the total amount of traffic on the surrounding roadway system and the resulting Levels of Service (LOS) at the key intersections in the vicinity of the development.

- A determination of street and access improvements that will be necessary to mitigate the traffic impacts associated with the proposed development.

## SECTION B
# Roadway and Traffic Conditions

The location of the proposed Boulder Jewish Commons is shown in Figure 1. The site is located south of Arapahoe Road and east of Cherryvale Road. The surrounding area is light industrial to the north and east with residential uses located to the south and west.

Planned access to the development consists of one right-in/right-out access on Arapahoe Road and one full movement roundabout access on Cherryvale Road south of Arapahoe Road as shown in Figure 2. A secondary right-in/right-out service access drive is proposed a few hundred feet west of the right-in/right-out Arapahoe Road access.

### Area Roadways

Major roadways in the vicinity of the site are illustrated in Figure 3 along with existing lane geometry and traffic controls. The following is a brief discussion of anticipated future roadway improvements:

- Arapahoe Road is an east-west principal arterial roadway connecting the City of Boulder on the west with Lafayette on the east. It is designated as State Highway 7 and classified as NR-B (Non-Rural Arterial) by CDOT. It continues east past Lafayette to I-25 and then to Brighton and I-76. The posted speed limit on Arapahoe Road in the vicinity of the site is 45 mph. There are traffic signals on Arapahoe Road at Cherryvale Road and 63rd Street. East of the site, Arapahoe Road has one through lane westbound and eastbound. At Cherryvale Road, the roadway widens to include three through lanes in the westbound direction and two through lanes in the eastbound direction. In May, 2008, CDOT completed an *Environmental Assessment* for SH 7, from Cherryvale Road to 75th Street. This effort resulted in a recommendation to widen SH 7 to a four-lane section from Cherryvale Road to 63rd Street. The second proposed eastbound through lane transitions into a bus lane east of 63rd Street. Construction of these improvements is ongoing and is assumed to be completed in the 2015 analysis.

- Cherryvale Road is a rural collector roadway connecting Arapahoe Road on the north with Marshall Drive (SH 170) on the south. The posted speed limit is 30 mph near the site. The existing northbound approach to Arapahoe Road has significant queuing. Cherryvale Road is signed for no large trucks.

## Existing Traffic Volumes

Peak-hour and daily traffic counts were conducted by Counter Measures in September, 2011 in the vicinity of the site and are illustrated in Figure 3. A summary of the raw count data is provided in Appendix A. As shown, Arapahoe Road carries about 20,350 vehicles per day, with Cherryvale Road carrying about 5,400 vehicles per day.

## Future Traffic Conditions

Two planning horizons were considered in this analysis. The short term horizon is 2015 and the long term horizon is 2035.

Projections of 2015 and 2035 peak-hour traffic volumes have been made for the roadway system adjacent to the site in order to have a basis for determining future traffic impacts. Future 2015 and 2035 traffic projections, shown in Figures 4 and 5, were made assuming a one percent annual growth in traffic volumes on the surrounding roadway system. This growth rate was applied to the existing weekday peak-hour vehicle turning movement and daily traffic counts to estimate 2015 and 2035 "background traffic" volumes. This growth rate is consistent with the 2008 *SH 7 Environmental Assessment* which predicted a 20% increase in traffic on SH 7 from 2007 to 2030.

Figure 1

# Vicinity Map

Boulder Jewish Commons (LSC #110400)

LSC TRANSPORTATION CONSULTANTS, INC.

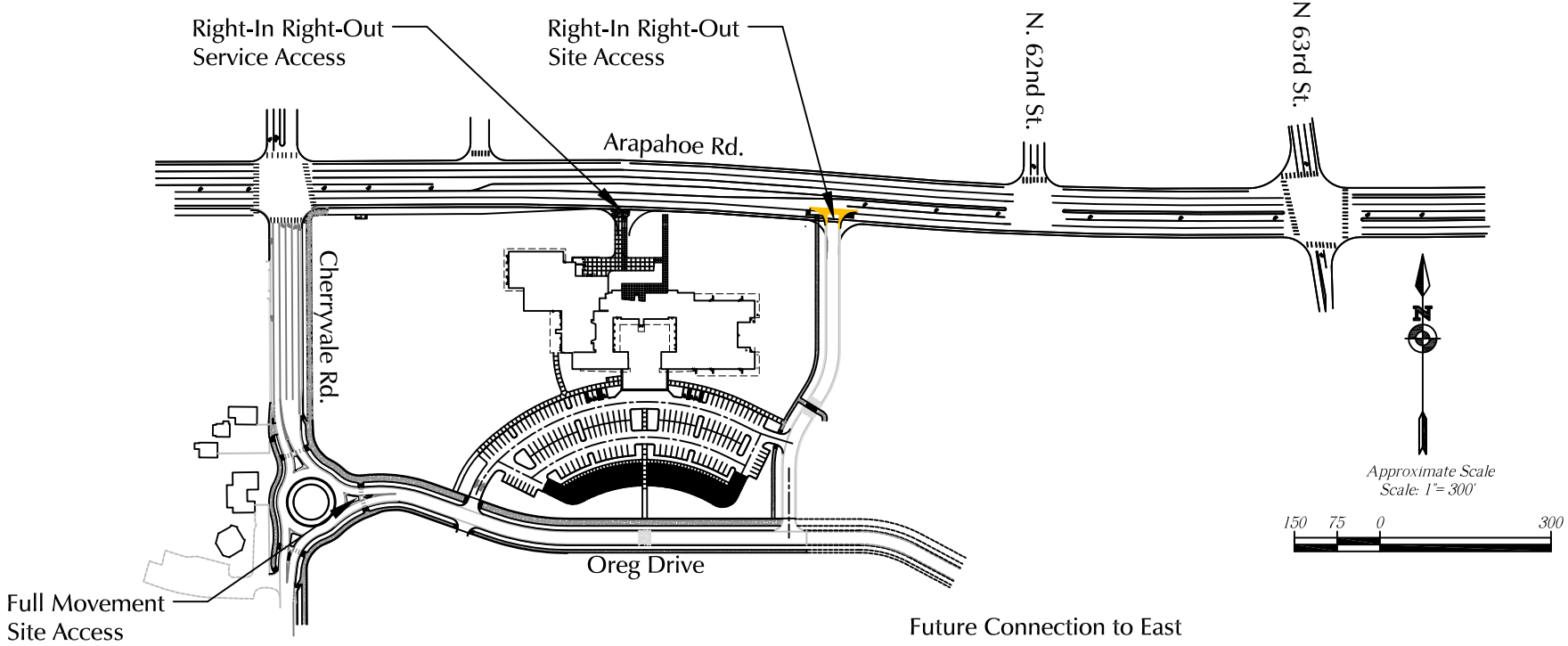
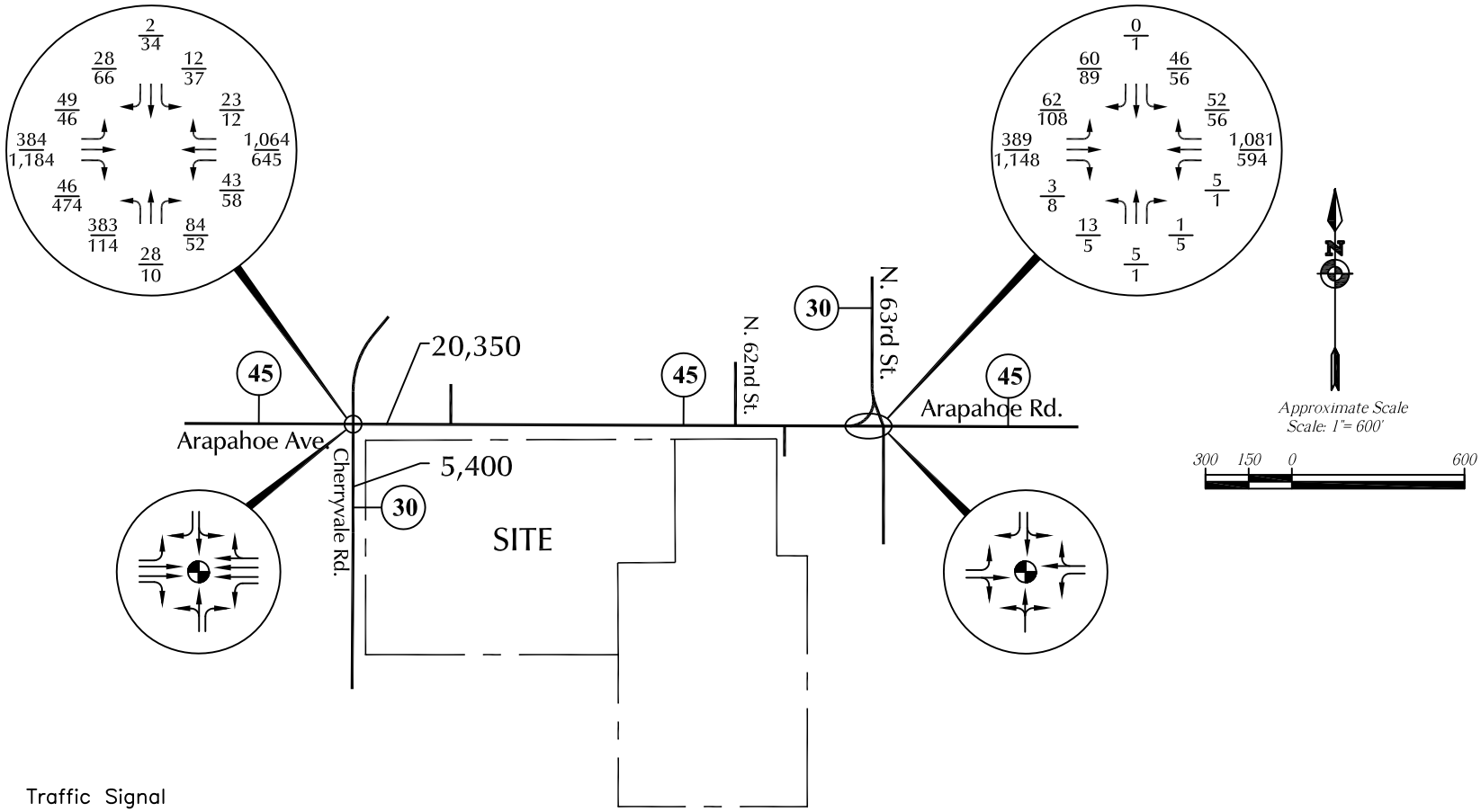



*Figure 2*

# *Site Plan for Western Portion of The Site*

Boulder Jewish Commons (LSC #110400)




LEGEND:

= Traffic Signal

= Stop Sign

35 = Speed Limit

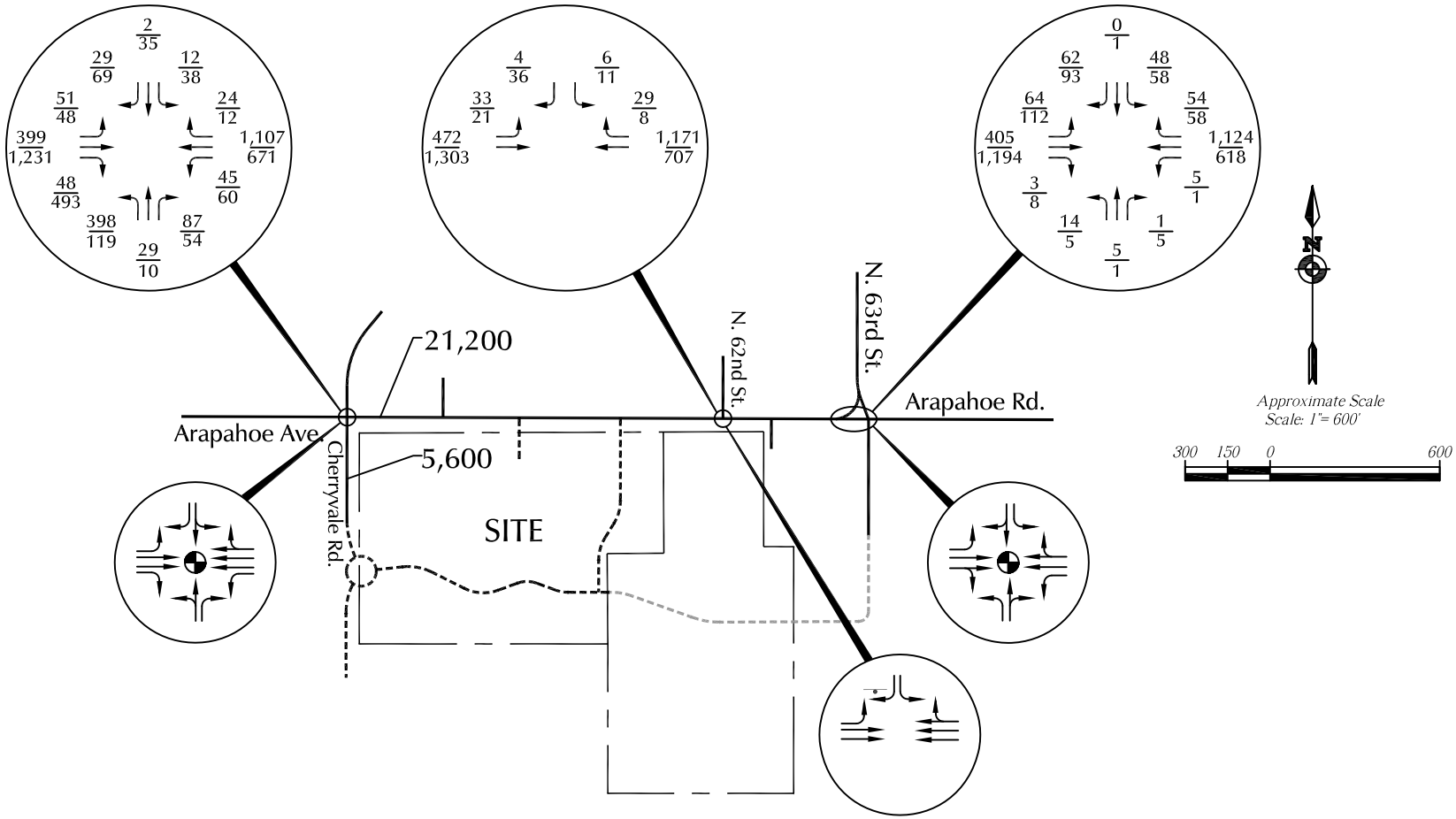
5/10 = AM Peak–Hour Traffic / PM Peak–Hour Traffic

32,500 = Average Weekday Traffic

*Figure 3*

# *Existing Traffic, Traffic Control and Lane Geometry*

Boulder Jewish Commons (LSC #110400)




LEGEND:

= Traffic Signal

= Stop Sign

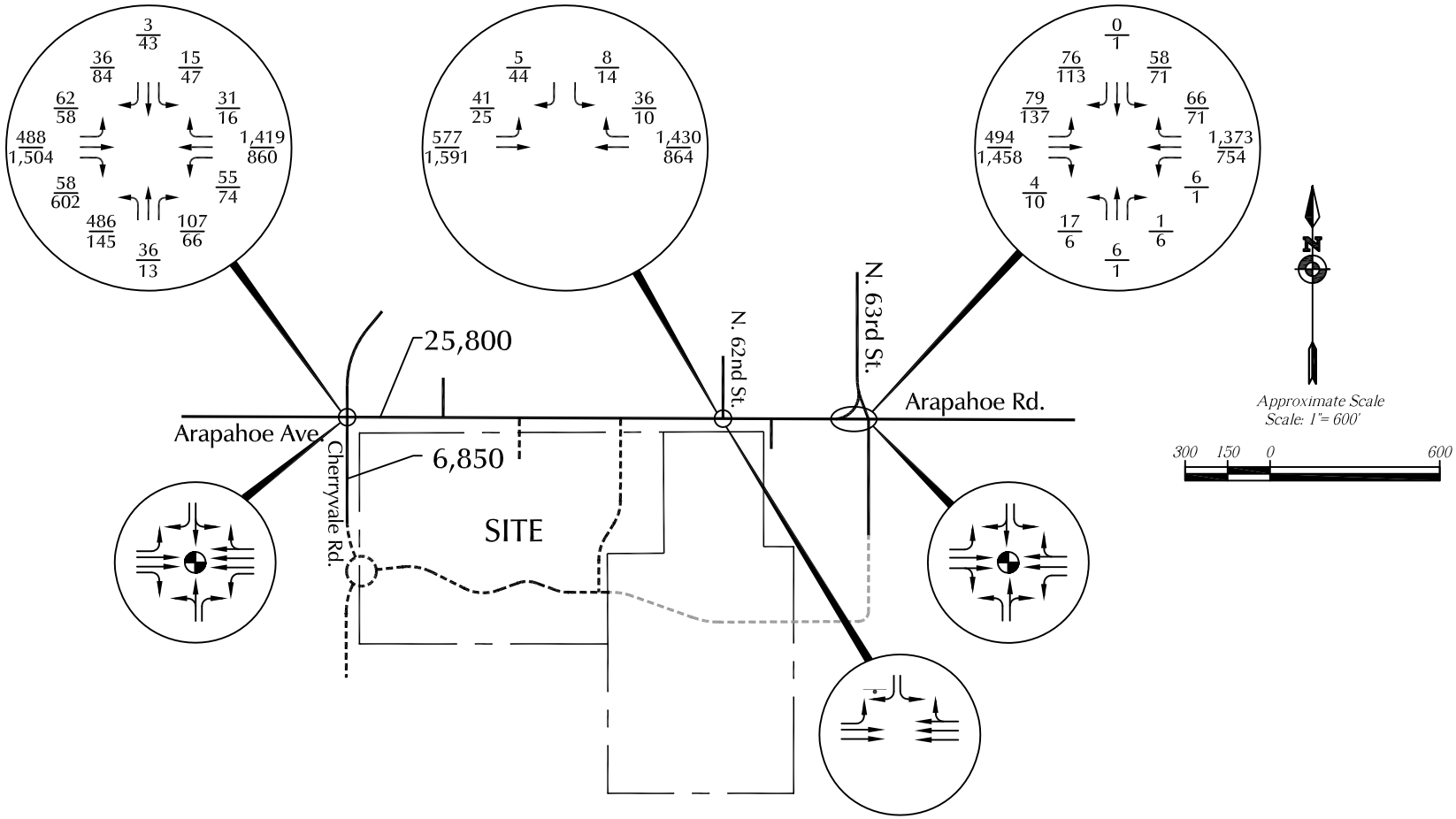
$\frac{5}{10}$ = $\frac{\text{AM Peak-Hour Traffic}}{\text{PM Peak-Hour Traffic}}$

32,500 = Average Weekday Traffic

*Figure 4*

# *Year 2015 Background Traffic, Lane Geometry and Traffic Control*

Boulder Jewish Commons (LSC #110400)




LEGEND:

= Traffic Signal

= Stop Sign

$\frac{5}{10}$ = $\frac{\text{AM Peak-Hour Traffic}}{\text{PM Peak-Hour Traffic}}$

32,500 = Average Weekday Traffic

*Figure 5*

# *Year 2035 Background Traffic, Lane Geometry and Traffic Control*

Boulder Jewish Commons (LSC #110400)

# SECTION C
# Travel Demand Management and Traffic Generation

## Travel Demand Management

The Boulder Jewish Community Center proposed on the Boulder Jewish Commons site is located in an area with excellent transit and bikeway access. The Boulder Creek Bikeway terminates at Arapahoe Road near Old Tale Road. This bikeway provides grade separated access to downtown Boulder, the University of Colorado, and many housing and recreational opportunities. As part of CDOT's SH 7 improvement project, a path will be constructed along the south side of Arapahoe Road along or near the property frontage, between 63rd Street and Cherryvale Road. There are existing bike lanes on Arapahoe Road. A 12-foot wide multi-use path will be built along the north side of Oreg Drive. The development will provide bicycle parking for 24 bicycles, a secured room with space for six bicycles, and shower facilities to encourage bike commuting by the building's employees. Table 1 summarizes all of the travel demand management (TDM) plan responses to City of Boulder requirements.

RTD provides bus access to the site via the *Jump Route* which provides high frequency bus access to central Boulder, Lafayette and Louisville. The Jump Route provides service from 5:30 AM to 11:00 PM with 10-minute frequency between 7:00 AM and 6:00 PM. Bus and bike information will also be provided for employees. The existing bus stop on Arapahoe Road just east of Cherryvale Road will be improved as part of site development.

Due to these travel demand management strategies, it is estimated that vehicular traffic will be reduced by ten percent.

## Trip Generation

The amount of traffic that will be generated by Boulder Jewish Commons was determined using existing traffic data and trip generation rates published by the Institute of Transportation Engineers in its report *Trip Generation*, 9th Edition, 2012, unless noted otherwise

and is shown in Table 2. The existing Boulder Jewish Community Center is located at the east end of Kalmia Road in Boulder. Since it is the only use on the east end of this dead-end street, a road-tube traffic counter placed just west of the site would capture the traffic generated by the Center. Traffic was counted in mid-September, 2011, with the data included in Appendix A. Using this count data, morning, evening, and daily trip generation rates could be calculated for this existing center which is estimated to contain 15,000 square feet. The results are shown in Table 2. These trip generation rates were used to estimate vehicles expected to be generated by the Early Childhood Center component of the new Boulder Jewish Commons. Table 2 takes into account the assumed ten percent reduction in vehicular trips due to the proposed travel demand management program.

The Boulder Jewish Community Center portion of the Boulder Jewish Commons site is proposed to be completed by 2015 and includes an 18,715 square-foot early childhood center and a 33,729 square-foot community recreation center. For purposed of this report it was assumed that the balance of the western portion of the site could be developed as up to eleven single-family homes based on existing City zoning. There is no plan at this time to develop this area of the site. As shown in Table 2, on a typical weekday, the western portion of the site can be expected to generate about 1,812 vehicle-trips per day, with about half entering and half exiting the site in a 24-hour period. During the morning peak-hour, about 112 vehicles will enter and about 67 vehicles will exit the site. During the afternoon peak-hour, there will be about 113 entering and about 84 exiting vehicles.

Buildout of the site is proposed to be completed by 2035 and could include a 20,486 square-foot early childhood center and a 50,050 square-foot community recreation center. For purposes of this report it is assumed that the eastern portion of the site could be developed as up to 135 residential condo/townhomes (medium density residential) based on the City's *Comprehensive Plan*. There is no plan at this time to develop this area of the site. However, any further development will have to come back through a city review and at that time a new Traffic Impact Analysis will be prepared based on the uses proposed.

As shown in Table 2, on a typical weekday, by 2035 the Boulder Jewish Commons site could potentially be expected to generate about 3,080 vehicle-trips per day, with about half entering and half exiting the site in a 24-hour period. During the morning peak-hour, about 147 vehicles will enter and about 127 vehicles will exit the site. During the afternoon peak-hour, there will be about 180 entering and about 129 exiting vehicles.

**Table 1**
**Boulder Jewish Commons TDM Plan Actions**

| TDM Toolkit Element | | Within CTN Buffer<br>Package A |
|---|---|---|
| CORE ELEMENTS | Meet Short-Term Bicycle Parking Code | Auto parking for the site totals 148 paved spaces and 29 gravel overflow spaces, and the bicycle parking requirement is either 3 spaces or 10% of the off-street parking, whichever is higher. This results in an estimated 18 bicycle parking spaces. Bicycle racks for 24 bicycles will be provided. |
| | Meet Long-Term Bicycle Parking Code | A secured room will be provied for storage of six bicycles. |
| | Ratio of MOV Mode Share | The Boulder Jewish Commons will include ridesharing information in its employee orientation packets. This may include eGo Car sharing and DRCOG's RideArrangers. The nearest current eGO car share site is at 30th Street/Smiley Court just south of Scott Carpenter Park. |
| | Pedestrian Enhancements | As part of CDOT's SH 7 improvement project, a multi-use path will be built along or near the frontage of the Boulder Jewish Commons development on the south side of Araphaoe between 63rd Street and Cherryvale Road. This will provide a connection to existing pathways on the north side of Arapahoe, west of Cherryvale Roac via that intersection's crosswalk. Connections from this path to walks on the Boulder Jewish Commons campus will be made. There are existing bike lanes on Arapahoe Road. A 12-foot multi-use path will be built along the north side of Oreg Drive. |
| | Bike Enhancements | As part of CDOT's SH 7 improvement project, multi-use path will be built along or near the frontage of the Boulder Jewish Commons development on the south side of Araphaoe between 63rd Street and Cherryvale Road. This will provide a connection to existing pathways on the north side of Arapahoe, west of Cherryvale Roac via that intersection's crosswalk. Connections from this path to walks on the Boulder Jewish Commons campus will be made. There are existing bike lanes on Arapahoe Road. A 12-foot multi-use path will be built along the north side of Oreg Drive. |
| | Showers - Conditional | Showers provided for recreation patrons will also be available for employees to use. |
| | Changing Facilities - Conditional | Changing facilities provided for recreation patrons will also be available for employees to use. |
| | Transportation Information Center / Access | The Boulder Jewish Commons development will maintain a Transportation Information Center at the work site. This center will serve as a means to providing employees with important travel information regarding transit maps and schedules, bicycle maps, local and regional marketing campaigns, and information on the commute benefits provided to employees. |
| | Program Evaluation | Boulder Jewish Commons will assist in the dissemination and collection of periodic travel surveys to measure the impact of the Commute Trip Reduction Program. GO Boulder staff will work with the assigned ETC to determine the most efficient methods to distribute and collect the surveys from employees. |
| | Employee Transportation Coordinator (ETC) Network | Boulder Jewish Commons will appoint an Employee Transportation Coordinator (ETC) and provide that employee's contact information to GO Boulder staff. The ETC will be responsible for implementing and maintaining the Employee Commute Trip Reduction Program. The ETC will act as a liaison to GO Boulder and disseminate transportation information and marketing materials to co-workers with the objective of reducing single-occupant vehicle (SOV) commuting. The ETC will be involved in employee orientation to communicate the commute benefits available to co-workers and serve as the point of contact for any GO Boulder or regional promotional campaigns that encourage alternative transportation. The ETC will also be responsible for maintaining the Transportation Information Center. |
| PACKAGE ELEMENTS | Business Eco Pass Program (BECO Pass) - 3 years | The Boulder Jewish Commons development will provide three years of Business Eco Passes to employees with a financial guarantee. Boulder Jewish Commons will set up an escrow account in the amount of $11,916 to reimburse employees for BECO pass purchases for three years. This amount is based on 50 employees at $72.00 for the first year, $79.20 for the second year, and $87.12 for the third year. The existing bus stop on Arapahoe Road just east of Cherryvale Road will be improved as part of site development. |

*Source: LSC, 2013.*

## Table 2
## ESTIMATED TRAFFIC GENERATION
## Boulder Jewish Commons
## City of Boulder, Colorado
## (LSC #110400; August, 2013)

| | Quantity | Trip Generation Rates[1] Average Weekday | AM Peak Hour In | AM Peak Hour Out | PM Peak Hour In | PM Peak Hour Out | Alternate Mode Reduction % | Vehicle - Trips Generated Average Weekday | AM Peak Hour In | AM Peak Hour Out | PM Peak - Hour In | PM Peak - Hour Out |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Development of Early Childhood Center Trip Generation Rates based on traffic counts at the existing Kalmia Center** | | | | | | | | | | | | |
| | | Trip Generation Rates developed from counts | | | | | | Results of existing driveway counts | | | | |
| Existing Kalmia Center[2] | 15 KSF[3] | 41.05 | 4.07 | 2.36 | 3.93 | 2.23 | | 626 | 62 | 36 | 60 | 34 |
| **Proposed Land Uses** | | | | | | | | | | | | |
| *2015 Scenario - Western Portion of the Site* | | | | | | | | | | | | |
| Early Childhood Center (ECC)[4] | 18.715 KSF | 41.05 | 4.07 | 2.36 | 3.93 | 2.23 | 10% | 691 | 69 | 40 | 66 | 38 |
| Community Recreation Center[5] | 33.729 KSF | 33.82 | 1.35 | 0.70 | 1.34 | 1.40 | 10% | 1,027 | 41 | 21 | 41 | 42 |
| Single-Family Homes[6] | 11 DU | 9.52 | 0.19 | 0.56 | 0.63 | 0.37 | 10% | 94 | 2 | 6 | 6 | 4 |
| | | | | | | | **Total =** | **1,812** | **112** | **67** | **113** | **84** |
| *Possible 2032 Scenario- Full Site* | | | | | | | | | | | | |
| Early Childhood Center[3] | 20.486 KSF | 41.05 | 4.07 | 2.36 | 3.93 | 2.23 | 10% | 757 | 75 | 44 | 72 | 41 |
| Community Recreation Center[5] | 50.050 KSF | 33.82 | 1.35 | 0.70 | 1.34 | 1.40 | 10% | 1,523 | 61 | 32 | 60 | 63 |
| Single-Family Homes[6] | 11 DU | 9.52 | 0.19 | 0.56 | 0.63 | 0.37 | 10% | 94 | 2 | 6 | 6 | 4 |
| Medium Density Residential[7] | 135 DU | 5.81 | 0.07 | 0.37 | 0.35 | 0.17 | 10% | 706 | 9 | 45 | 42 | 21 |
| | | | | | | | **Total =** | **3,080** | **147** | **127** | **180** | **129** |

Notes:
(1) Source: *Trip Generation*, Institute of Transportation Engineers, 9th Edition, 2012 unless noted otherwise.
(2) The Kalmia Center driveway counts were used to develop trip generation rates for the proposed ECC.
(3) KSF = 1,000 square feet
(4) Trip generation rates based on weekday peak-hour driveway counts conducted in September 2011 at the existing Kalmia Center.
(5) ITE Land Use 495, Recreational Community Center. This land use was used because the majority of this portion of the building will be used for this purpose.
(6) ITE Land Use 210, Single Family Detached Housing - This land use could be developed per City zoning but is not proposed at this time.
(7) ITE Land Use 230, Residential Condominium/Townhouse - This land use could be developed as on the eastern portion of the site per the City's *Comprehensive Plan* but is not proposed at this time.

# SECTION D
# Distribution and Assignment

## Traffic Distribution

The directional distribution of site-generated vehicular traffic on the roadways providing access to and from the proposed development is one of the most important elements in planning specific access requirements and in determining traffic impacts on surrounding roadways and intersections. Major factors that have influenced the traffic distribution assumptions include:

- The location of the site relative to nearby residential areas.
- The roadway network serving the site. (The primary roadways serving the site will be Arapahoe Road, 63rd Street, and Cherryvale Road.)
- The planned access system on the site. (The site will have two accesses on Arapahoe Road: a right-in/right-out service access and a right-in/right-out public access. A full movement access roundabout access is planned on Cherryvale Road.)
- The existing traffic patterns in the area are supported by traffic counts conducted in September 2011 by Counter Measures.

Specific distribution estimates have been made considering the combined effects of these factors and are shown in Figure 6, which illustrates the percent of site-generated traffic on the surrounding roadway system. As shown, about 55 percent of site-generated traffic will travel on Arapahoe Road west of Cherryvale Road; 30 percent on Arapahoe Road east of 63rd Street; five percent north on 63rd Street; and ten percent south on Cherryvale Road.

## Site-Generated Traffic

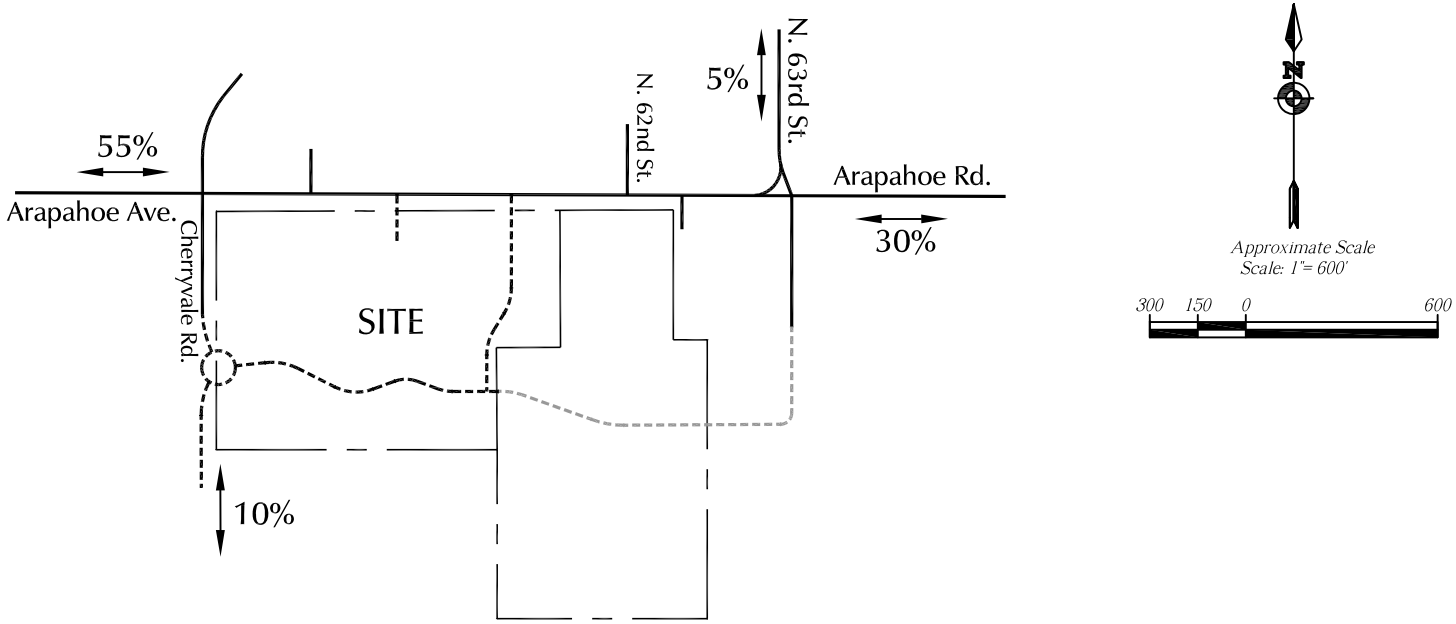
Figure 7 shows the assignment of 2015 site-generated weekday peak-hour traffic onto the adjacent street system. This assignment of site-generated traffic is based upon the traffic distribution percentages shown in Figure 6 and the vehicle-trip generation estimates of Table 2. Similarly, assignment of 2035 site-generated weekday peak-hour traffic is shown in Figure 8.

## Background Traffic

As discussed in Section B under "Future Traffic Conditions", the background traffic volumes are 2015 and 2035 projections of morning and evening peak-hour traffic on the surrounding street system without consideration of the traffic generated by the proposed development. Background traffic volumes are shown in Figures 4 and 5 for 2015 and 2035, respectively. The future lane geometry and traffic control are also shown in Figures 4 and 5.

## Total Traffic

Total 2015 and 2035 traffic volumes on the adjacent roadway network are shown in Figures 9 and 10, respectively. These total volumes are the sum of site-generated traffic from Figures 7 and 8 and the background traffic from Figures 4 and 5. The recommended lane geometry and traffic control are also shown in Figures 9 and 10.



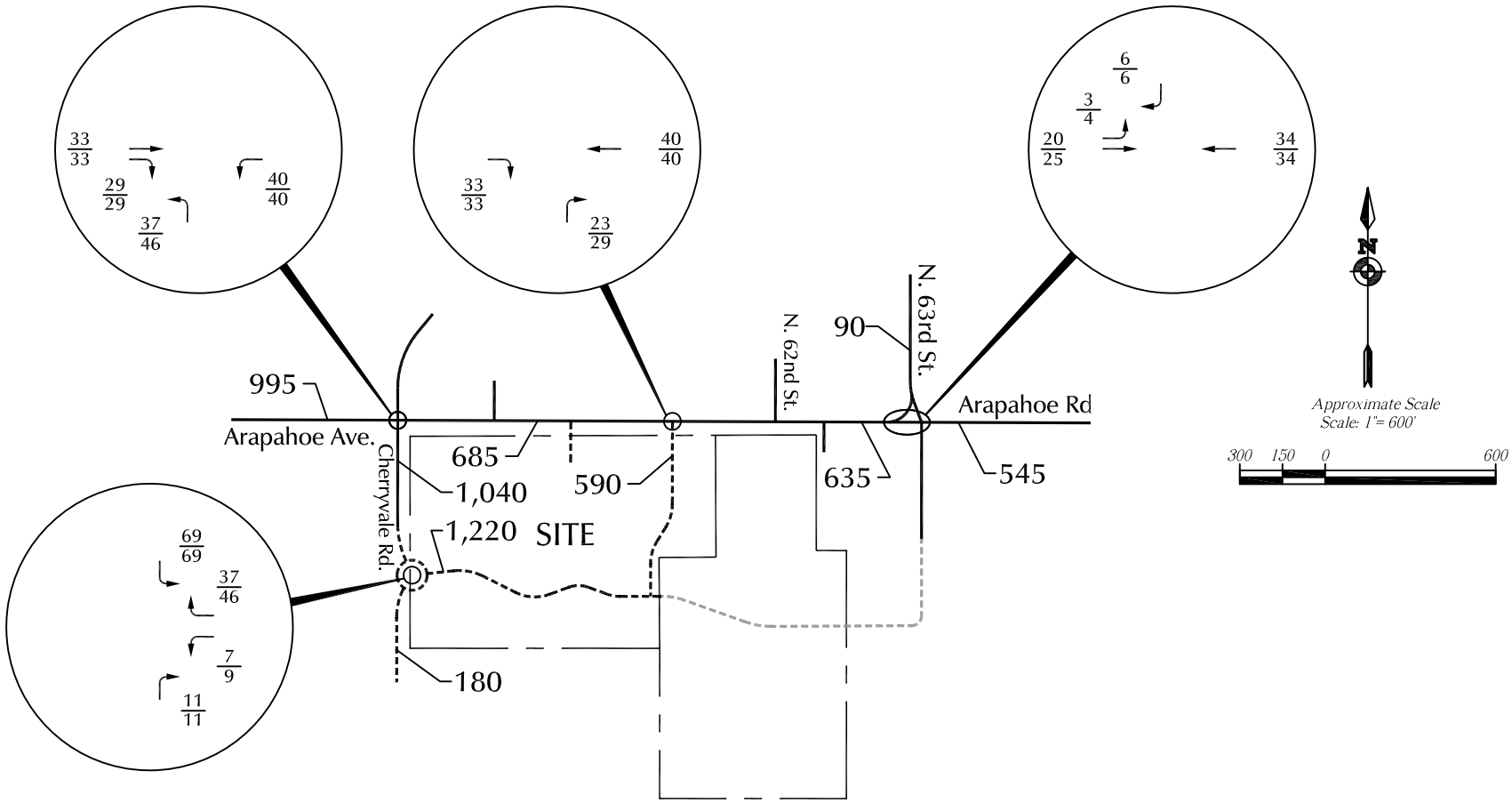

LEGEND:

65% = Percent Directional Distribution

*Figure 6*

# *Directional Distribution of Site-Generated Traffic*

Boulder Jewish Commons (LSC #110400)




LEGEND:

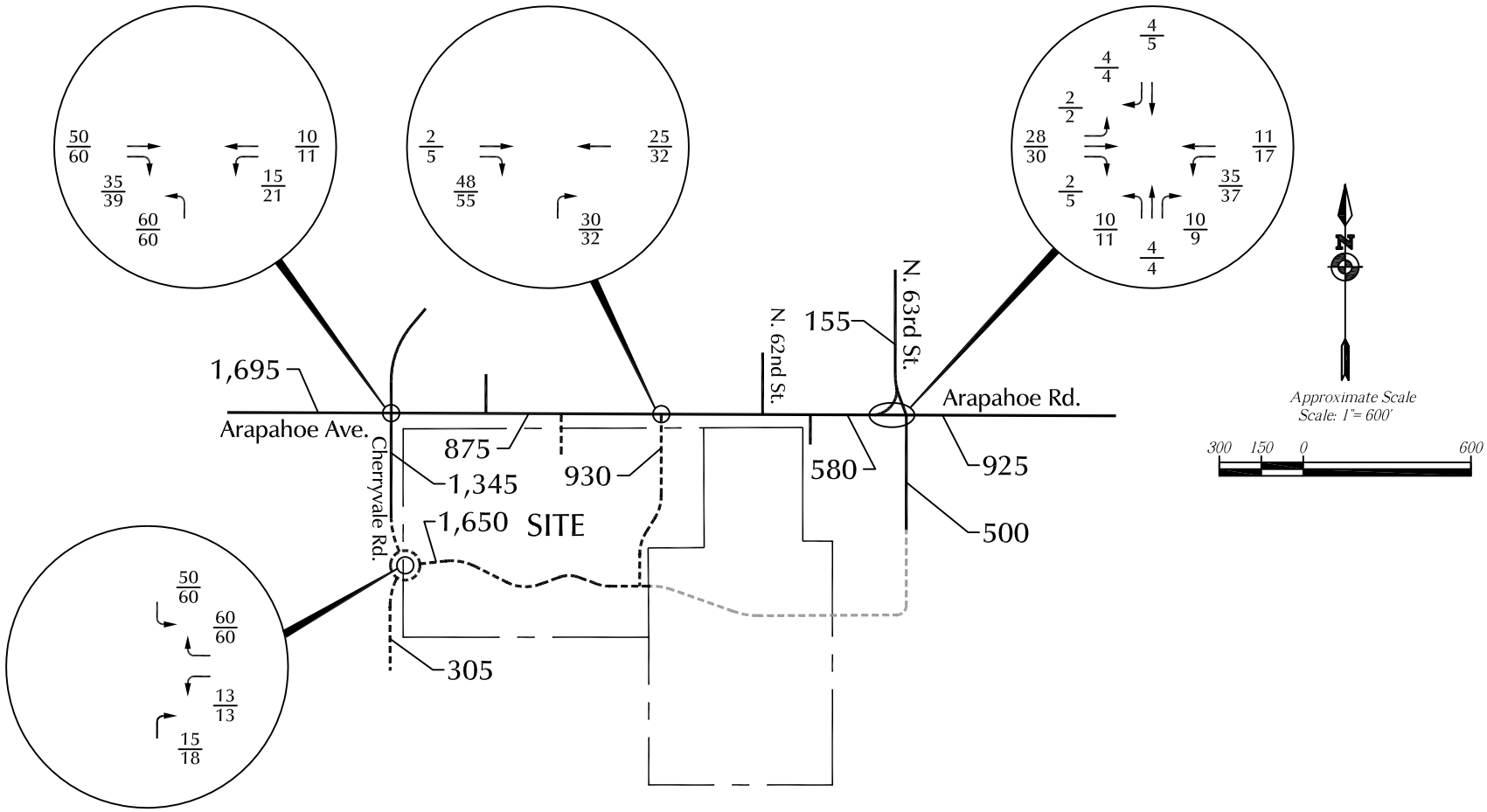
$\frac{5}{10}$ = $\frac{\text{AM Peak-Hour Traffic}}{\text{PM Peak-Hour Traffic}}$

32,500 = Average Weekday Traffic

*Figure 7*

# *Year 2015 Assignment of Site-Generated Traffic*

Boulder Jewish Commons (LSC #110400)




LEGEND:

$\frac{5}{10}$ = $\frac{\text{AM Peak-Hour Traffic}}{\text{PM Peak-Hour Traffic}}$

32,500 = Average Weekday Traffic

*Figure 8*

# *Year 2035 Assignment of Site-Generated Traffic*

Boulder Jewish Commons (LSC #110400)

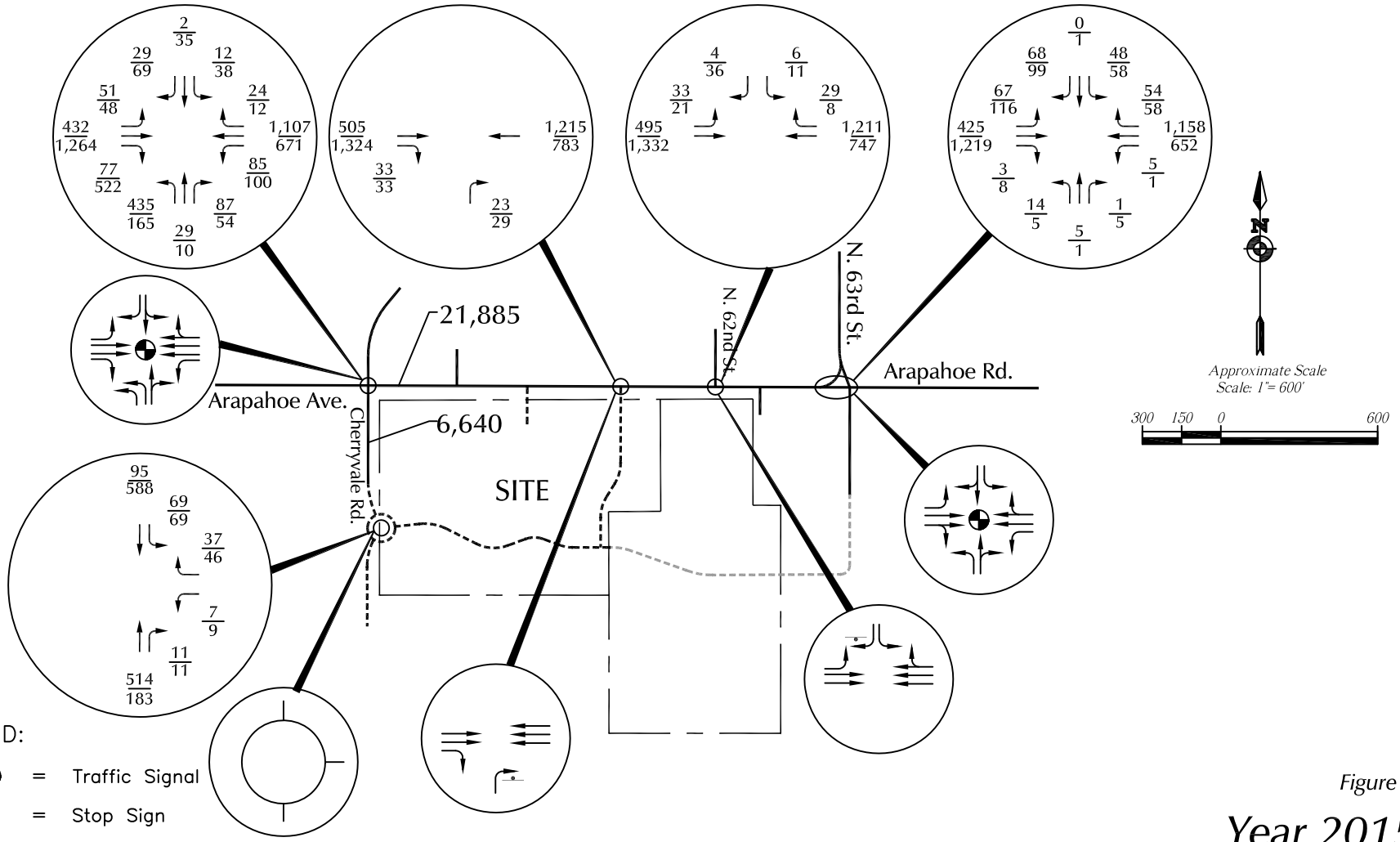



*Figure 9*

# *Year 2015 Total Traffic*

Boulder Jewish Commons (LSC #110400)

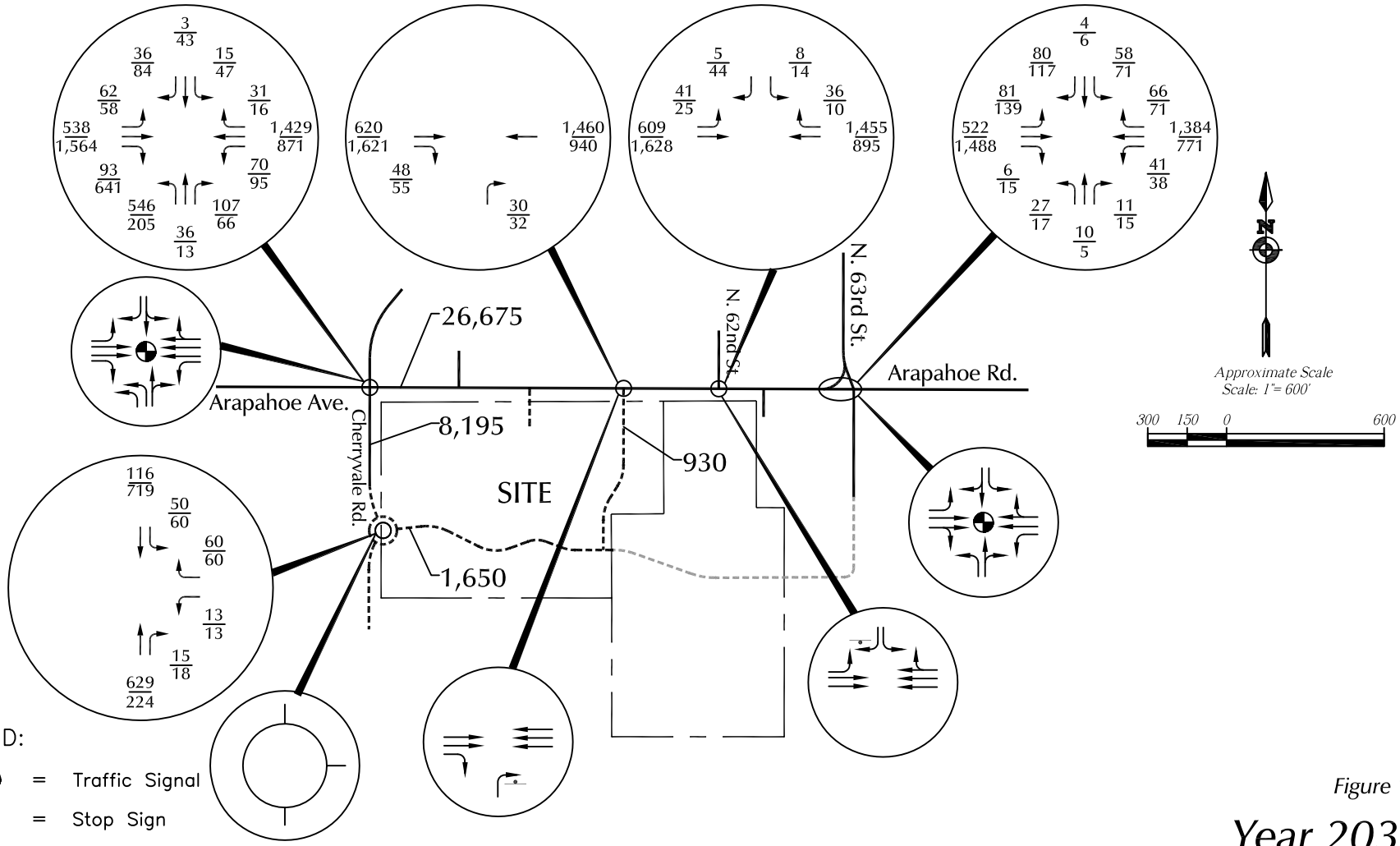



Figure 10

# Year 2035 Total Traffic

Boulder Jewish Commons (LSC #110400)

# SECTION E
# Traffic Impacts

## Average Daily Traffic Impacts

When site-generated and total traffic volumes on nearby roadways are estimated, the relative impact of the site on the surrounding roadway system can be projected. Figure 11 shows average daily site-generated traffic as an increment of the total average daily traffic for the Year 2035 and expected roadway capacity. Site-generated traffic on Arapahoe Avenue/Road adjacent to the site will constitute about three percent of the total traffic on the roadway in 2035, 16 percent of 2035 traffic on Cherryvale Road north of the site access, and about four percent on Cherryvale Road south of the site access.

## Peak-Hour Traffic Impacts and Intersection Capacity Analysis

A more significant methodology for determining traffic impacts is to examine the Levels of Service at individual intersections and access points that will be directly impacted by the development. In this particular case, the expected impacts are primarily concentrated at the Arapahoe Road/right-in/right-out site access, the Arapahoe Road/63rd Street intersection, the Arapahoe Road/Cherryvale Road intersection, and the Cherryvale Road/ Site Access intersection. To assess the Year 2015 and 2035 traffic impacts of Boulder Jewish Commons, intersection Level of Service analyses have been conducted at these intersections for the weekday peak-hours. The traffic volumes of Figures 4, 5, 9 and 10 have been used in this analysis. Intersection capacities have been analyzed in accordance with the requirements of the *Highway Capacity Manual* (HCM). The concept of Level of Service (LOS) is used as a basis for computing combinations of roadway operating conditions. By definition, six different Levels of Service are used (A, B, C, D, E and F) with "A" being a free-flow condition and "E" representing the "capacity" of a given intersection or traffic movement. The complete analysis reports are found in Appendix B of this report, and the results of the capacity analyses are shown in Table 3. This table shows LOS conditions for existing traffic as well as for 2015 and 2035 background and total traffic volumes. Note that the upcoming improvements to Arapahoe Avenue/Road are assumed to be in place in the 2015 and 2035 analyses. The existing traffic signal timings are used in all analyses with the exception of the morning peak-hour in the 2015 Total Traffic and 2035

Total Traffic scenarios. In these scenarios, the north/south maximum green time for Cherryvale Road was decreased from 48 seconds to 35 seconds per coordination with City staff.

- Arapahoe Avenue/Cherryvale Road: With the planned Arapahoe Avenue/Road widening improvements and the recommended improvements to mitigate site impact and side road background traffic, this intersection will operate at an overall LOS "C" in the morning peak-hour and LOS "B" in the afternoon peak-hour through the Year 2035. The recommended improvements to Cherryvale Road will prevent the northbound approach queues from blocking the Cherryvale Road site access. A simulation showing the interaction between the traffic signal and the proposed roundabout has been presented to City staff.

- Arapahoe Road/62nd Street: The unsignalized southbound approach is expected to operate at LOS "F" during the morning peak-hour in 2035 with or without the addition of site-generated traffic.

- Arapahoe Road/63rd Street: With the planned Arapahoe Road widening improvements, the intersection will operate at LOS "A" with or without site-generated traffic through 2035.

- Cherryvale Road/Site Access: All approaches of this roundabout controlled intersection will operate at LOS "B" or better through 2035 with the addition of site-generated traffic.

- Arapahoe Road/RIRO Site Access: The northbound approach will operate at LOS "B" during the morning peak-hour and LOS "C" during the afternoon peak-hour through 2035.

## Queuing Analysis

Table 4 shows the estimated 95th percentile queue lengths and available storage lengths for the northbound left-turn movement, the northbound through/right movement, and the westbound left-turn movement at the intersection of Arapahoe Avenue and Cherryvale Road. The westbound left-turn movement is expected to occasionally spill out of the 275-foot long storage lane in the afternoon peak-hour. This could be mitigated by providing a short protected left-turn phase for this movement or by extending the 275-foot storage length. An updated queuing analysis should be completed as part of a future phase traffic study.

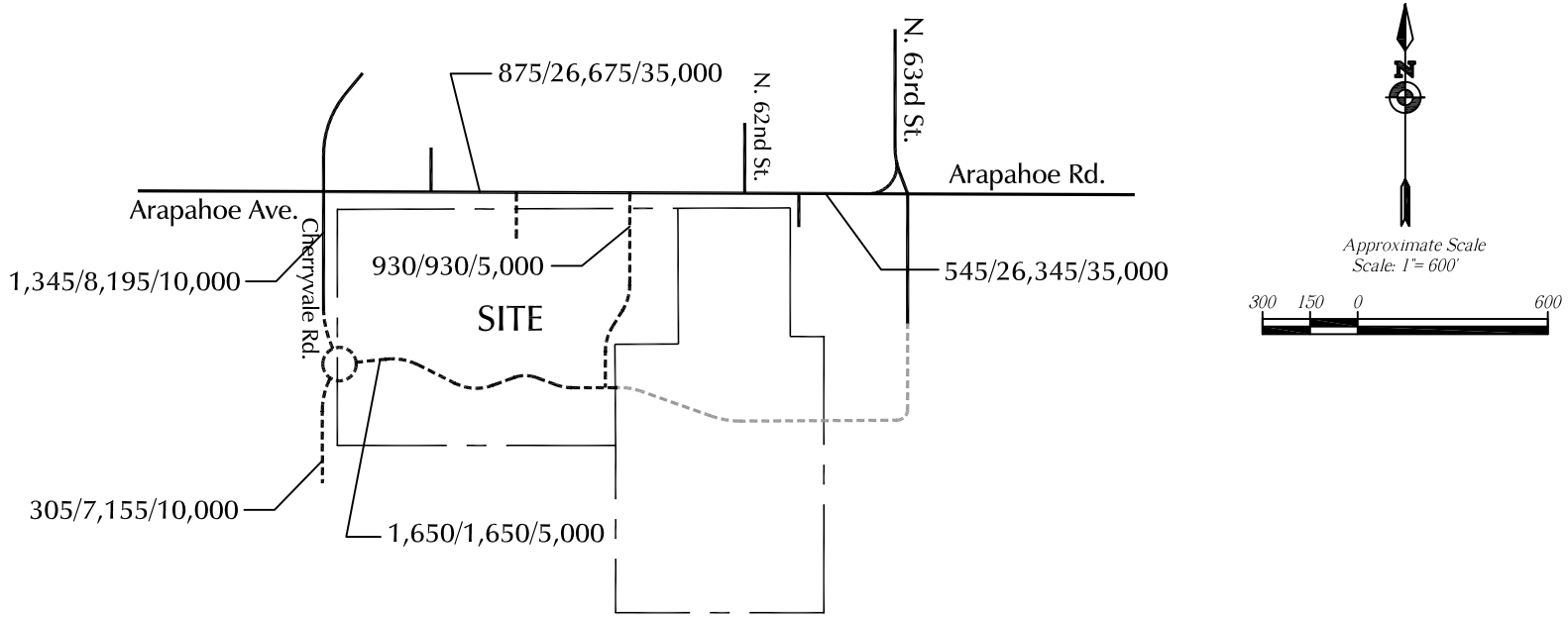



Figure 11

# Year 2035 Average Daily Traffic Impacts

Boulder Jewish Commons (LSC #110400)

LEGEND:

350/6,755/25,000 = Site–Generated Traffic / Total Traffic / Roadway Capacity

**Table 3**
**Intersection Level of Service [1] [2]**
**Boulder Jewish Commons**
**Boulder, Colorado**
**(LSC #110400; August, 2013)**

| Traffic Control | Intersection Location | Year 2015 Background Traffic | | | | Year 2015 Total Traffic | | | | Year 2035 Background Traffic | | | | Year 2035 Total Traffic | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Level of Service | Move-ment Delay | Level of Service | Move-ment Delay | Level of Service | Move-ment Delay | Level of Service | Move-ment Delay | Level of Service | Move-ment Delay | Level of Service | Move-ment Delay | Level of Service | Move-ment Delay | Level of Service | Move-ment Delay |
| | | AM | | PM | | AM | | PM | | AM | | PM | | AM | | PM | |
| Signalized | Arapahoe Avenue/Cherryvale Road | | | | | | | | | | | | | | | | |
| | Eastbound Left | C | 25.7 | A | 9.5 | B | 13.6 | A | 5.2 | D | 37.2 | B | 11.1 | C | 20.8 | A | 8.1 |
| | Eastbound Through | B | 14.4 | B | 10.7 | A | 7.7 | A | 6.0 | B | 14.9 | B | 12.6 | A | 8.6 | A | 9.5 |
| | Eastbound Right | B | 13.1 | B | 11.3 | A | 7.1 | A | 6.7 | B | 13.2 | B | 13.4 | A | 7.7 | B | 10.6 |
| | Westbound Left | B | 17.4 | C | 26.7 | B | 10.3 | C | 26.3 | B | 19.0 | E | 59.5 | B | 11.6 | E | 73.0 |
| | Westbound Through | B | 16.8 | A | 7.5 | A | 8.9 | A | 4.1 | B | 18.6 | A | 7.9 | B | 10.5 | A | 5.7 |
| | Westbound Right | B | 17.5 | A | 7.7 | A | 9.3 | A | 4.2 | B | 19.8 | A | 8.2 | B | 11.1 | A | 5.9 |
| | Northbound Left | -- | -- | -- | -- | D | 42.6 | D | 46.3 | -- | -- | -- | -- | E | 56.1 | D | 47.6 |
| | Northbound Left/Through | F | >120 | F | >120 | -- | -- | -- | -- | F | >120 | F | >120 | -- | -- | -- | -- |
| | Northbound Through/Right | C | 20.3 | C | 34.4 | C | 30.5 | D | 38.7 | C | 20.6 | C | 34.8 | C | 30.7 | D | 37.4 |
| | Southbound Left/Through | D | 40.1 | F | >120 | C | 30.6 | D | 39.8 | D | 41.3 | F | >120 | C | 31.0 | D | 39.3 |
| | Southbound Right | B | 19.4 | C | 34.9 | C | 28.5 | D | 38.9 | B | 19.5 | D | 35.3 | C | 28.2 | D | 37.6 |
| | Entire Intersection Delay (sec /veh) | >120 | | 46.9 | | 16.4 | | 10.9 | | >120 | | 64.3 | | 20.1 | | 14.5 | |
| | Entire Intersection LOS | F | | D | | B | | B | | F | | E | | C | | B | |
| Unsignalized | Arapahoe Road/62nd Street | | | | | | | | | | | | | | | | |
| | Eastbound Left | C | 19.9 | B | 12.5 | C | 20.7 | B | 12.9 | D | 28.1 | B | 14.3 | D | 29.0 | B | 14.7 |
| | Southbound Left | E | 41.9 | E | 36.0 | E | 45.7 | E | 38.9 | F | 80.8 | F | 61.1 | F | 87.7 | F | 66.9 |
| | Southbound Right | C | 15.4 | B | 12.5 | C | 15.7 | B | 12.7 | C | 18.0 | B | 13.8 | C | 18.3 | B | 14.0 |
| | Critical Movement Delay(sec /veh) | 41.9 | | 36.0 | | 45.7 | | 38.9 | | 80.8 | | 61.1 | | 87.7 | | 66.9 | |
| Signalized | Arapahoe Road/63rd Street | | | | | | | | | | | | | | | | |
| | Eastbound Left | A | 7.2 | A | 3.7 | A | 9.9 | A | 3.8 | B | 10.6 | A | 5.3 | B | 15.4 | A | 6.2 |
| | Eastbound Through/Right | A | 3.5 | A | 4.1 | A | 3.6 | A | 3.5 | A | 3.7 | A | 5.8 | A | 3.8 | A | 5.5 |
| | Eastbound Right | A | 3.5 | A | 4.1 | A | 3.6 | A | 3.5 | A | 3.7 | A | 5.7 | A | 3.8 | A | 5.4 |
| | Westbound Left | A | 3.8 | A | 4.5 | A | 3.8 | A | 4.0 | A | 4.0 | A | 6.7 | A | 4.5 | A | 9.2 |
| | Westbound Through | -- | -- | -- | -- | A | 5.1 | A | 2.2 | A | 4.6 | A | 2.7 | A | 5.9 | A | 3.0 |
| | Westbound Through/Right | A | 4.2 | A | 2.3 | -- | -- | -- | -- | A | 5.0 | A | 2.9 | -- | -- | -- | -- |
| | Westbound Right | A | 4.4 | A | 2.5 | A | 3.1 | A | 1.7 | -- | -- | -- | -- | A | 3.1 | A | 2.3 |
| | Northbound Left | D | 39.5 | C | 25.7 | D | 39.9 | D | 44.5 | D | 40.6 | C | 26.1 | D | 41.8 | D | 45.4 |
| | Northbound Left/Through/Right | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | Northbound Through/Right | D | 35.5 | C | 22.6 | D | 35.5 | D | 38.5 | D | 35.6 | C | 22.2 | D | 36.4 | D | 37.9 |
| | Southbound Left | D | 38.2 | C | 25.2 | D | 38.2 | D | 41.2 | D | 39.0 | C | 25.3 | D | 39.9 | D | 41.2 |
| | Southbound Left/Through | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | Southbound Right | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | Southbound Through/Right | D | 39.4 | D | 36.1 | D | 40.0 | D | 46.5 | D | 40.7 | D | 36.0 | D | 41.2 | D | 44.5 |
| | Entire Intersection Delay (sec /veh) | 6.7 | | 5.6 | | 7.3 | | 6.2 | | 7.2 | | 6.7 | | 8.5 | | 7.9 | |
| | Entire Intersection LOS | A | | A | | A | | A | | A | | A | | A | | A | |
| Roundabout | Cherryvale Road/Site Access | | | | | | | | | | | | | | | | |
| | Westbound Approach | -- | -- | -- | -- | A | 5.2 | A | 3.9 | -- | -- | -- | -- | A | 6.3 | A | 4.2 |
| | Northbound Approach | -- | -- | -- | -- | A | 8.6 | A | 4.7 | -- | -- | -- | -- | B | 10.5 | A | 5.1 |
| | Southbound Approach | -- | -- | -- | -- | A | 4.1 | B | 10.0 | -- | -- | -- | -- | A | 4.2 | B | 13.2 |
| | Entire Intersection Delay (sec /veh) | -- | -- | -- | -- | 7.1 | | 7.1 | | -- | -- | -- | -- | 9.0 | | 10.8 | |
| | Entire Intersection LOS | -- | -- | -- | -- | A | | A | | -- | -- | -- | -- | A | | B | |
| Unsignalized | Arapahoe Road/RIRO Site Access | | | | | | | | | | | | | | | | |
| | Northbound Right | -- | -- | -- | -- | B | 10.2 | C | 15.6 | -- | -- | -- | -- | B | 10.7 | C | 19.1 |
| | Critical Movement Delay(sec /veh) | -- | -- | -- | -- | 10.2 | | 15.6 | | -- | -- | -- | -- | 10.7 | | 19.1 | |

Note:
[1] All scenarios include widening of Arapahoe Avenue/Road as indicated by CDOT.
[2] Assumes existing signal timings with the exception of the morning peak-hour for the 2015 and 2035 Total scenarios at Arapahoe Avenue/Cherryvale Road - 13 seconds of green time was shifted from N/S to E/W based on discussions with City staff.

**Table 4**
**Queuing Analysis (1)**
**Boulder Jewish Commons**
**Arapahoe Avenue/Cherryvale Road Intersection**
**Boulder, Colorado**
**(LSC #110400; August, 2013)**

| | | | | Northbound Left-Turn | | Northbound Shared Through/Right | Westbound Left-Turn |
|---|---|---|---|---|---|---|---|
| | | | | feet | | feet | feet |
| **Storage Length Available** | | | | **305** | | **305** | **275** |
| 2015 Total | AM | 95th Percentile | (Modeled) | 199 | 229 | 111 | 70 |
| 2015 Total | PM | 95th Percentile | (Modeled) | 122 | 146 | 65 | 391 |
| 2035 Total | AM | 95th Percentile | (Modeled) | 251 | 267 | 105 | 74 |
| 2035 Total | PM | 95th Percentile | (Modeled) | 142 | 164 | 84 | 374 |

Notes:
(1) Based on 95th percentile queue length from the SimTraffic Simulation model presented to City staff.

## SECTION F
# Access Recommendations

Based on this analysis, the following access recommendations have been made to mitigate the impacts of the Boulder Jewish Commons. These are shown in Figures 12 and 13.

1. A public right-in/right-out site access and a right-in/right-out service access are proposed on Arapahoe Road.

2. Recommended improvements at the Arapahoe Avenue/Cherryvale Road intersection include the addition of dedicated northbound dual left-turn lanes and modifications to the existing traffic signal. These improvements will prevent the northbound approach queues from blocking the Cherryvale Road site access and allow the City to shift as much as 13 seconds of green time from Cherryvale Road to Arapahoe Avenue during the morning peak-hour. The actual change in timings will be determined by City staff.

3. The site access on Cherryvale Road is proposed as a single-lane roundabout. Analysis of the roundabout design is included in Section G. A city bus can maneuver through the roundabout without using the raised truck apron. The truck apron is designed to accommodate an occasional WB-50 truck that may pass through the intersection despite the signing of Cherryvale Road for no large trucks. This is very important to avoid damage to the raised design features that channelize vehicles through the roundabout.

Figure 12
Overall
Recommended Improvements
Boulder Jewish Commons (LSC #110400)
63rd Street
Arapahoe Rd.
62nd Street
Cherryvale Rd.
Arapahoe Ave.
325'
90'
Approximate Scale
Scale: 1" = 250'
125 62.5 0 250
N
LSC
TRANSPORTATION CONSULTANTS, INC.

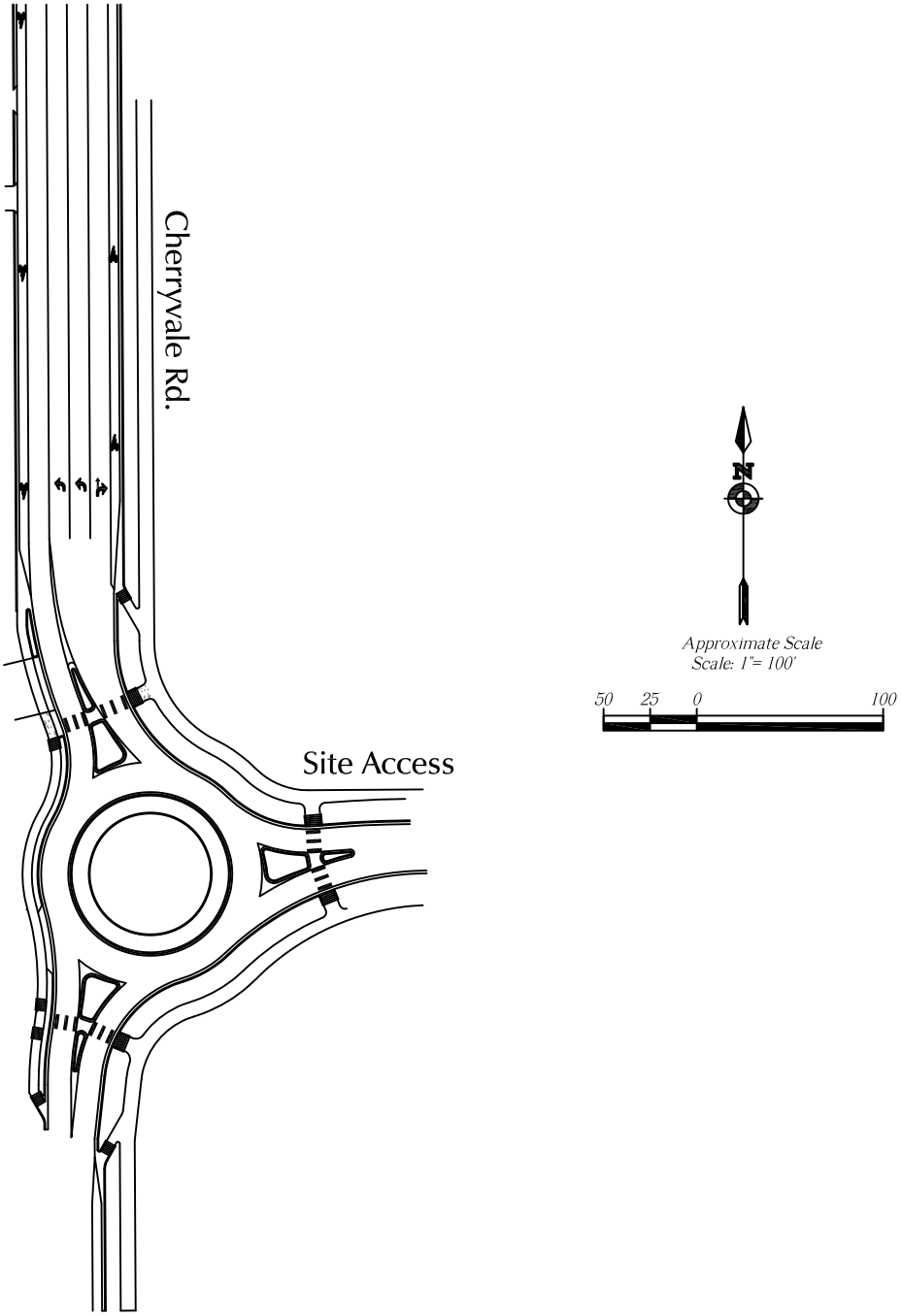



*Figure 13*

# *Cherryvale Road Recommended Improvements*

Boulder Jewish Commons (LSC #110400)

LSC TRANSPORTATION CONSULTANTS, INC.

# Roundabout Analyses

## Roundabout Geometry

Figure 14 shows many of the design features of the proposed roundabout at the site access on Cherryvale Road. This design is based on the vehicle turning paths in Figures 15 through 21, the fastest path analyses shown in Figures 22 through 25, and the projected traffic volumes. The *City of Boulder Design and Construction Standards* (DCS) require a minimum intersection approach tangent of 100 feet for a local street. It is our opinion that this standard does not consider a roundabout as a design tool. It is recommended that this standard not apply to the proposed roundabout considering a major design feature of a roundabout is the deflection of entering vehicles to reduce the fastest path through the roundabout.

## Design Vehicle

The circulating roadway design vehicle is a city bus or school bus. These turning paths are shown in Figures 15, 17, and 19. The truck apron design vehicle is a WB-50 truck. These turning paths are shown in Figures 16, 18, and 20. The design vehicle for the two driveways to remain close to the roundabout is a typical passenger vehicle. These turning paths are shown in Figure 21. Figure 21 shows that a passenger vehicle waiting to turn left into the northern driveway will not block the crosswalk and can make the turn into the driveway without conflicting with the proposed splitter island. Northbound vehicles exiting the roundabout will have to slow or stop for the occasional vehicle turning left into the driveway, similar to what occurs at the other driveways along Cherryvale Road. At this driveway, the vehicles will be exiting the roundabout at a slower speed than the typical vehicle speed along Cherryvale Road.

Figure 21 also shows the available sight distance for vehicles entering Oreg Drive from the site driveways exceeds the fastest paths of circulating vehicles within the roundabout.

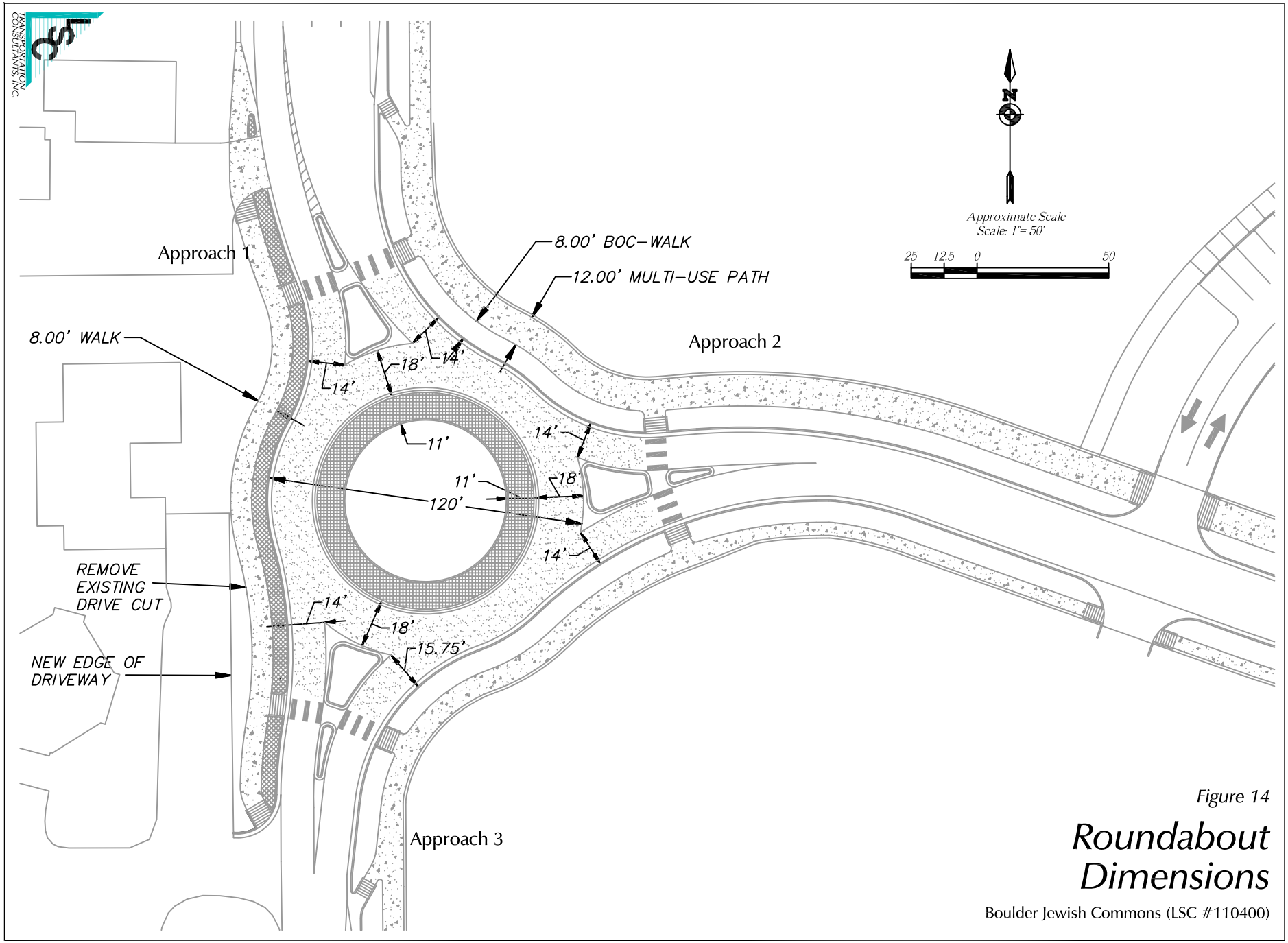



*Figure 14*

# *Roundabout Dimensions*

Boulder Jewish Commons (LSC #110400)

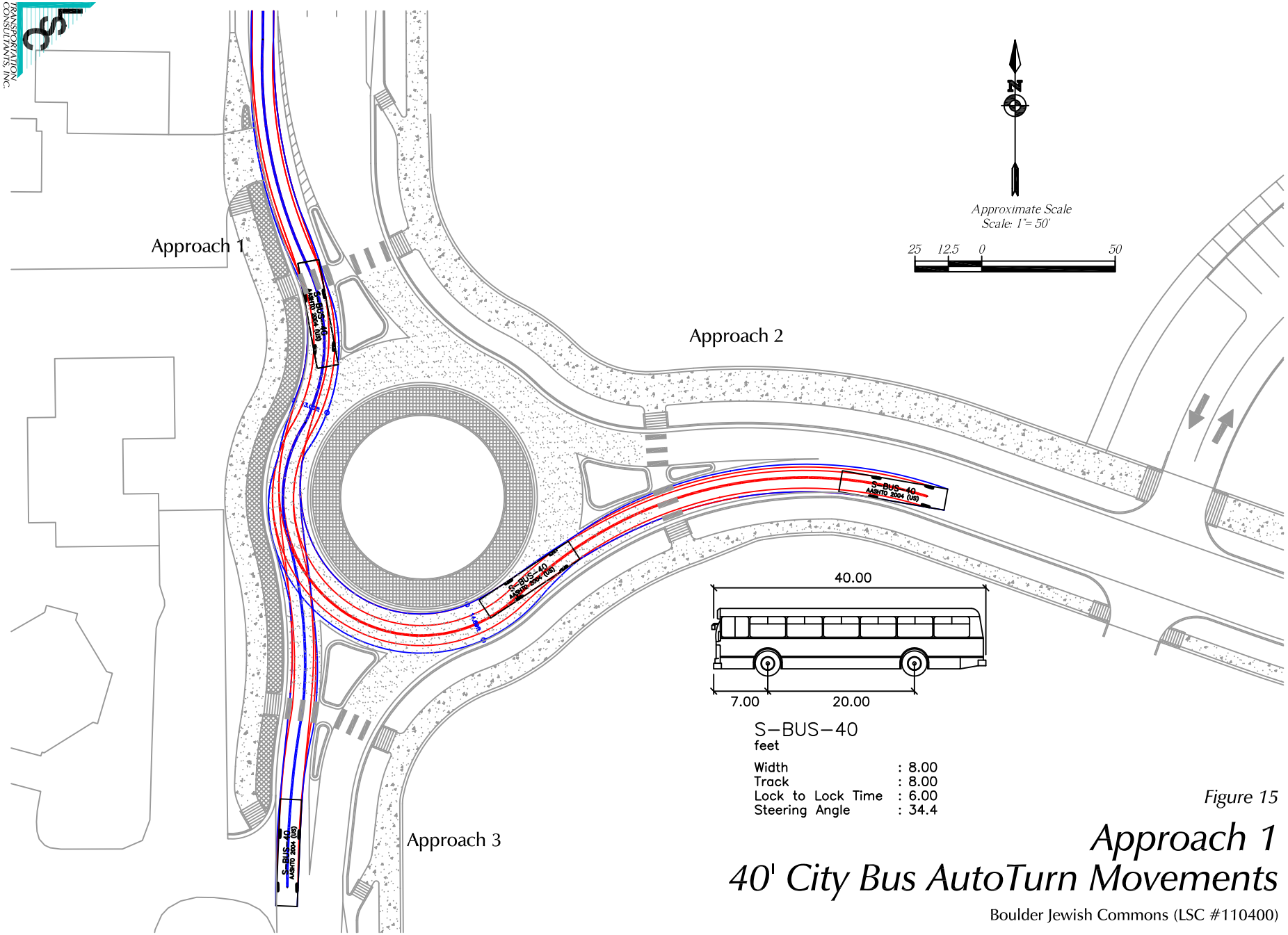



*Figure 15*

# *Approach 1*
# *40' City Bus AutoTurn Movements*

Boulder Jewish Commons (LSC #110400)

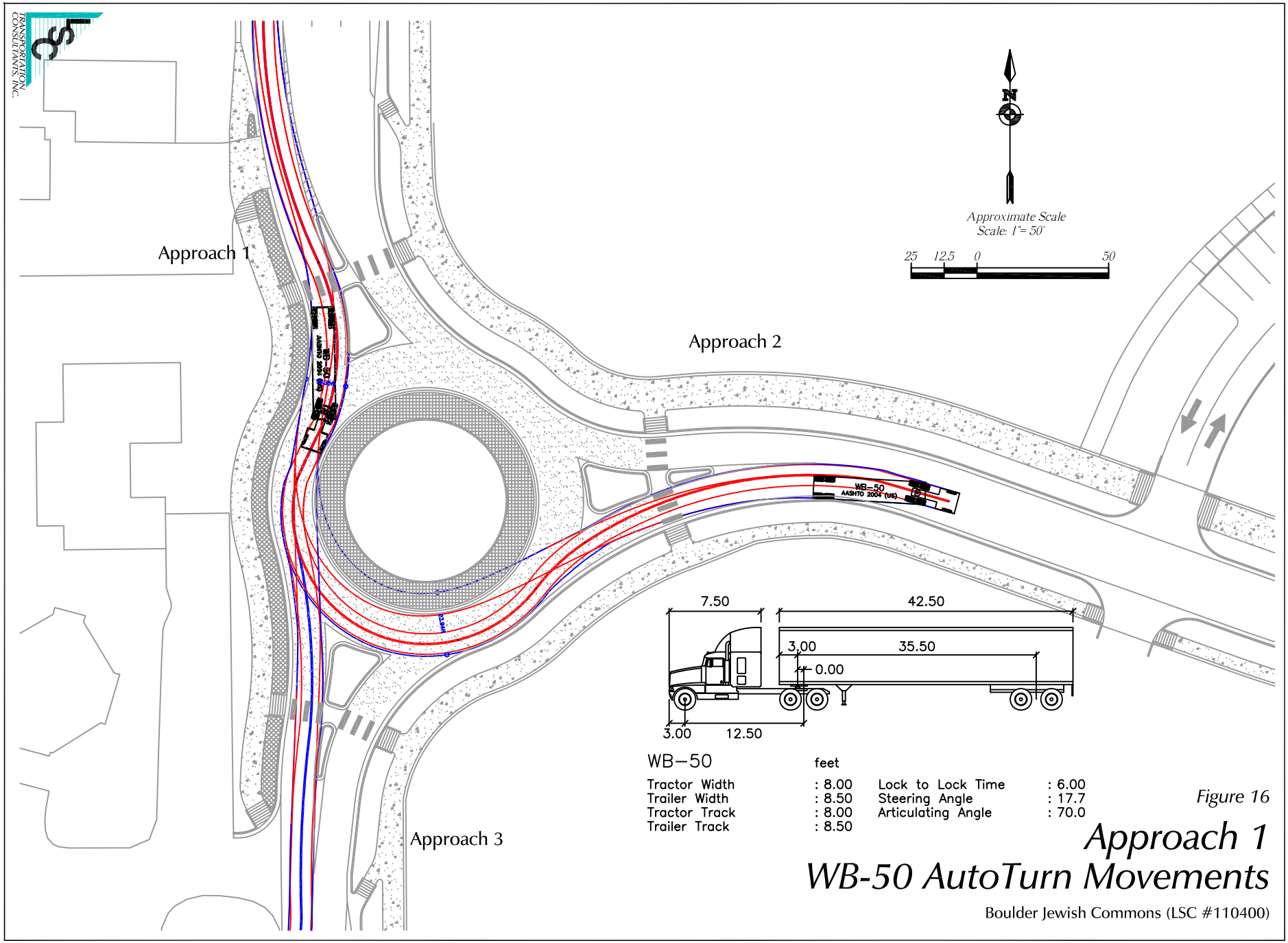



*Figure 16*

# *Approach 1*
# *WB-50 AutoTurn Movements*

Boulder Jewish Commons (LSC #110400)

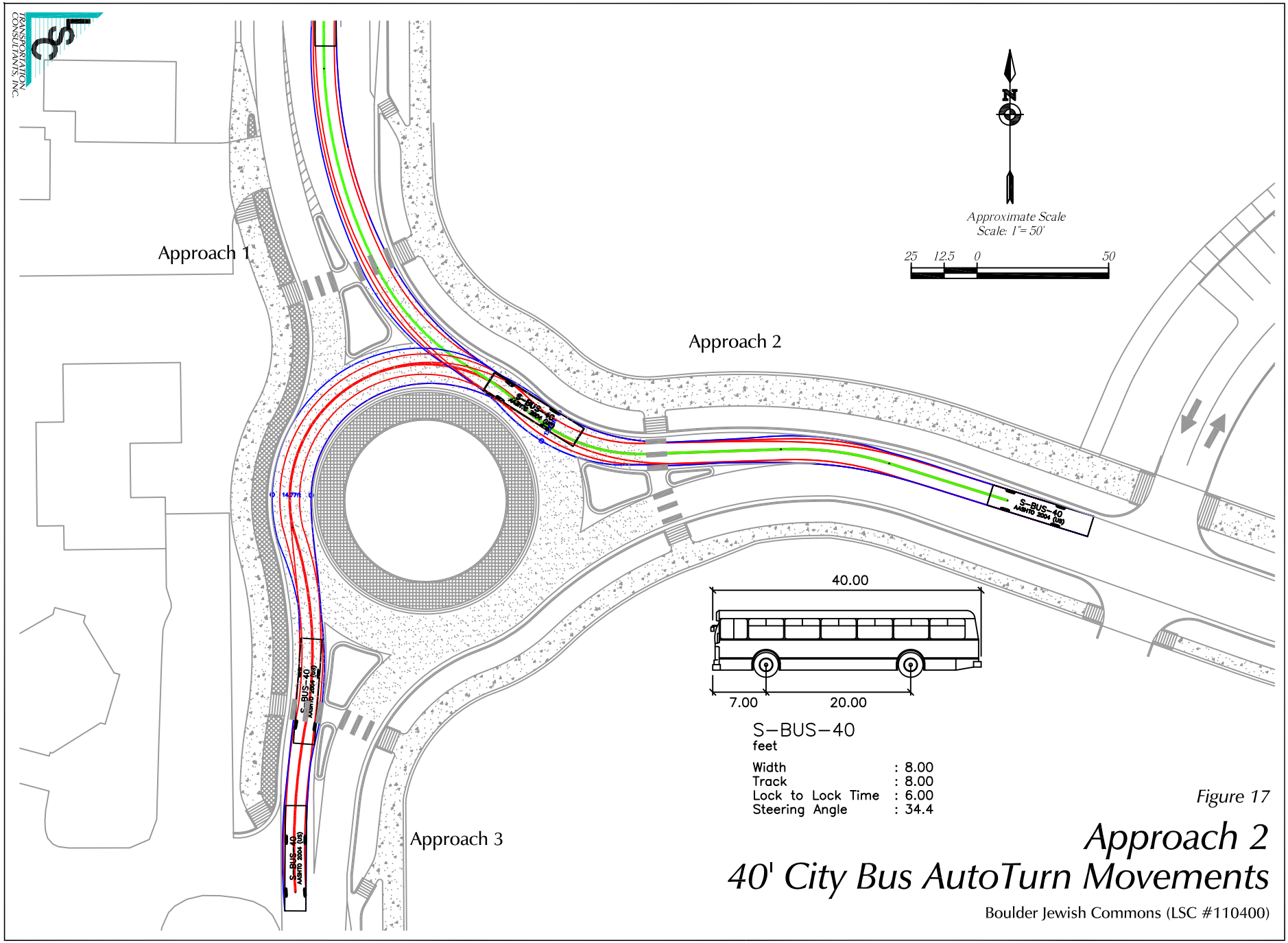



*Figure 17*

# *Approach 2*
# *40' City Bus AutoTurn Movements*

Boulder Jewish Commons (LSC #110400)

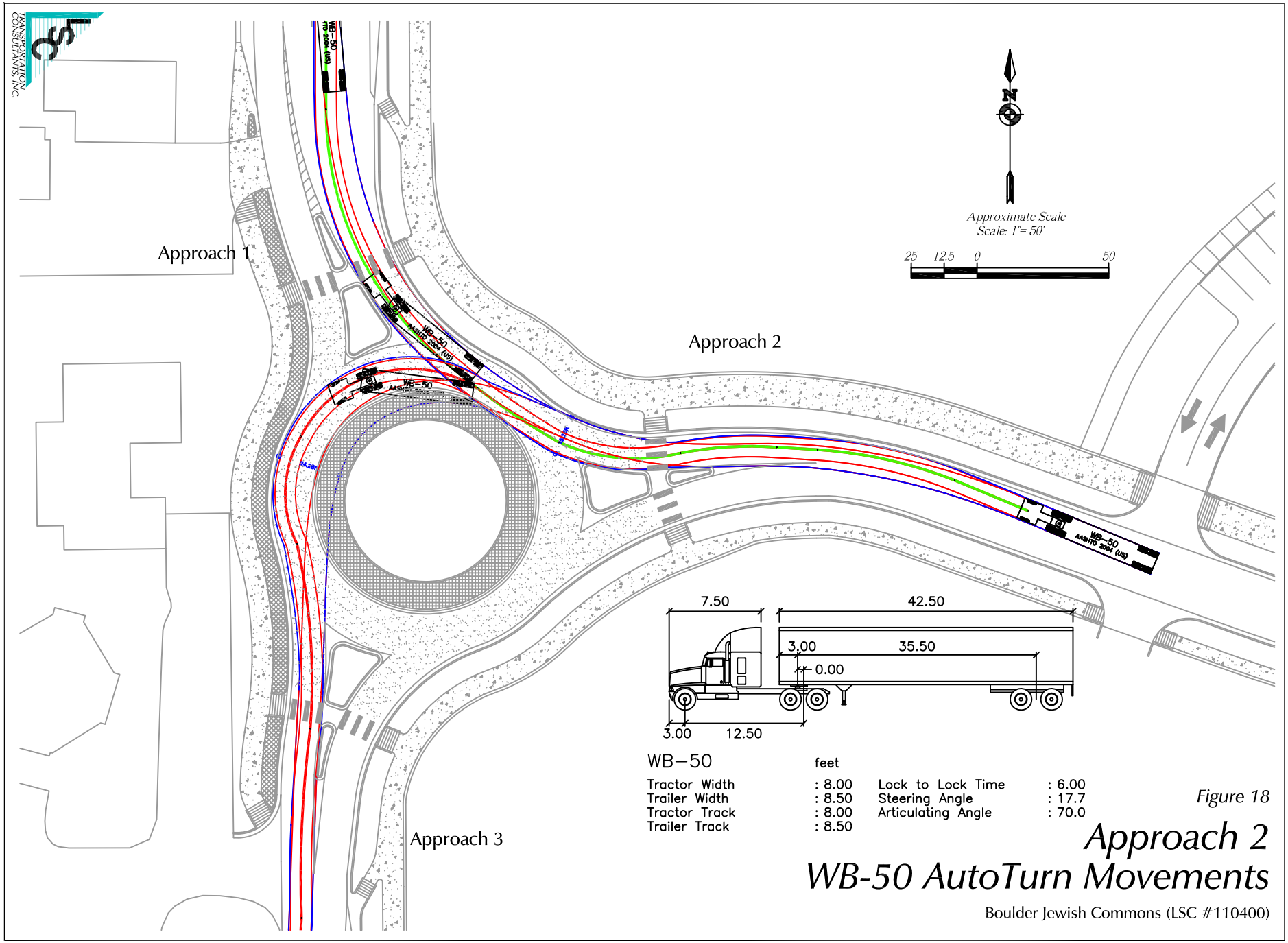



*Figure 18*

# *Approach 2*
# *WB-50 AutoTurn Movements*

Boulder Jewish Commons (LSC #110400)

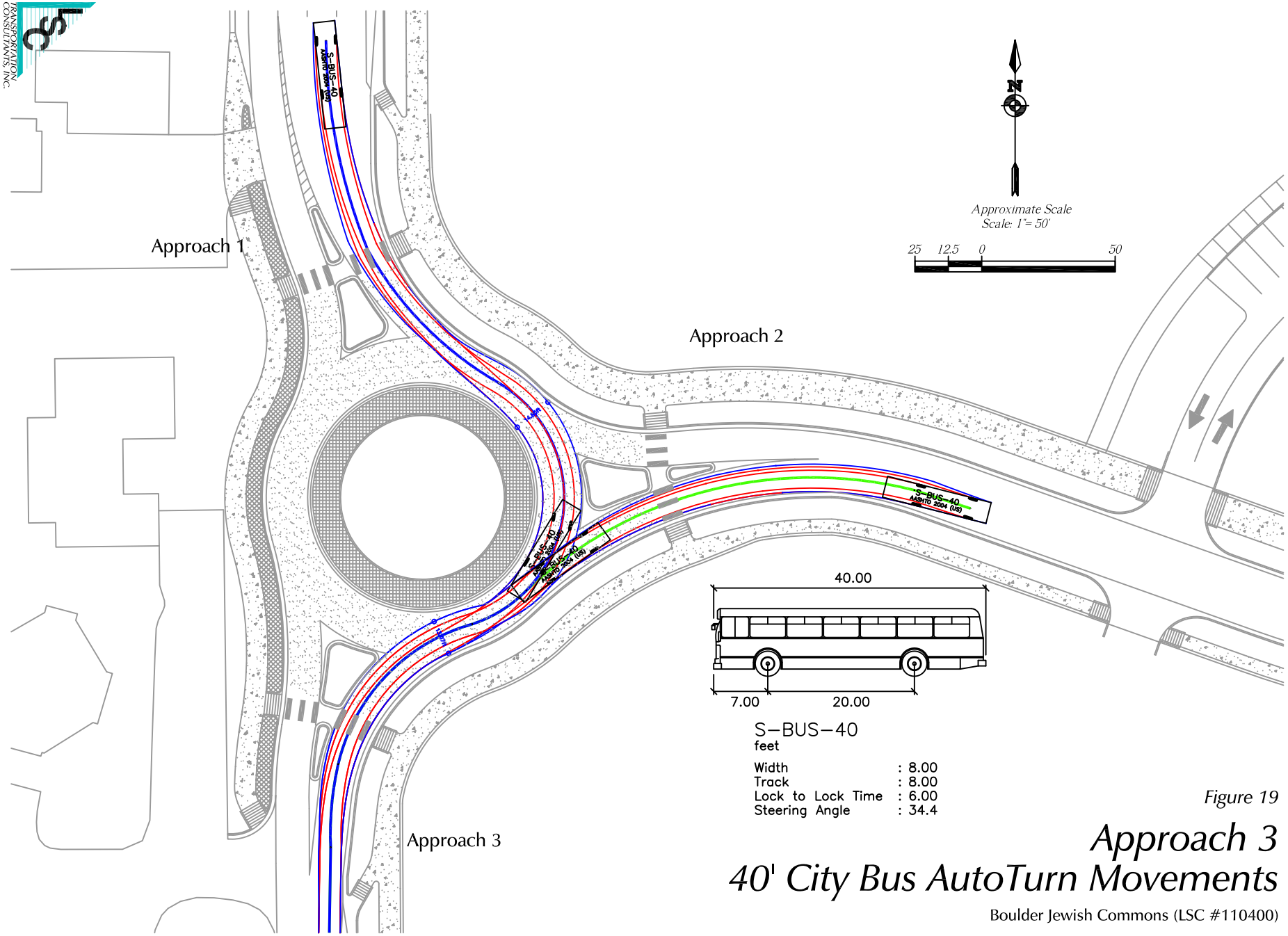



*Figure 19*

# *Approach 3*
# *40' City Bus AutoTurn Movements*

Boulder Jewish Commons (LSC #110400)

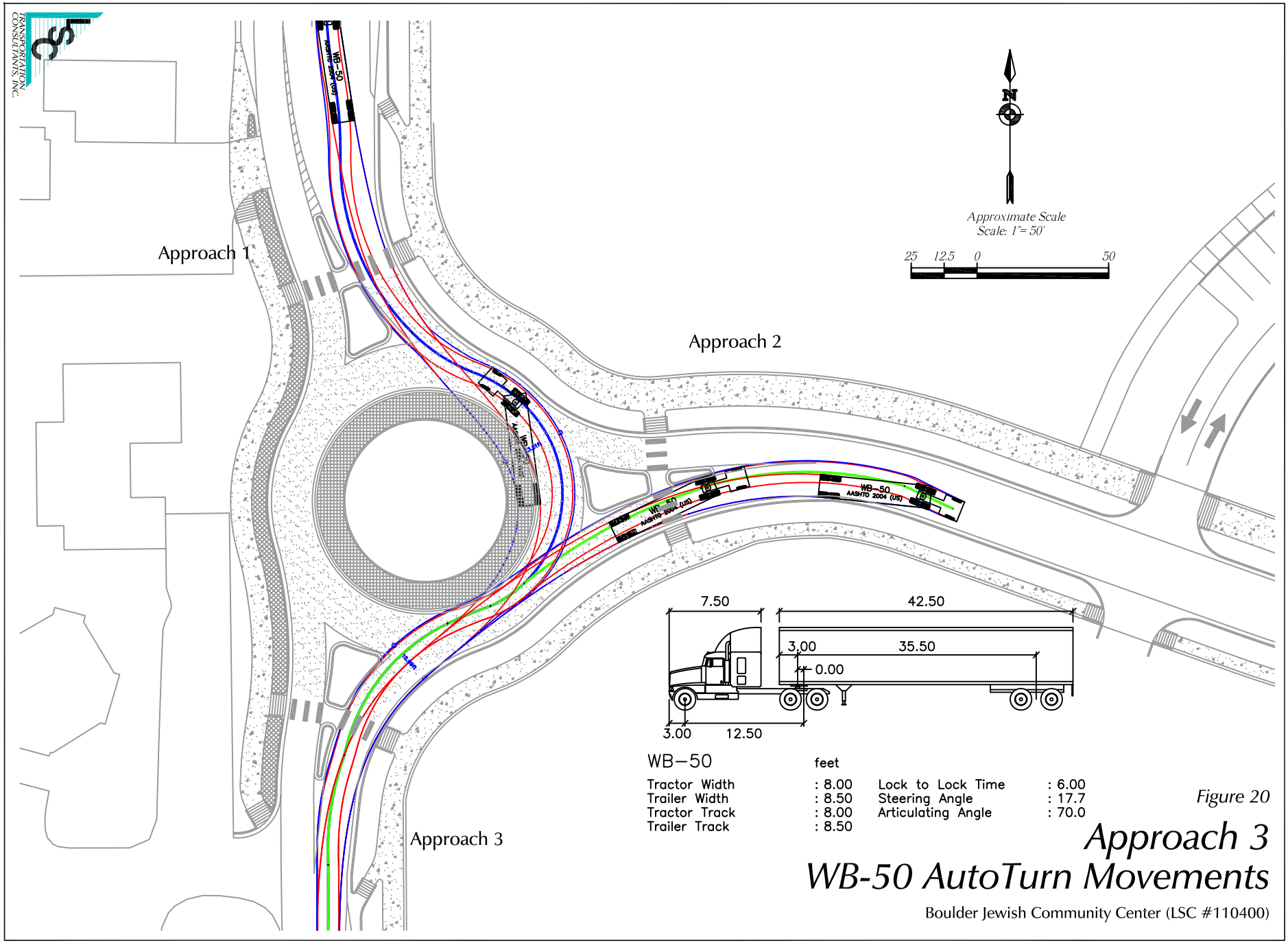



*Figure 20*

# *Approach 3*
# *WB-50 AutoTurn Movements*

Boulder Jewish Community Center (LSC #110400)

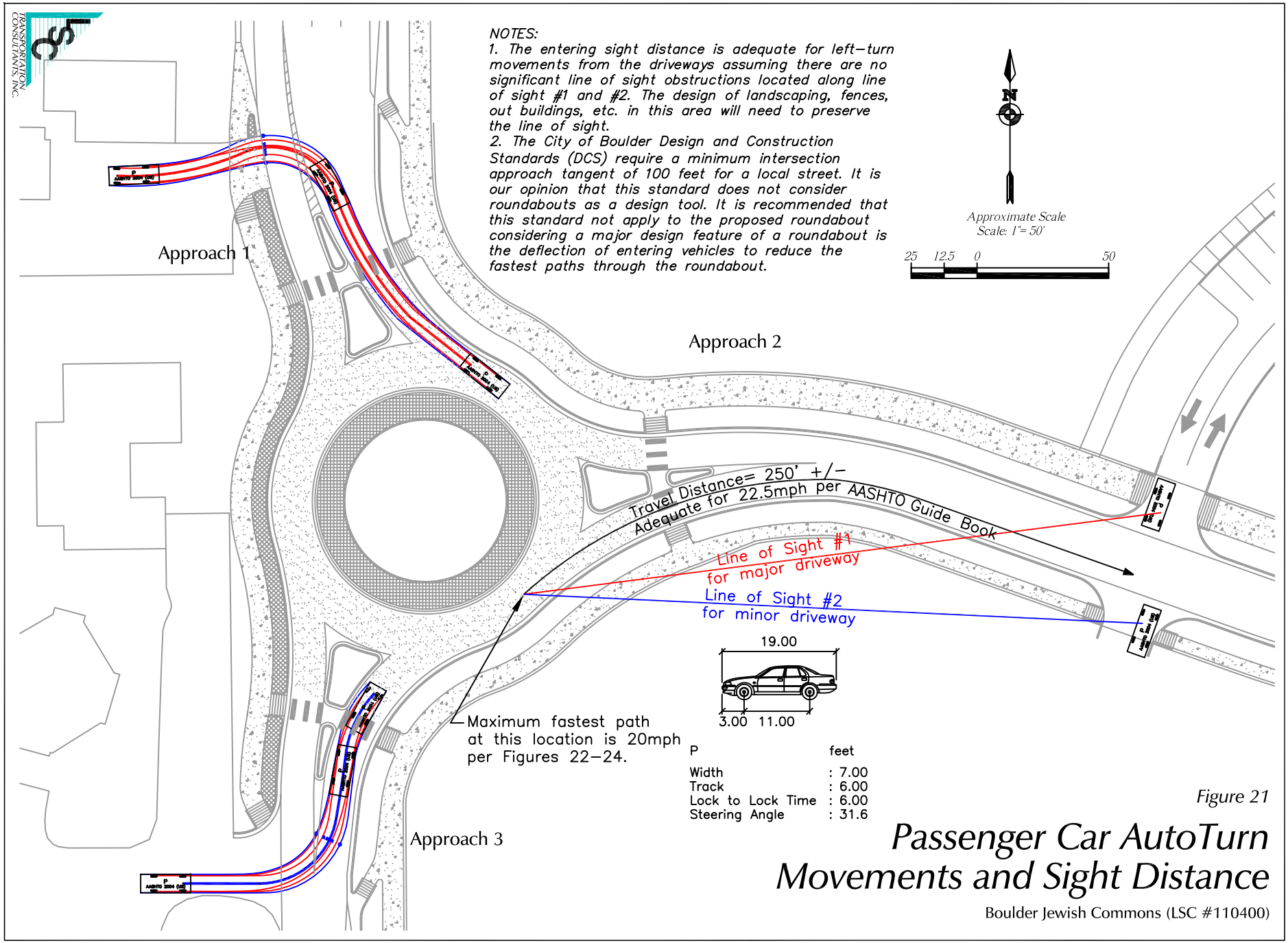



Figure 21

# Passenger Car AutoTurn Movements and Sight Distance

Boulder Jewish Commons (LSC #110400)

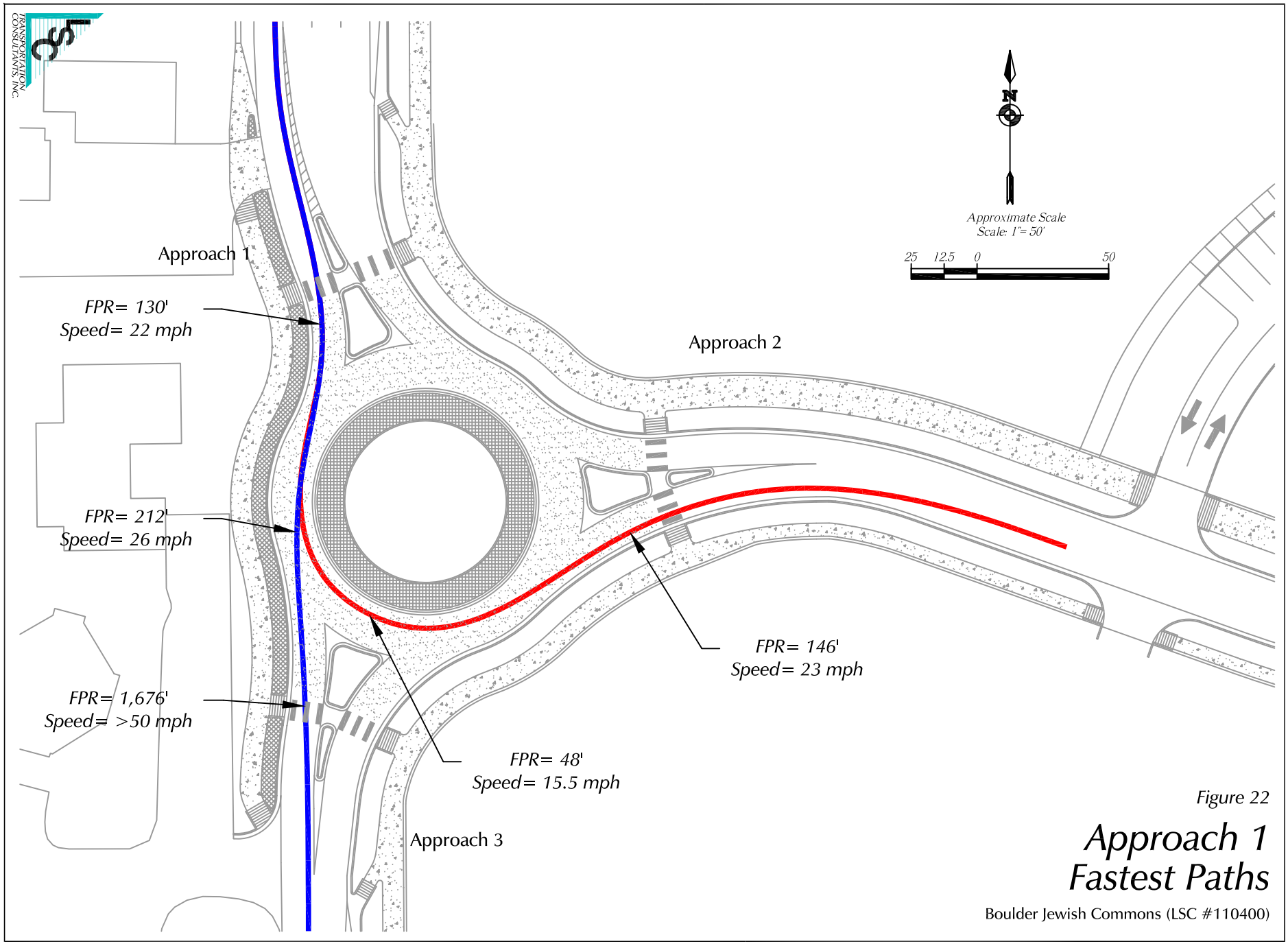



Figure 22

# Approach 1 Fastest Paths

Boulder Jewish Commons (LSC #110400)

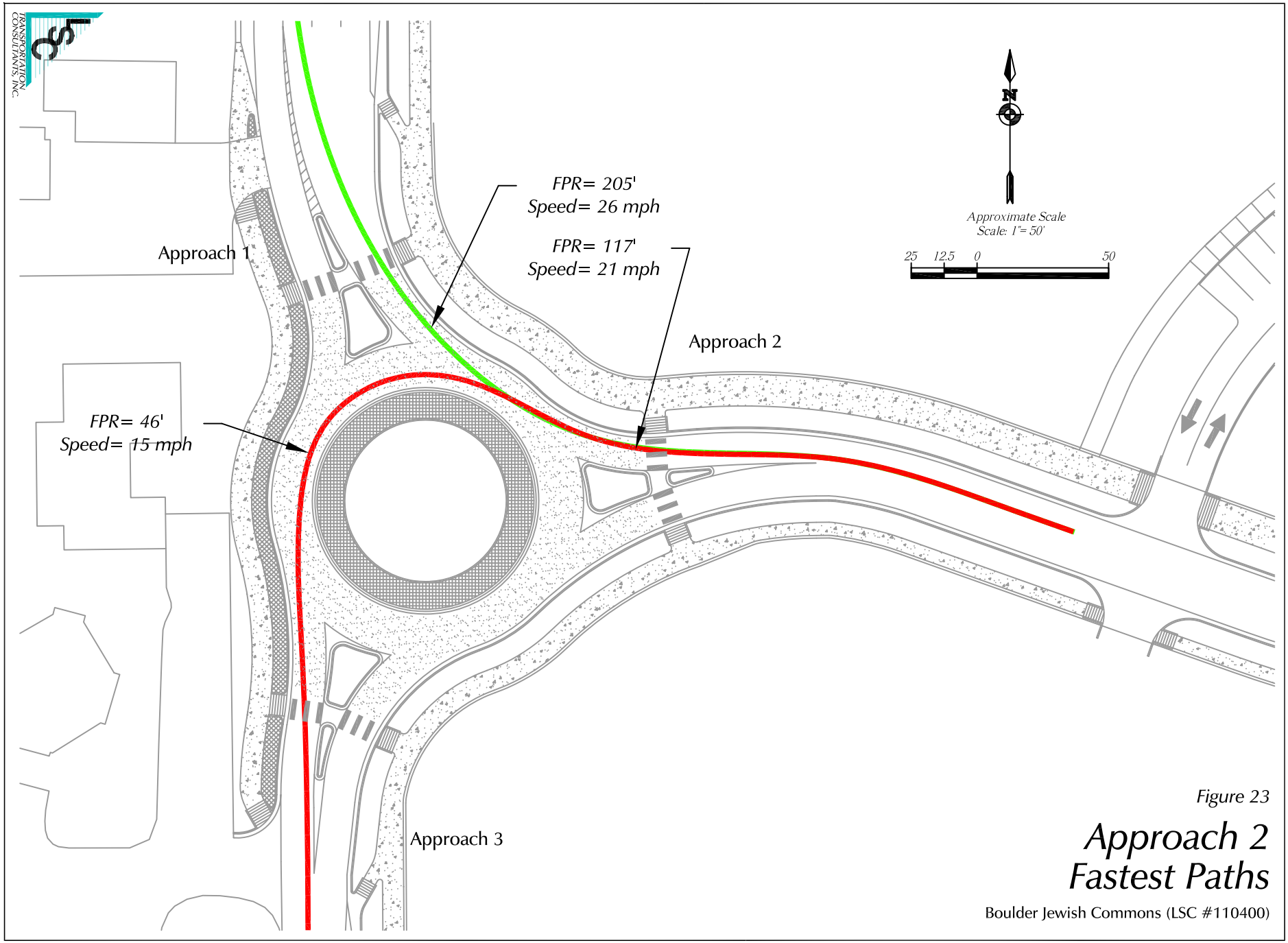



Figure 23

# Approach 2 Fastest Paths

Boulder Jewish Commons (LSC #110400)

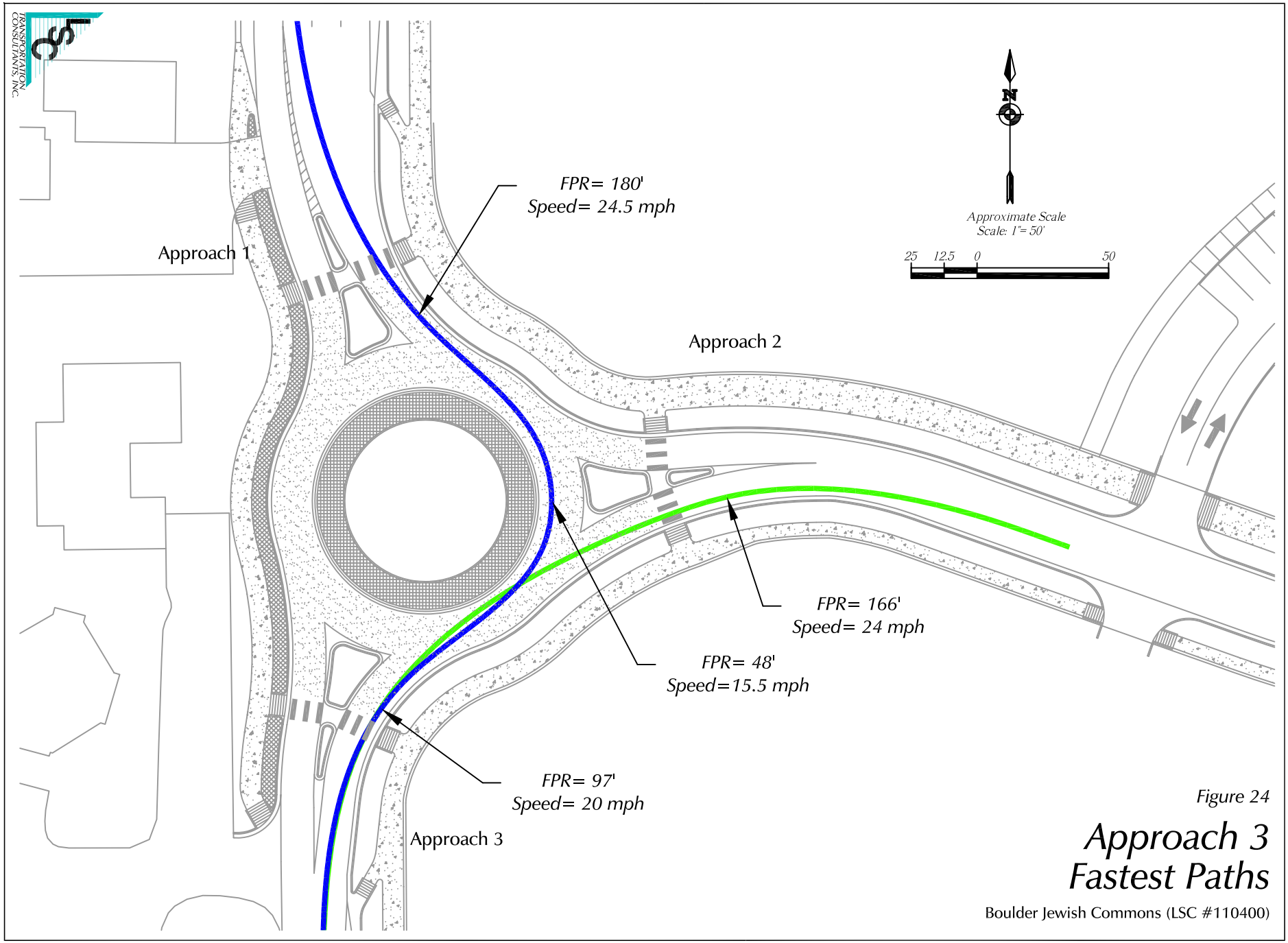



Figure 24

# Approach 3 Fastest Paths

Boulder Jewish Commons (LSC #110400)

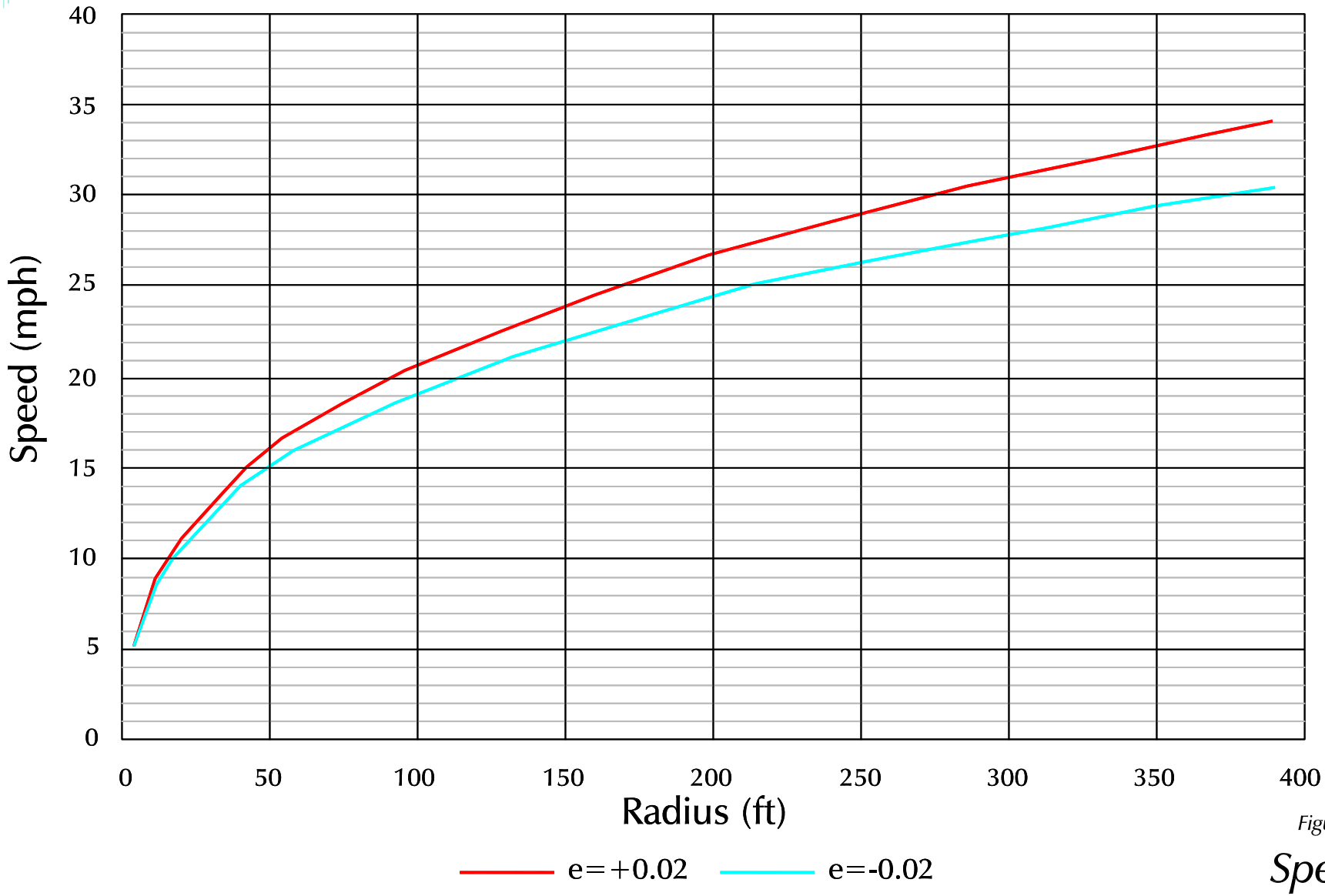



*Figure 25*

# *Speed Table*

Boulder Jewish Commons (LSC #110400)

# SECTION H
# Conclusions

Based on this analysis, the following conclusions may be made regarding the traffic impacts of Boulder Jewish Commons:

1. On a typical weekday in 2015, the western portion of the site can be expected to generate about 1,812 vehicle-trips per day, with about half entering and half exiting the site in a 24-hour period. During the morning peak-hour, about 112 vehicles will enter and about 67 vehicles will exit the site. During the afternoon peak-hour, there will be about 113 entering and about 84 exiting vehicles.

   In 2035, the full site has the potential to generate about 3,080 vehicle-trips on a typical weekday, with about half entering and half exiting the site in a 24-hour period. During the morning peak-hour, about 147 vehicles will enter and about 127 vehicles will exit the site. During the afternoon peak-hour, there will be about 180 entering and about 129 exiting vehicles.

2. Site-generated traffic is expected to be distributed as follows: about 55 percent of site-generated traffic will travel on Arapahoe Avenue west of Cherryvale Road; 30 percent on Arapahoe Road east of 63rd Street; five percent north on 63rd Street; and ten percent south on Cherryvale Road.

3. Access to the development consists of one public right-in/right-out access on Arapahoe Road and one full movement roundabout access on Cherryvale Road south of Arapahoe Avenue. A secondary right-in/right-out service access is proposed a few hundred feet west of the public right-in/right-out Arapahoe Road access.

4. Recommended improvements at the Arapahoe Avenue/Cherryvale Road intersection include the addition of dedicated northbound dual left-turn lanes and modifications to the existing traffic signal. An updated queuing analysis should be completed for this intersection as part of any future phase traffic studies.

5. The site access on Cherryvale Road is proposed as a single-lane roundabout. The design characteristics of the roundabout are included in Section G.

6. Traffic associated with Boulder Jewish Commons can be accommodated by the adjacent roadway network with the improvements recommended herein.

# APPENDIX A
# Traffic Counts

# COUNTER MEASURES INC.

1889 YORK ST
DENVER, COLORADO
303-333-7409

N/S STREET: CHERRYVALE RD
E/W STREET: ARAPAHOE AVE
CITY: BOULDER
COUNTY: BOULDER

File Name : CHERARAP
Site Code : 00000010
Start Date : 9/28/2011
Page No : 1

Groups Printed- 1 - VEHICLES

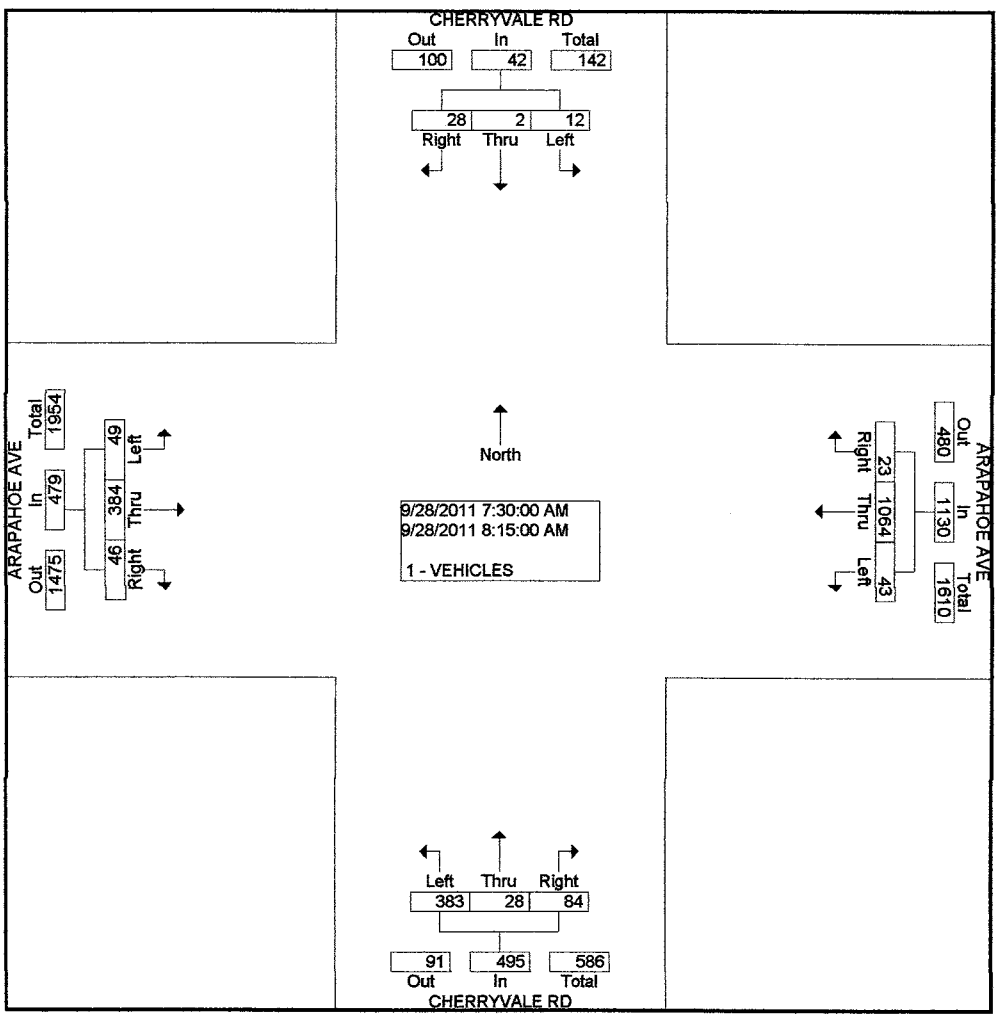
| | CHERRYVALE RD From North | | | ARAPAHOE AVE From East | | | CHERRYVALE RD From South | | | ARAPAHOE AVE From West | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Right | Thru | Left | Right | Thru | Left | Right | Thru | Left | Int. Total |
| Factor | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| 06:30 AM | 0 | 0 | 1 | 8 | 135 | 4 | 13 | 1 | 16 | 3 | 50 | 5 | 236 |
| 06:45 AM | 2 | 0 | 1 | 4 | 178 | 7 | 16 | 4 | 32 | 5 | 59 | 9 | 317 |
| Total | 2 | 0 | 2 | 12 | 313 | 11 | 29 | 5 | 48 | 8 | 109 | 14 | 553 |
| 07:00 AM | 1 | 0 | 0 | 7 | 201 | 8 | 16 | 4 | 31 | 7 | 47 | 3 | 325 |
| 07:15 AM | 3 | 0 | 1 | 8 | 213 | 5 | 17 | 8 | 56 | 9 | 84 | 13 | 417 |
| 07:30 AM | 7 | 1 | 2 | 2 | 242 | 13 | 21 | 6 | 73 | 5 | 99 | 12 | 483 |
| 07:45 AM | 6 | 0 | 1 | 11 | 273 | 13 | 26 | 7 | 130 | 11 | 102 | 11 | 591 |
| Total | 17 | 1 | 4 | 28 | 929 | 39 | 80 | 25 | 290 | 32 | 332 | 39 | 1816 |
| 08:00 AM | 6 | 1 | 7 | 9 | 273 | 11 | 18 | 10 | 98 | 11 | 80 | 15 | 539 |
| 08:15 AM | 9 | 0 | 2 | 1 | 276 | 6 | 19 | 5 | 82 | 19 | 103 | 11 | 533 |
| Total | 15 | 1 | 9 | 10 | 549 | 17 | 37 | 15 | 180 | 30 | 183 | 26 | 1072 |
| 04:00 PM | 15 | 2 | 7 | 1 | 147 | 17 | 10 | 1 | 21 | 72 | 289 | 16 | 598 |
| 04:15 PM | 17 | 2 | 4 | 4 | 138 | 13 | 13 | 2 | 25 | 75 | 242 | 14 | 549 |
| 04:30 PM | 13 | 7 | 5 | 0 | 133 | 23 | 15 | 3 | 24 | 93 | 266 | 14 | 596 |
| 04:45 PM | 15 | 7 | 7 | 3 | 152 | 16 | 13 | 3 | 34 | 92 | 261 | 15 | 618 |
| Total | 60 | 18 | 23 | 8 | 570 | 69 | 51 | 9 | 104 | 332 | 1058 | 59 | 2361 |
| 05:00 PM | 22 | 13 | 13 | 2 | 169 | 12 | 11 | 1 | 23 | 115 | 314 | 13 | 708 |
| 05:15 PM | 18 | 11 | 9 | 6 | 170 | 17 | 12 | 2 | 31 | 139 | 288 | 6 | 709 |
| 05:30 PM | 11 | 3 | 8 | 1 | 154 | 13 | 16 | 4 | 26 | 128 | 321 | 12 | 697 |
| 05:45 PM | 8 | 4 | 4 | 4 | 148 | 12 | 17 | 0 | 22 | 62 | 252 | 3 | 536 |
| Total | 59 | 31 | 34 | 13 | 641 | 54 | 56 | 7 | 102 | 444 | 1175 | 34 | 2650 |
| Grand Total | 153 | 51 | 72 | 71 | 3002 | 190 | 253 | 61 | 724 | 846 | 2857 | 172 | 8452 |
| Apprch % | 55.4 | 18.5 | 26.1 | 2.2 | 92.0 | 5.8 | 24.4 | 5.9 | 69.7 | 21.8 | 73.7 | 4.4 | |
| Total % | 1.8 | 0.6 | 0.9 | 0.8 | 35.5 | 2.2 | 3.0 | 0.7 | 8.6 | 10.0 | 33.8 | 2.0 | |

**COUNTER MEASURES INC.**
1889 YORK ST
DENVER, COLORADO
303-333-7409

N/S STREET: CHERRYVALE RD
E/W STREET: ARAPAHOE AVE
CITY: BOULDER
COUNTY: BOULDER

File Name : CHERARAP
Site Code : 00000010
Start Date : 9/28/2011
Page No : 2

| | CHERRYVALE RD From North | | | | ARAPAHOE AVE From East | | | | CHERRYVALE RD From South | | | | ARAPAHOE AVE From West | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | App. Total | Right | Thru | Left | App. Total | Right | Thru | Left | App. Total | Right | Thru | Left | App. Total | Int. Total |
| Peak Hour From 06:30 AM to 08:30 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Intersection | 07:30 AM | | | | | | | | | | | | | | | | |
| Volume | 28 | 2 | 12 | 42 | 23 | 1064 | 43 | 1130 | 84 | 28 | 383 | 495 | 46 | 384 | 49 | 479 | 2146 |
| Percent | 66.7 | 4.8 | 28.6 | | 2.0 | 94.2 | 3.8 | | 17.0 | 5.7 | 77.4 | | 9.6 | 80.2 | 10.2 | | |
| 07:45 Volume | 6 | 0 | 1 | 7 | 11 | 273 | 13 | 297 | 26 | 7 | 130 | 163 | 11 | 102 | 11 | 124 | 591 |
| Peak Factor | | | | | | | | | | | | | | | | | 0.908 |
| High Int. | 08:00 AM | | | | 07:45 AM | | | | 07:45 AM | | | | 08:15 AM | | | | |
| Volume | 6 | 1 | 7 | 14 | 11 | 273 | 13 | 297 | 26 | 7 | 130 | 163 | 19 | 103 | 11 | 133 | |
| Peak Factor | | | | 0.750 | | | | 0.951 | | | | 0.759 | | | | 0.900 | |

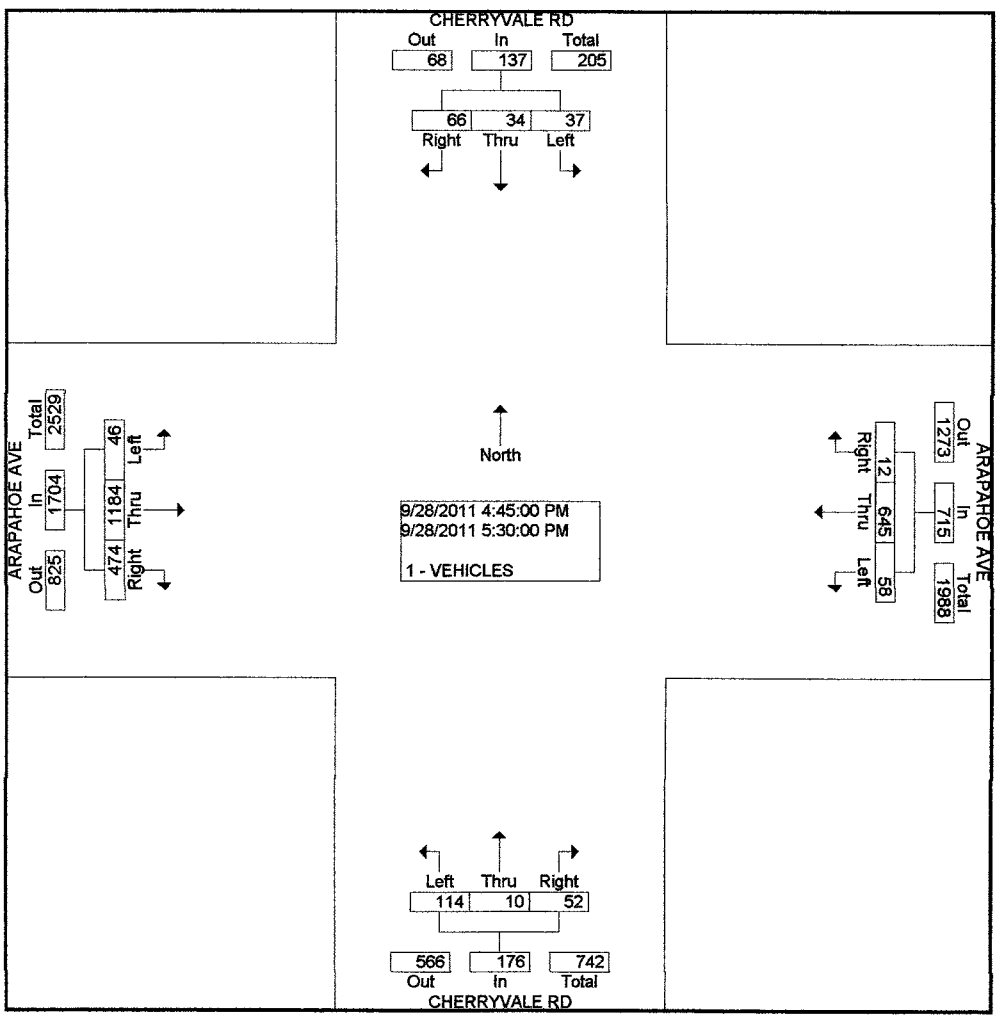


**COUNTER MEASURES INC.**
1889 YORK ST
DENVER, COLORADO
303-333-7409

N/S STREET: CHERRYVALE RD
E/W STREET: ARAPAHOE AVE
CITY: BOULDER
COUNTY: BOULDER

File Name : CHERARAP
Site Code : 00000010
Start Date : 9/28/2011
Page No : 2

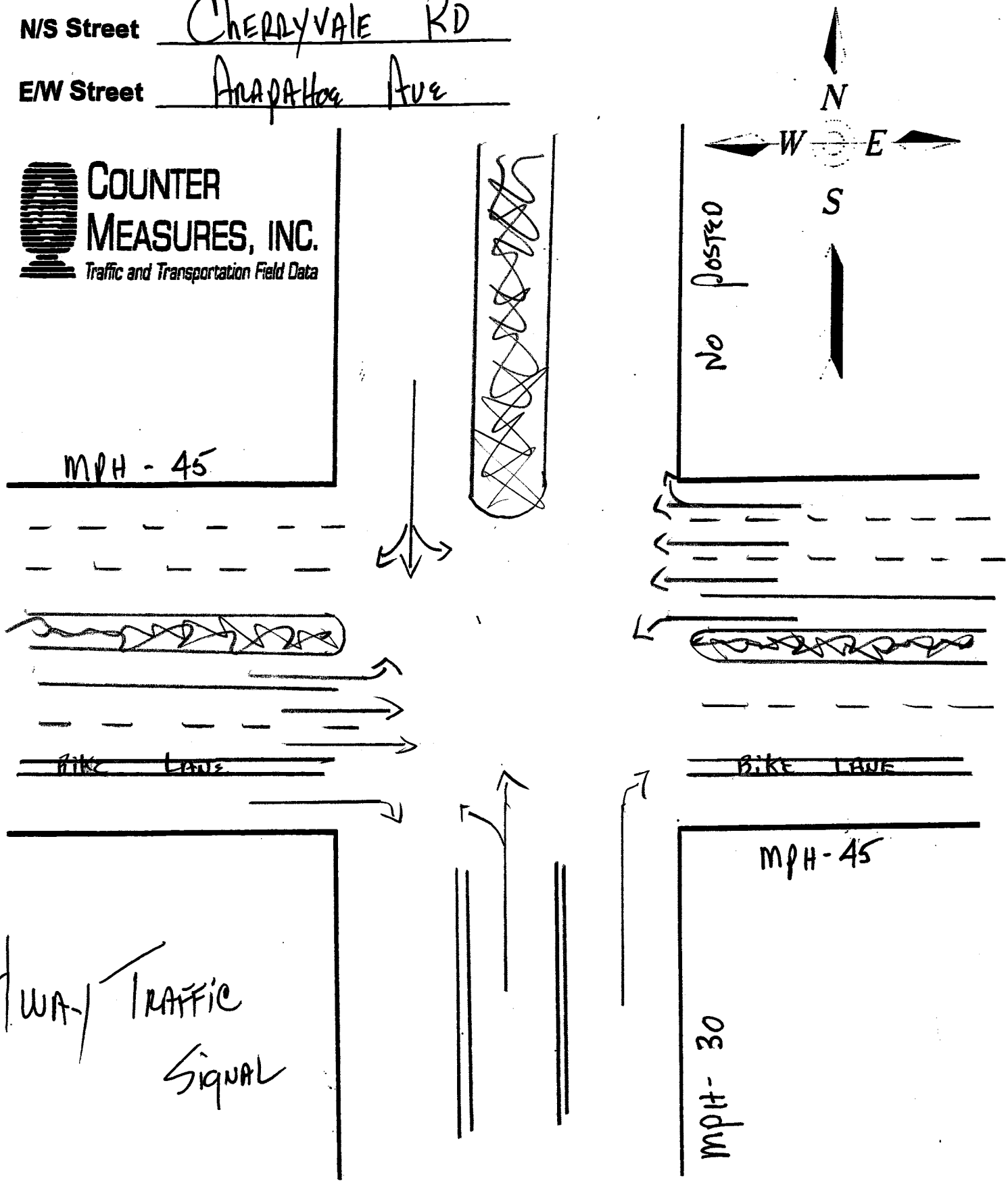
| | CHERRYVALE RD From North | | | | ARAPAHOE AVE From East | | | | CHERRYVALE RD From South | | | | ARAPAHOE AVE From West | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | App. Total | Right | Thru | Left | App. Total | Right | Thru | Left | App. Total | Right | Thru | Left | App. Total | Int. Total |
| Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Intersection | 04:45 PM | | | | | | | | | | | | | | | | |
| Volume | 66 | 34 | 37 | 137 | 12 | 645 | 58 | 715 | 52 | 10 | 114 | 176 | 474 | 1184 | 46 | 1704 | 2732 |
| Percent | 48.2 | 24.8 | 27.0 | | 1.7 | 90.2 | 8.1 | | 29.5 | 5.7 | 64.8 | | 27.8 | 69.5 | 2.7 | | |
| 05:15 Volume | 18 | 11 | 9 | 38 | 6 | 170 | 17 | 193 | 12 | 2 | 31 | 45 | 139 | 288 | 6 | 433 | 709 |
| Peak Factor | | | | | | | | | | | | | | | | | 0.963 |
| High Int. | 05:00 PM | | | | 05:15 PM | | | | 04:45 PM | | | | 05:30 PM | | | | |
| Volume | 22 | 13 | 13 | 48 | 6 | 170 | 17 | 193 | 13 | 3 | 34 | 50 | 128 | 321 | 12 | 461 | |
| Peak Factor | | | | 0.714 | | | | 0.926 | | | | 0.880 | | | | 0.924 | |



**N/S Street** Cherryvale Rd

**E/W Street** Arapahoe Ave

COUNTER MEASURES, INC.
*Traffic and Transportation Field Data*



# COUNTER MEASURES INC.

1889 YORK ST
DENVER, COLORADO
303-333-7409

N/S STREET: 63RD ST
E/W STREET: ARAPAHOE AVE
CITY: BOULDER
COUNTY: BOULDER

File Name : 63RDARAP
Site Code : 00000005
Start Date : 9/28/2011
Page No : 1

Groups Printed- 1 - VEHICLES

| | 63RD ST From North | | | ARAPAHOE AVE From East | | | 63RD ST From South | | | ARAPAHOE AVE From West | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Right | Thru | Left | Right | Thru | Left | Right | Thru | Left | Int. Total |
| Factor | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| 06:30 AM | 6 | 0 | 4 | 9 | 142 | 0 | 0 | 0 | 3 | 1 | 45 | 20 | 230 |
| 06:45 AM | 6 | 0 | 1 | 27 | 183 | 0 | 1 | 1 | 11 | 0 | 52 | 15 | 297 |
| Total | 12 | 0 | 5 | 36 | 325 | 0 | 1 | 1 | 14 | 1 | 97 | 35 | 527 |
| 07:00 AM | 11 | 0 | 5 | 4 | 212 | 1 | 1 | 3 | 4 | 0 | 57 | 6 | 304 |
| 07:15 AM | 13 | 0 | 10 | 10 | 228 | 0 | 0 | 1 | 7 | 0 | 85 | 4 | 358 |
| 07:30 AM | 12 | 0 | 12 | 12 | 259 | 2 | 0 | 2 | 6 | 1 | 99 | 9 | 414 |
| 07:45 AM | 14 | 0 | 18 | 12 | 287 | 3 | 0 | 1 | 3 | 1 | 110 | 12 | 461 |
| Total | 50 | 0 | 45 | 38 | 986 | 6 | 1 | 7 | 20 | 2 | 351 | 31 | 1537 |
| 08:00 AM | 16 | 0 | 7 | 14 | 273 | 0 | 0 | 1 | 1 | 1 | 80 | 17 | 410 |
| 08:15 AM | 18 | 0 | 9 | 14 | 262 | 0 | 1 | 1 | 3 | 0 | 100 | 24 | 432 |
| Total | 34 | 0 | 16 | 28 | 535 | 0 | 1 | 2 | 4 | 1 | 180 | 41 | 842 |
| 04:00 PM | 22 | 0 | 27 | 12 | 143 | 1 | 0 | 2 | 2 | 1 | 253 | 18 | 481 |
| 04:15 PM | 21 | 0 | 25 | 16 | 123 | 2 | 2 | 0 | 0 | 3 | 266 | 16 | 474 |
| 04:30 PM | 20 | 0 | 9 | 5 | 129 | 1 | 3 | 2 | 2 | 5 | 270 | 21 | 467 |
| 04:45 PM | 17 | 0 | 9 | 14 | 143 | 1 | 0 | 1 | 1 | 2 | 285 | 12 | 485 |
| Total | 80 | 0 | 70 | 47 | 538 | 5 | 5 | 5 | 5 | 11 | 1074 | 67 | 1907 |
| 05:00 PM | 28 | 0 | 16 | 14 | 149 | 0 | 3 | 0 | 0 | 2 | 275 | 18 | 505 |
| 05:15 PM | 28 | 1 | 22 | 14 | 154 | 0 | 1 | 0 | 3 | 3 | 291 | 26 | 543 |
| 05:30 PM | 16 | 0 | 9 | 14 | 148 | 0 | 1 | 0 | 1 | 1 | 297 | 52 | 539 |
| 05:45 PM | 18 | 0 | 18 | 17 | 141 | 1 | 0 | 1 | 0 | 2 | 251 | 35 | 484 |
| Total | 90 | 1 | 65 | 59 | 592 | 1 | 5 | 1 | 4 | 8 | 1114 | 131 | 2071 |
| Grand Total | 266 | 1 | 201 | 208 | 2976 | 12 | 13 | 16 | 47 | 23 | 2816 | 305 | 6884 |
| Apprch % | 56.8 | 0.2 | 42.9 | 6.5 | 93.1 | 0.4 | 17.1 | 21.1 | 61.8 | 0.7 | 89.6 | 9.7 | |
| Total % | 3.9 | 0.0 | 2.9 | 3.0 | 43.2 | 0.2 | 0.2 | 0.2 | 0.7 | 0.3 | 40.9 | 4.4 | |

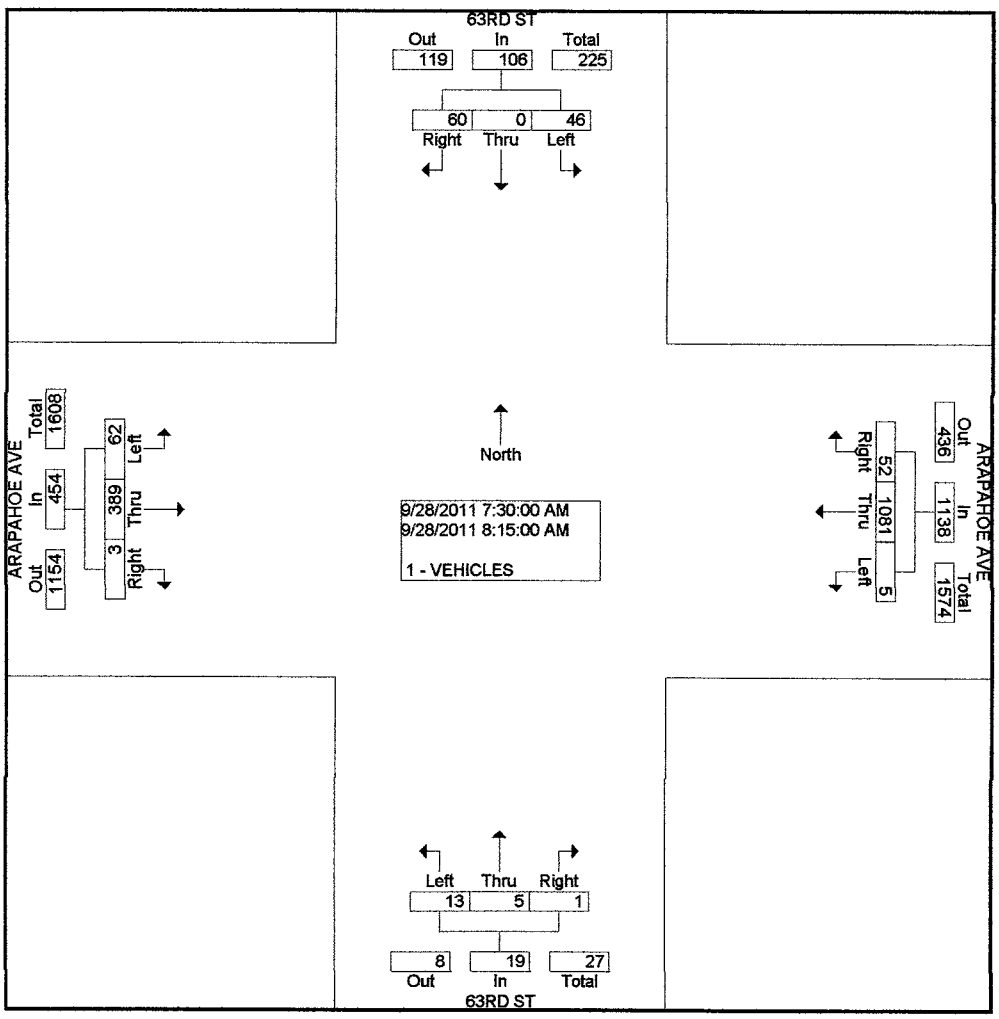
# COUNTER MEASURES INC.

1889 YORK ST
DENVER, COLORADO
303-333-7409

N/S STREET: 63RD ST
E/W STREET: ARAPAHOE AVE
CITY: BOULDER
COUNTY: BOULDER

File Name : 63RDARAP
Site Code : 00000005
Start Date : 9/28/2011
Page No : 2

| | 63RD ST From North | | | | ARAPAHOE AVE From East | | | | 63RD ST From South | | | | ARAPAHOE AVE From West | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | App. Total | Right | Thru | Left | App. Total | Right | Thru | Left | App. Total | Right | Thru | Left | App. Total | Int. Total |
| Peak Hour From 06:30 AM to 08:30 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Intersection | 07:30 AM | | | | | | | | | | | | | | | | |
| Volume | 60 | 0 | 46 | 106 | 52 | 1081 | 5 | 1138 | 1 | 5 | 13 | 19 | 3 | 389 | 62 | 454 | 1717 |
| Percent | 56.6 | 0.0 | 43.4 | | 4.6 | 95.0 | 0.4 | | 5.3 | 26.3 | 68.4 | | 0.7 | 85.7 | 13.7 | | |
| 07:45 Volume | 14 | 0 | 18 | 32 | 12 | 287 | 3 | 302 | 0 | 1 | 3 | 4 | 1 | 110 | 12 | 123 | 461 |
| Peak Factor | | | | | | | | | | | | | | | | | 0.931 |
| High Int. | 07:45 AM | | | | 07:45 AM | | | | 07:30 AM | | | | 08:15 AM | | | | |
| Volume | 14 | 0 | 18 | 32 | 12 | 287 | 3 | 302 | 0 | 2 | 6 | 8 | 0 | 100 | 24 | 124 | |
| Peak Factor | | | | 0.828 | | | | 0.942 | | | | 0.594 | | | | 0.915 | |

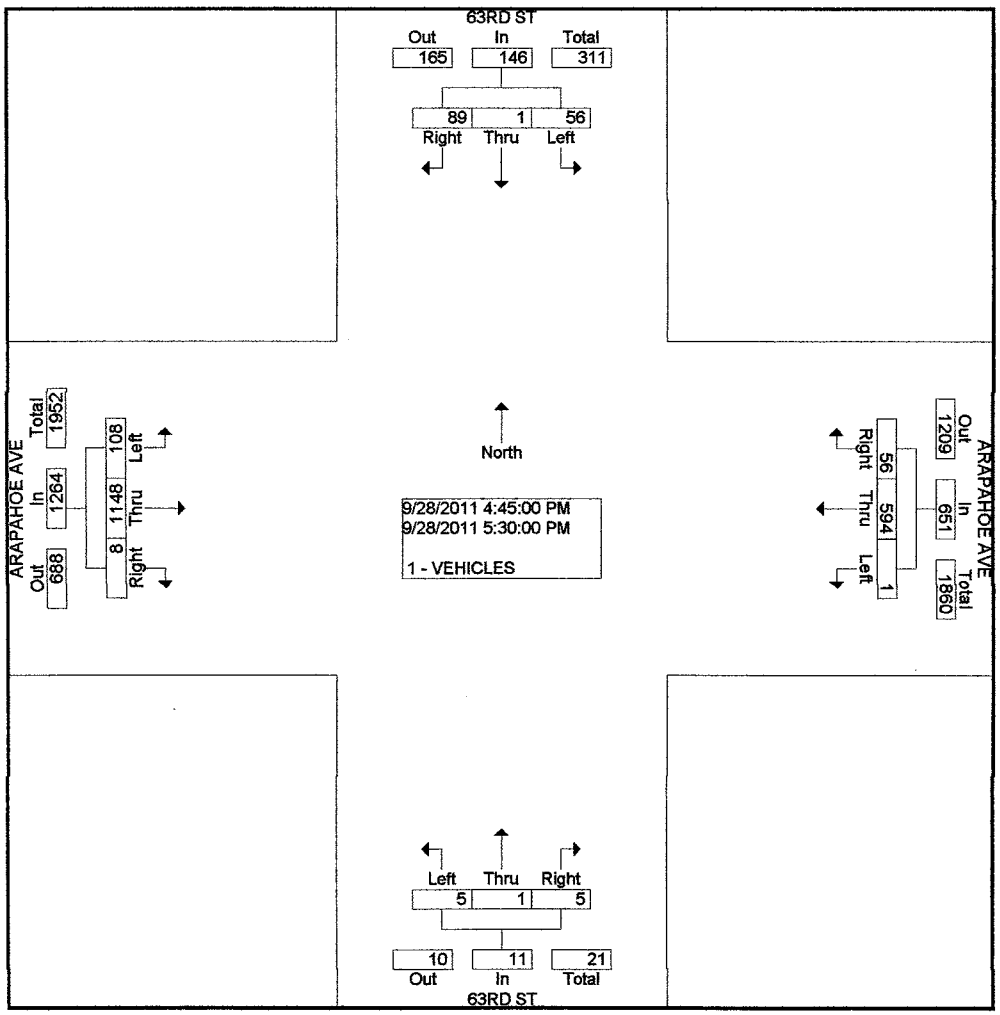


**COUNTER MEASURES INC.**
1889 YORK ST
DENVER, COLORADO
303-333-7409

N/S STREET: 63RD ST
E/W STREET: ARAPAHOE AVE
CITY: BOULDER
COUNTY: BOULDER

File Name : 63RDARAP
Site Code : 00000005
Start Date : 9/28/2011
Page No : 2

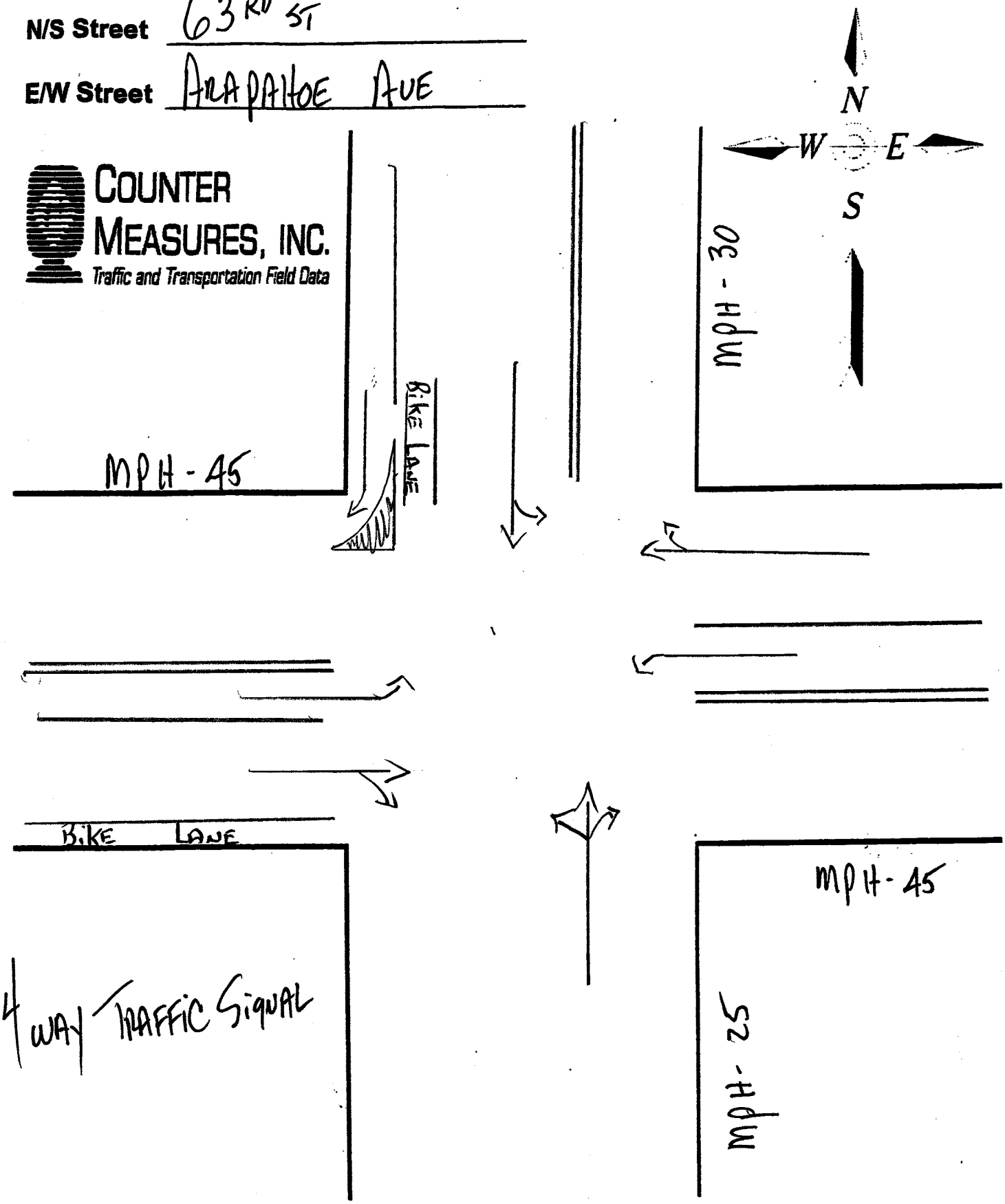
| | 63RD ST From North | | | | ARAPAHOE AVE From East | | | | 63RD ST From South | | | | ARAPAHOE AVE From West | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | App. Total | Right | Thru | Left | App. Total | Right | Thru | Left | App. Total | Right | Thru | Left | App. Total | Int. Total |
| Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Intersection | 04:45 PM | | | | | | | | | | | | | | | | |
| Volume | 89 | 1 | 56 | 146 | 56 | 594 | 1 | 651 | 5 | 1 | 5 | 11 | 8 | 1148 | 108 | 1264 | 2072 |
| Percent | 61.0 | 0.7 | 38.4 | | 8.6 | 91.2 | 0.2 | | 45.5 | 9.1 | 45.5 | | 0.6 | 90.8 | 8.5 | | |
| 05:15 Volume | 28 | 1 | 22 | 51 | 14 | 154 | 0 | 168 | 1 | 0 | 3 | 4 | 3 | 291 | 26 | 320 | 543 |
| Peak Factor | | | | | | | | | | | | | | | | | 0.954 |
| High Int. | 05:15 PM | | | | 05:15 PM | | | | 05:15 PM | | | | 05:30 PM | | | | |
| Volume | 28 | 1 | 22 | 51 | 14 | 154 | 0 | 168 | 1 | 0 | 3 | 4 | 1 | 297 | 52 | 350 | |
| Peak Factor | | | | 0.716 | | | | 0.969 | | | | 0.688 | | | | 0.903 | |



**N/S Street** 63RD ST

**E/W Street** ARAPAHOE AVE

COUNTER MEASURES, INC.
*Traffic and Transportation Field Data*



# COUNTER MEASURES INC.

1889 YORK ST
DENVER,COLORADO 80206
303-333-7409

**Location: ARAPAHOE AVE E/O CHERRYVALE RD**
**City: BOULDER**
**County: BOULDER**
**Direction: EASTBOUND-WESTBOUND**

**Site Code: 092602**

| Start Time | 27-Sep-11 Tue | EB | WB | Total |
|---|---|---|---|---|
| 12:00 AM | | 59 | 23 | 82 |
| 01:00 | | 27 | 10 | 37 |
| 02:00 | | 15 | 11 | 26 |
| 03:00 | | 20 | 18 | 38 |
| 04:00 | | 18 | 25 | 43 |
| 05:00 | | 58 | 67 | 125 |
| 06:00 | | 222 | 254 | 476 |
| 07:00 | | 358 | 711 | 1069 |
| 08:00 | | 613 | **852** | **1465** |
| 09:00 | | 535 | 779 | 1314 |
| 10:00 | | 552 | 617 | 1169 |
| 11:00 | | **650** | 567 | 1217 |
| 12:00 PM | | 800 | 538 | 1338 |
| 01:00 | | 763 | 542 | 1305 |
| 02:00 | | 858 | 531 | 1389 |
| 03:00 | | 978 | 566 | 1544 |
| 04:00 | | 1132 | 516 | 1648 |
| 05:00 | | **1280** | **576** | **1856** |
| 06:00 | | 964 | 448 | 1412 |
| 07:00 | | 692 | 338 | 1030 |
| 08:00 | | 507 | 216 | 723 |
| 09:00 | | 348 | 206 | 554 |
| 10:00 | | 182 | 130 | 312 |
| 11:00 | | 112 | 62 | 174 |
| Total | | 11743 | 8603 | 20346 |
| Percent | | 57.7% | 42.3% | |
| AM Peak | | 11:00 | 08:00 | 08:00 |
| Vol. | | 650 | 852 | 1465 |
| PM Peak | | 17:00 | 17:00 | 17:00 |
| Vol. | | 1280 | 576 | 1856 |
| Grand Total | | 11743 | 8603 | 20346 |
| Percent | | 57.7% | 42.3% | |

ADT Not Calculated

# COUNTER MEASURES INC.

1889 YORK ST
DENVER,COLORADO 80206
303-333-7409

**Location: CHERRYVALE RD S/O ARAPAHOE AVE**
**City: BOULDER**
**County: BOULDER**
**Direction: SOUTHBOUND-NORTHBOUND**

**Site Code: 092608**

| Start Time | 27-Sep-11 Tue | SB | NB | Total |
|---|---|---|---|---|
| 12:00 AM | | 3 | 2 | 5 |
| 01:00 | | 2 | 1 | 3 |
| 02:00 | | 0 | 3 | 3 |
| 03:00 | | 3 | 1 | 4 |
| 04:00 | | 1 | 8 | 9 |
| 05:00 | | 8 | 45 | 53 |
| 06:00 | | 34 | 144 | 178 |
| 07:00 | | 74 | 395 | 469 |
| 08:00 | | 96 | **400** | **496** |
| 09:00 | | 86 | 177 | 263 |
| 10:00 | | **112** | 145 | 257 |
| 11:00 | | 100 | 165 | 265 |
| 12:00 PM | | 144 | 170 | 314 |
| 01:00 | | 143 | 176 | 319 |
| 02:00 | | 154 | 150 | 304 |
| 03:00 | | 246 | **183** | 429 |
| 04:00 | | 419 | 164 | 583 |
| 05:00 | | **529** | 165 | **694** |
| 06:00 | | 216 | 93 | 309 |
| 07:00 | | 104 | 70 | 174 |
| 08:00 | | 58 | 43 | 101 |
| 09:00 | | 51 | 30 | 81 |
| 10:00 | | 34 | 20 | 54 |
| 11:00 | | 12 | 4 | 16 |
| Total | | 2629 | 2754 | 5383 |
| Percent | | 48.8% | 51.2% | |
| AM Peak | | 10:00 | 08:00 | 08:00 |
| Vol. | | 112 | 400 | 496 |
| PM Peak | | 17:00 | 15:00 | 17:00 |
| Vol. | | 529 | 183 | 694 |
| Grand Total | | 2629 | 2754 | 5383 |
| Percent | | 48.8% | 51.2% | |

ADT ADT 5,383 AADT 5,383

# COUNTER MEASURES INC.

1889 YORK ST
DENVER,COLORADO 80206
303-333-7409

**Location: KALMIA AVE W/O BOULDER JEWISH**
**City: BOULDER**
**County: BOULDER**
**Direction: EASTBOUND-WESTBOUND**

**Site Code: 091204**

| Start | 12-Sep-11 | | 13-Sep-11 | | 14-Sep-11 | | 15-Sep-11 | | 16-Sep-11 | | Weekday Average | | 17-Sep-11 | | 18-Sep-11 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | EB | WB | EB | WB | EB | WB | EB | WB | EB | WB | EB | WB | EB | WB | EB | WB |
| 12:00 AM | * | * | 0 | 0 | 0 | 0 | * | * | * | * | 0 | 0 | * | * | * | * |
| 01:00 | * | * | 0 | 0 | 0 | 0 | * | * | * | * | 0 | 0 | * | * | * | * |
| 02:00 | * | * | 0 | 0 | 0 | 0 | * | * | * | * | 0 | 0 | * | * | * | * |
| 03:00 | * | * | 0 | 0 | 0 | 0 | * | * | * | * | 0 | 0 | * | * | * | * |
| 04:00 | * | * | 0 | 0 | 0 | 0 | * | * | * | * | 0 | 0 | * | * | * | * |
| 05:00 | * | * | 0 | 0 | 0 | 0 | * | * | * | * | 0 | 0 | * | * | * | * |
| 06:00 | * | * | 1 | 0 | 0 | 0 | * | * | * | * | 0 | 0 | * | * | * | * |
| 07:00 | * | * | 2 | 1 | 4 | 1 | * | * | * | * | 3 | 1 | * | * | * | * |
| 08:00 | * | * | 17 | 7 | 17 | 6 | * | * | * | * | 17 | 6 | * | * | * | * |
| 09:00 | * | * | 47 | 30 | 77 | 43 | * | * | * | * | 62 | 36 | * | * | * | * |
| 10:00 | * | * | 9 | 9 | 10 | 21 | * | * | * | * | 10 | 15 | * | * | * | * |
| 11:00 | * | * | 8 | 19 | 10 | 11 | * | * | * | * | 9 | 15 | * | * | * | * |
| 12:00 PM | * | * | 15 | 8 | 11 | 13 | * | * | * | * | 13 | 10 | * | * | * | * |
| 01:00 | * | * | 16 | 24 | 26 | 37 | * | * | * | * | 21 | 30 | * | * | * | * |
| 02:00 | * | * | 22 | 27 | 26 | 26 | * | * | * | * | 24 | 26 | * | * | * | * |
| 03:00 | * | * | 12 | 12 | 9 | 23 | * | * | * | * | 10 | 18 | * | * | * | * |
| 04:00 | * | * | 36 | 33 | 19 | 10 | * | * | * | * | 28 | 22 | * | * | * | * |
| 05:00 | * | * | 41 | 44 | 11 | 8 | * | * | * | * | 26 | 26 | * | * | * | * |
| 06:00 | * | * | 66 | 26 | 54 | 43 | * | * | * | * | 60 | 34 | * | * | * | * |
| 07:00 | * | * | 14 | 17 | 8 | 10 | * | * | * | * | 11 | 14 | * | * | * | * |
| 08:00 | * | * | 6 | 44 | 34 | 48 | * | * | * | * | 20 | 46 | * | * | * | * |
| 09:00 | * | * | 4 | 13 | 1 | 4 | * | * | * | * | 2 | 8 | * | * | * | * |
| 10:00 | * | * | 1 | 1 | 1 | 1 | * | * | * | * | 1 | 1 | * | * | * | * |
| 11:00 | * | * | 1 | 2 | 0 | 0 | * | * | * | * | 0 | 1 | * | * | * | * |
| Total | 0 | 0 | 318 | 317 | 318 | 305 | 0 | 0 | 0 | 0 | 317 | 309 | 0 | 0 | 0 | 0 |
| Day | 0 | | 635 | | 623 | | 0 | | 0 | | 626 | | 0 | | 0 | |
| AM Peak | | | 09:00 | 09:00 | 09:00 | 09:00 | | | | | 09:00 | 09:00 | | | | |
| Vol. | | | 47 | 30 | 77 | 43 | | | | | 62 | 36 | | | | |
| PM Peak | | | 18:00 | 17:00 | 18:00 | 20:00 | | | | | 18:00 | 20:00 | | | | |
| Vol. | | | 66 | 44 | 54 | 48 | | | | | 60 | 46 | | | | |

| Comb. Total | 0 | 635 | 623 | 0 | 0 | 626 | 0 | 0 |
|---|---|---|---|---|---|---|---|---|

ADT ADT 629 AADT 629

# APPENDIX B
# Capacity Analysis

| M | E L | E T | E R | L | T | R | N L | N T | N R | L | T | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L C | | | | | | | | | | | | |
| | 1 | | | | 110 | 2 | | 2 | | 12 | 2 | 2 |
| N | 1 | | 1 | | 2 | 12 | | | 1 | | | 1 |
| I | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| P A A T | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| P A | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| A | 1 . | 1 . | 1 . | 1 . | 1 . | 1 0.0 | 1 0.0 | 1 . | 1 . | 1 0.0 | 1 . | 1 . |
| L | 1 | 2 | 1 | 1 | | 0 | 0 | 1 | 1 | 0 | 1 | 1 |
| C | 2 | 1 2 | 21 | | 2 2 | 1 | | 0 | | 2 | | |
| A G | 0. 2 | 0. 2 | 0. 2 | 0. 2 | 0. 2 | 0. 0 | 0. 1 | 0. 1 | 0. 1 | 0. 1 | 0. 1 | 0. 1 |
| | 2 | 2 | 1 | 0 | 0 | 11 | 0 | 0 | 1 | 0 | 1 | 1 |
| G | | | 2 | | 22 | 0 | | 0 | | 1 | 0 | 2 |
| G | 2 | 1 | 1 | 0 | 1 | 1 2 | 0 | 0 | 1 | 1 | 0 | 1 |
| | . | . | 1. | . | 1 . | 1 . | 0.0 | 0.0 | .1 | 0.0 | 0.0 | 1. |
| C C | 2 .0 | . | 1. | 10.2 | 1 . | 1 . | .0 | 0.0 | .1 | .0 | 0.0 | 1. |
| P I L | 1.00 | | 1.00 | 1.00 | | 0.0 | 0. | | 1.00 | 0. | | 1.00 |
| L G C | 2 | 1 2 | 21 | | 1 2 | | | 0 | | | 0 | |
| C R | 0.2 | 0.22 | 0.0 | 0.10 | 0. | 0. | .22 | 0.00 | 0.1 | 0.22 | 0.00 | 0.0 |
| A C | 2 | 1 2 | 21 | | 1 2 | | | 0 | | | 0 | |
| CM P R | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| U I | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| U D | 2 . | 1 .2 | 12. | 1 .0 | 1 .1 | 1 .1 | .0 | 0.0 | 20.2 | . | 0.0 | 1 . |
| I D 2 | 2.2 | 0. | 0.1 | 0. | 0. | 1. | 2 2. | 0.0 | 0.1 | 1. | 0.0 | 0.0 |
| I D | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0 | 1.2 | .0 | 0. | 0. | . | . | 2. | 0.0 | 1. | 0. | 0.0 | 0. |
| L G D | 2 . | 1 . | 1 .1 | 1 . | 1 . | 1 . | 2 . | 0.0 | 20. | 0.1 | 0.0 | 1 . |
| L G L | C | | | | | | | | C | D | | |
| A | | 1 | | | 12 | | | 0 | | | | |
| A D | | 1 . | | | 1 .0 | | | 2 00. | | | 2 .0 | |
| A L | | | | | | | | | | | C | |
| **T** | | | | | | | | | | | | |
| A P | | | | | 2 | | | | | | | |
| P D G Y R | | 0.0 | | | 0.0 | | | .0 | | | .0 | |
| C P Y R | | . | | | . | | | . | | | . | |
| M G G | | .1 | | | .1 | | | 2. | | | 2. | |
| M C T I1 | | 2 .0 | | | 1 . | | | .0 | | | .0 | |
| G E T | | . | | | 10.1 | | | 0.0 | | | 0.0 | |
| **I** | | | | | | | | | | | | |
| CM 2010 C D | | | .0 | | | | | | | | | |
| CM 2010 L | | | | | | | | | | | | |
| **N** | | | | | | | | | | | | |

R

C M

| I | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| I | D | 0. | | | | | | | | | | | |
| | | | | | | | | | | | | | |

| M | E L | E T | | | T | R | L | R |
|---|---|---|---|---|---|---|---|---|
| | | 2 | | 11 | 1 | 2 | | |
| C P | 0 | 0 | | | 0 | 0 | 0 | 0 |
| C | | | | | | | | |
| RT C | N | N | | N | | N | N | N |
| L | 200 | | | | | 0 | 0 | 200 |
| M | | 12 | | | 12 | | 12 | |
| G | | 0 | | | 0 | | 0 | |
| P | 0. 2 | 0. 2 | | | 0. 2 | 0. 2 | 0. 2 | 0. 2 |
| | 2 | 2 | | | 2 | 2 | 2 | 2 |
| M | | 1 | | | 12 | 2 | | |
| N L | 1 | 2 | | | | 0 | 1 | 1 |

| M M | | M 1 | M 2 | | | |
|---|---|---|---|---|---|---|
| C A | 1 0 | 0 | | 0 | 1 1 | 2 |
| 1 | | | | | 12 | |
| 2 | | | | | 2 | |
| | .12 | | | | . | . 2 |
| P C 1 M | 2 | | | | 11 | 2 |
| 1 | | | | | 1 | |
| 2 | | | | | | |
| T P | 0 | | | | 0 | 0 |
| M C 1 M | 2 | | | | 10 | 2 |
| M C 2 M | | | | | 10 | |
| 1 | | | | | 1 | |
| 2 | | | | | 0 | |

| A | E | | | |
|---|---|---|---|---|
| CM C D | 1. | | 0 | 1. |
| CM L | | | | D |

| M L M M | E L | E T | T | R | L 1 | L 2 |
|---|---|---|---|---|---|---|
| C | 2 | | | | 10 | 2 |
| CM C D | 1 . | | | | 1. | 1 . |
| CM L C R | 0.1 | | | | 0.0 | 0.01 |
| CM L L | C | | | | E | C |
| CM | 0. | | | | 0.2 | 0.0 |

| N | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| E | C | D | E | 00 | E | C | N | D | | |

| M | E L | E T | E R | L | T | R | N L | N T | N R | L | T | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L C | | | | | | | | | | | | |
| | | 0 | | | 112 | | 1 | | 1 | | 1 | 2 |
| N | | | 1 | | | 1 | 1 | | 1 | | 2 | 12 |
| I | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| P A A T | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| P A | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| A | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . |
| L | 1 | 2 | 0 | 1 | | 0 | 1 | 1 | 0 | 1 | 1 | 0 |
| C | | 2 | 1 | | | 1 2 | 2 | 2 1 | | 2 | | 2 0 |
| A G | 0. | 0. | 0. | 0. | 0. | 0. | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| | 0 | 0 | 2 | | 1 | 2 0 | 1 2 | 1 0 | 02 | 1 0 | 2 | 1 |
| G | 0 | 21 | 22 | | | | 1 | 0 | | 2 | 0 | |
| G | 0 | 1 0 | 1 | | 1 | 1 20 | 1 2 | 0 | 1 10 | 1 0 | 0 | 1 |
| | .2 | . | . | 0.1 | . | . | 1.0 | 0.0 | 0. | .2 | 0.0 | . |
| C C | 1 .0 | . | . | . | . | . | . | 0.0 | 0. | . | 0.0 | . |
| P I L | 1.00 | | 0.01 | 1.00 | | 0.1 | 1.00 | | 0.1 | 1.00 | | 0. |
| L G C | | 1 | 1 12 | | 2 | 1 | 2 | 0 | 2 0 | 2 | 0 | 2 |
| C R | 0.1 | 0.1 | 0.1 | 0.01 | 0. 2 | 0. 2 | 0.0 | 0.00 | 0.02 | 0.1 | 0.00 | 0.2 |
| A C | | 1 | 1 12 | | 2 | 1 | 2 | 0 | 2 0 | 2 | 0 | 2 |
| CM P R | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| U I | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| U D | .0 | . | . | . | . | . | . | 0.0 | . | . | 0.0 | . |
| I D 2 | 1.2 | 0. | 0.2 | 0.0 | 0. | 0. | 0. | 0.0 | 0.1 | 1. | 0.0 | 2. |
| I D | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0 | 0. | 1.1 | 1.2 | 0.0 | 2. | 2. | 0. | 0.0 | 0.1 | 1. | 0.0 | 1. |
| L G D | .2 | . | . | . | .2 | . | . | 0.0 | . | .2 | 0.0 | . |
| L G L | A | A | A | A | A | A | D | | D | D | | D |
| A | | 1 | | | 12 | | | 21 | | | 120 | |
| A D | | .0 | | | . | | | . | | | . | |
| A L | | A | | | A | | | D | | | D | |

| T | |
|---|---|
| A P | 2 |
| P D G Y R | 0.0 |
| C P Y R | .0 |
| M G G | .0 |
| M C T I1 | 1 .0 |
| G E T | 10.1 |

| I | |
|---|---|
| CM 2010 C D | . |
| CM 2010 L | A |

| N | |
|---|---|

R

C M

| M | E L | E T | E R | L | T | R | N L | N T | N R | L | T | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L C | | | | | | | | | | | | |
| | | 12 1 | | 0 | 1 | 12 | 11 | 10 | | | | |
| N | 1 | | 1 | | 2 | 12 | | | 1 | | | 1 |
| I | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| P A A T | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| P A | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| A | 1 . | 1 . | 1 . | 1 . | 1 . | 1 0.0 | 1 0.0 | 1 . | 1 . | 1 0.0 | 1 . | 1 . |
| L | 1 | 2 | 1 | 1 | | 0 | 0 | 1 | 1 | 0 | 1 | 1 |
| C | 0 | 2 1 | 10 | 1 0 | | | | | 0 | | 2 | 0 |
| A G | 0. | 0. | 0. | 0. | 0. | 0. | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| | 1 | 2 | 1 | 2 | | | 0 | 10 | 1 | 0 | 111 | 1 |
| G | 2 | 1 | | | | 2 | 1 0 | 0 | | | 0 | |
| G | 1 | 1 | 1 | 2 | 1 | 1 | 10 | 0 | 1 | 111 | 0 | 1 |
| | . | 21. | 20.0 | 22. | .0 | .0 | 0.0 | 0.0 | . | 0.0 | 0.0 | . |
| C C | . | 21. | 20.0 | .1 | .0 | .0 | 1.0 | 0.0 | . | 1.0 | 0.0 | . |
| P I L | 1.00 | | 1.00 | 1.00 | | 0.0 | 0. 2 | | 1.00 | 0. 2 | | 1.00 |
| L G C | 0 | 2 1 | 10 | 1 0 | 2 1 | 12 | 0 | 0 | 0 | | 0 | 0 |
| C R | 0.10 | 0. | 0. 0 | 0. | 0.20 | 0.20 | 2. 2 | 0.00 | 0.1 | 1.0 | 0.00 | 0.1 |
| A C | 0 | 2 1 | 10 | 1 0 | 2 1 | 12 | 0 | 0 | 0 | | 0 | 0 |
| CM P R | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| U I | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| U D | .1 | . | . | 21.1 | . | . | . | 0.0 | . | . | 0.0 | . |
| I D 2 | 0. | 0. | 1. | . | 0.2 | 0. | . | 0.0 | 0.2 | 122. | 0.0 | 0.2 |
| I D | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0 | 0. | . | .2 | 1. | 2. | 2. | 12. | 0.0 | 1. | . | 0.0 | 1. |
| L G D | . | 10. | 11. | 2 . | . | . | 02.1 | 0.0 | . | 1 1.0 | 0.0 | . |
| L G L | A | | | C | A | A | | | C | | | C |
| A | | 1 2 | | | 0 | | | 1 | | | 1 | |
| A D | | 10. | | | .1 | | | 0 .1 | | | 10 . | |
| A L | | | | | A | | | | | | | |
| **T** | | | | | | | | | | | | |
| A P | | | | | 2 | | | | | | | |
| P D G Y R | | .0 | | | .0 | | | .0 | | | .0 | |
| C P Y R | | . | | | . | | | . | | | . | |
| M G G | | .1 | | | .1 | | | 2 . | | | 2 . | |
| M C T I1 | | 2 . | | | .1 | | | .0 | | | .0 | |
| G E T | | 2 . | | | 1 . | | | 0.0 | | | 0.0 | |
| **I** | | | | | | | | | | | | |
| CM 2010 C D | | | . | | | | | | | | | |
| CM 2010 L | | | D | | | | | | | | | |
| **N** | | | | | | | | | | | | |

R

C M

| I | | | | | | |
|---|---|---|---|---|---|---|
| I D | 0. | | | | | |

| M | E L | E T | T | R | L | R |
|---|---|---|---|---|---|---|
| | 21 | 1 0 | 0 | | 11 | |
| C P | 0 | 0 | 0 | 0 | 0 | 0 |
| C | | | | | | |
| RT C | N | N | N | N | N | N |
| L | 200 | | | 0 | 0 | 200 |
| M | | 12 | 12 | | 12 | |
| G | | 0 | 0 | | 0 | |
| P | 0. 2 | 0. 2 | 0. 2 | 0. 2 | 0. 2 | 0. 2 |
| | 2 | 2 | 2 | 2 | 2 | 2 |
| M | 2 | 1 1 | | | 12 | |
| N L | 1 | 2 | | 0 | 1 | 1 |

| M M | M 1 | M 2 |
|---|---|---|
| C A | 0 | 0 1 2 |
| 1 | | |
| 2 | | |
| | .12 | . . 2 |
| P C 1 M | 01 | 1 21 |
| 1 | | 1 |
| 2 | | 1 |
| T P | 0 | 0 0 |
| M C 1 M | 01 | 12 21 |
| M C 2 M | | 12 |
| 1 | | 1 |
| 2 | | |

| A | E |
|---|---|
| CM C D | 0.2 |
| CM L | |

| M L M M | E L | E T | T | R | L 1 | L 2 |
|---|---|---|---|---|---|---|
| C | 01 | | | 12 | 21 | |
| CM C D | 12. 2 | | | | 12. | |
| CM L C R | 0.0 | | | 0.0 | 0.0 | |
| CM L L | | | | E | | |
| CM | 0.1 | | | 0. | 0.2 | |

| N |
|---|
| E C D E 00 E C N D |

| M | E L | E T | E R | L | T | R | N L | N T | N R | L | T | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L C | | | | | | | | | | | | |
| | 112 | 11 | | 1 | 1 | | | 1 | | | 1 | |
| N | | | 1 | | | 1 | 1 | | 1 | | 2 | 12 |
| I | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| P A A T | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| P A | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| A | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . |
| L | 1 | 2 | 0 | 1 | | 0 | 1 | 1 | 0 | 1 | 1 | 0 |
| C | | 2 | 1 | 0 | 2 | 2 | 1 | 1 | 1 | 2 2 | 2 | 1 |
| A G | 0. | 0. | 0. | 0. | 0. | 0. | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 |
| | 1 | 0 | 2 | 1 | | 1 | 12 | 2 1 | 1 | 1 0 | 1 | 1 0 |
| G | 122 | | 0 | 1 | 0 | 2 | | 0 | | | 0 | 102 |
| G | 1 | 1 0 | 1 | 1 | 1 | 1 | 12 | 0 | 1 2 | 1 0 | 0 | 1 |
| | . | .1 | .1 | 0.1 | 2. | 2. | 0.2 | 0.0 | 0.2 | 2. | 0.0 | . |
| C C | . | .1 | .1 | .2 | 2. | 2. | . | 0.0 | 0.2 | 2. | 0.0 | . |
| P I L | 1.00 | | 0.01 | 1.00 | | 0.2 | 1.00 | | 0. | 1.00 | | 0. |
| L G C | | 1 1 | 1 | 0 | 2 2 | 1 0 | 1 | 0 | 1 | 2 2 | 0 | 1 |
| C R | 0.1 | 0. | 0. | 0.00 | 0.1 | 0.1 | 0.0 | 0.00 | 0.0 | 0.22 | 0.00 | 0. |
| A C | | 1 1 | 1 | 0 | 2 2 | 1 0 | | 0 | 11 2 | 111 | 0 | 112 |
| CM P R | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| U I | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| U D | .0 | 2. | 2. | . | 2.1 | 2.1 | 2 . | 0.0 | 22. | 2 . | 0.0 | 2 . |
| I D 2 | 0. | 1. | 1.2 | 0.0 | 0.2 | 0. | 0.2 | 0.0 | 0. | 1. | 0.0 | 12. |
| I D | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0 | 0. | 2.1 | 2.1 | 0.0 | 0. | 0. | 0.1 | 0.0 | 0.1 | 0. | 0.0 | 1. |
| L G D | . | .1 | .1 | . | 2. | 2. | 2 . | 0.0 | 22. | 2 .2 | 0.0 | .1 |
| L G L | A | A | A | A | A | A | C | | C | C | | D |
| A | | 1 2 | | | | | | 11 | | | 1 | |
| A D | | .1 | | | 2. | | | 2 .0 | | | 2.0 | |
| A L | | A | | | A | | | C | | | C | |

| T | |
|---|---|
| A P | 2 |
| P D G Y R | .0 .0 10. 10. |
| C P Y R | .0 .0 .0 .0 |
| M G G | 2.0 2.0 0.0 0.0 |
| M C T I1 | 10.1 10.2 . . |
| G E T | 12.1 12.1 0. 0. |

| I | |
|---|---|
| CM 2010 C D | . |
| CM 2010 L | A |

| N |
|---|

R

C M

| M | E L | E T | E R | L | T | R | N L | N T | N R | L | T | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L C | | | | | | | | | | | | |
| | 2 | | | | 1 1 | 1 | | | 10 | 1 | | |
| N | 1 | | 1 | | 2 | 12 | | | 1 | | | 1 |
| I | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| P A A T | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| P A | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| A | 1 . | 1 . | 1 . | 1 . | 1 . | 1 0.0 | 1 0.0 | 1 . | 1 . | 1 0.0 | 1 . | 1 . |
| L | 1 | 2 | 1 | 1 | | 0 | 0 | 1 | 1 | 0 | 1 | 1 |
| C | 1 | 1 2 | 21 | 2 | 2 2 | 2 | | 0 | | 1 | | |
| A G | 0. 2 | 0. 2 | 0. 2 | 0. 2 | 0. 2 | 0. 0 | 0. 1 | 0. 1 | 0. 1 | 0. 1 | 0. 1 | 0. 1 |
| | 2 | 2 | 1 | 21 | | 120 | 0 | 0 | 1 | 0 | 1 | 1 |
| G | | 0 | | 0 | 10 | 21 | | 0 | 11 | 1 | 0 | |
| G | 2 | 1 | 1 | 21 | 1 | 1 2 | 0 | 0 | 1 | 1 | 0 | 1 |
| | 1 . | . | 2.2 | . | 20. | 20. | 0.0 | 0.0 | .1 | 0.0 | 0.0 | 1. |
| C C | . | . | 2.2 | 1 . | 20. | 20. | .0 | 0.0 | .1 | .0 | 0.0 | 1. |
| P I L | 1.00 | | 1.00 | 1.00 | | 0.0 | 0. | | 1.00 | 0. | | 1.00 |
| L G C | 1 | 1 2 | 21 | 2 | 1 2 | | | 0 | | | 0 | |
| C R | 0. | 0.2 | 0.0 | 0.1 | 0. | 0. | . 1 | 0.00 | 0.1 | 0.2 | 0.00 | 0.0 |
| A C | 1 | 1 2 | 21 | 2 | 1 2 | | | 0 | | | 0 | |
| CM P R | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| U I | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| U D | 0. | 1 . | 1 .0 | 1 . | 1 . | 1 . | .0 | 0.0 | 20. | .1 | 0.0 | 1 . |
| I D 2 | . | 0. | 0.2 | 0. | 1.1 | 2.2 | . | 0.0 | 0.1 | 2.2 | 0.0 | 0.0 |
| I D | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0 | 1. | . | 0. | 1.0 | . | . | .2 | 0.0 | 2.0 | 0. | 0.0 | 0. |
| L G D | .2 | 1 . | 1 .2 | 1 .0 | 1 . | 1 . | . | 0.0 | 20. | 1. | 0.0 | 1 . |
| L G L | D | | | | | | | | C | D | | |
| A | | 0 | | | 1 | | | | | | | |
| A D | | 1 .0 | | | 1 .0 | | | 2 1.1 | | | 2 . | |
| A L | | | | | | | | | | | C | |
| **T** | | | | | | | | | | | | |
| A P | | | | | 2 | | | | | | | |
| P D G Y R | | 0.0 | | | 0.0 | | | .0 | | | .0 | |
| C P Y R | | . | | | . | | | . | | | . | |
| M G G | | .1 | | | .1 | | | 2. | | | 2. | |
| M C T I1 | | 1. | | | 22. | | | .0 | | | .0 | |
| G E T | | .2 | | | 1 . | | | 0.0 | | | 0.0 | |
| **I** | | | | | | | | | | | | |
| CM 2010 C D | | | .1 | | | | | | | | | |
| CM 2010 L | | | | | | | | | | | | |
| **N** | | | | | | | | | | | | |

R

C M

| I | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| I | D | 0. | | | | | | | | | |

| M | E L | E T | | T | R | L | R |
|---|---|---|---|---|---|---|---|
| | 1 | | 1 | 0 | | | |
| C P | 0 | 0 | | 0 | 0 | 0 | 0 |
| C | | | | | | | |
| RT C | N | N | | N | N | N | N |
| L | 200 | | | | 0 | 0 | 200 |
| M | | 12 | | 12 | | 12 | |
| G | | 0 | | 0 | | 0 | |
| P | 0. 2 | 0. 2 | | 0. 2 | 0. 2 | 0. 2 | 0. 2 |
| | 2 | 2 | | 2 | 2 | 2 | 2 |
| M | | 2 | | 1 | | | |
| N L | 1 | 2 | | | 0 | 1 | 1 |

| M M | M 1 | M 2 | | | |
|---|---|---|---|---|---|
| C A | 1 | 0 | | 0 | 1 |
| 1 | | | | | 1 |
| 2 | | | | | 0 |
| | .12 | | | . | . 2 |
| P C 1 M | 200 | | | 2 | 2 |
| 1 | | | | 10 | |
| 2 | | | | 22 | |
| T P | 0 | | | 0 | 0 |
| M C 1 M | 200 | | | | 2 |
| M C 2 M | | | | | |
| 1 | | | | 10 | |
| 2 | | | | 2 | |

| A | E | | |
|---|---|---|---|
| CM C D | 1. | 0 | . |
| CM L | | | |

| M L M M | E L | E T | T R | L 1 | L 2 |
|---|---|---|---|---|---|
| C | 200 | | | | 2 |
| CM C D | 2 .0 | | | 0. | 1 |
| CM L C R | 0.22 | | | 0.1 | 0.02 |
| CM L L | D | | | | C |
| CM | 0. | | | 0. | 0.1 |

| N | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| E | C | D | E | 00 | E | C | N | D | |

R

C M

| M | E L | E T | E R | L | T | R | N L | N T | N R | L | T | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L C | | | | | | | | | | | | |
| | | | | | 1 | | 1 | | 1 | | 0 | |
| N | | | 1 | | | 1 | 1 | | 1 | | 2 | 12 |
| I | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| P A A T | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| P A | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| A | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . |
| L | 1 | 2 | 0 | 1 | | 0 | 1 | 1 | 0 | 1 | 1 | 0 |
| C | 2 | 2 | 20 | 0 | | 1 2 | 221 | 2 | | 2 1 | 0 | 2 |
| A G | 0. | 0. | 0. | 0. | 0. | 0. | 0.1 | 0.1 | 0.1 | 0.1 | 0.00 | 0.1 |
| | 2 | 01 | 2 | 1 | 1 | 2 0 | 1 10 | 1 | 22 | 1 02 | 0 | 1 |
| G | | 2 | 2 | | 101 | | 1 | 0 | | | 0 | |
| G | 2 | 1 0 | 1 | 1 | 1 | 1 20 | 1 10 | 0 | 1 2 | 1 02 | 0 | 1 |
| | 12.2 | .2 | .2 | 0.2 | 10. | 10. | 1.2 | 0.0 | 0. | .0 | 0.0 | . |
| C C | 22. | .2 | .2 | . | 10. | 10. | . | 0.0 | 0. | . | 0.0 | . |
| P I L | 1.00 | | 0.01 | 1.00 | | 0.1 | 1.00 | | 0.1 | 1.00 | | 1.00 |
| L G C | 2 | 1 | 1 12 | 0 | 2 | 1 | 221 | 0 | 2 2 | 2 1 | 0 | 2 |
| C R | 0. 0 | 0.20 | 0.20 | 0.01 | 0. | 0. | 0.0 | 0.00 | 0.0 | 0.22 | 0.00 | 0. |
| A C | 2 | 1 | 1 12 | 0 | 2 | 1 | 221 | 0 | 2 2 | 2 1 | 0 | 2 |
| CM P R | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| U I | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| U D | .0 | . | . | .0 | .1 | .1 | . | 0.0 | . | . | 0.0 | .2 |
| I D 2 | 2. | 0. | 0. | 0.0 | 0. | 0. | 0. | 0.0 | 0.2 | 1. | 0.0 | . |
| I D | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0 | 1.0 | 1. | 1. | 0.0 | .1 | . | 0. | 0.0 | 0.2 | 1. | 0.0 | 2.1 |
| L G D | 10. | . | . | .0 | . | .0 | 0. | 0.0 | . | .0 | 0.0 | 0. |
| L G L | | A | A | A | A | A | D | | D | D | | D |
| A | | 2 | | | 1 1 | | | 2 | | | 1 | |
| A D | | . | | | . | | | .0 | | | . | |
| A L | | A | | | A | | | D | | | D | |

| T | |
|---|---|
| A P | 2 |
| P D G Y R | 0.0 0.0 20.0 20.0 |
| C P Y R | .0 .0 .0 .0 |
| M G G | .0 .0 1 .0 1 .0 |
| M C T I1 | 2 . 12. . . |
| G E T | 1 .2 1 . 0. 0. |

| I | |
|---|---|
| CM 2010 C D | .2 |
| CM 2010 L | A |

| N |
|---|

R

C M

| M | E L | E T | E R | L | T | R | N L | N T | N R | L | T | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L C | | | | | | | | | | | | |
| | | 1 0 | 02 | | 0 | 1 | 1 | 1 | | | | |
| N | 1 | | 1 | | 2 | 12 | | | 1 | | | 1 |
| I | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| P A A T | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| P A | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| A | 1 . | 1 . | 1 . | 1 . | 1 . | 1 0.0 | 1 0.0 | 1 . | 1 . | 1 0.0 | 1 . | 1 . |
| L | 1 | 2 | 1 | 1 | | 0 | 0 | 1 | 1 | 0 | 1 | 1 |
| C | 1 | 2 1 | 10 | 12 | | | | 0 | 0 | | 2 | 0 |
| A G | 0. | 0. | 0. | 0. | 0. | 0. | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| | | 2 | 1 | 1 1 | 1 | | 0 | 0 | 1 | 0 | 111 | 1 |
| G | | 1 | | 0 | | 1 | 1 2 | 0 | 2 | | 0 | 1 |
| G | | 1 | 1 | 1 1 | 1 | 1 | 0 | 0 | 1 | 111 | 0 | 1 |
| | . | 0. | 2 . | 0. | .0 | .1 | 0.0 | 0.0 | .2 | 0.0 | 0.0 | . |
| C C | 1 . | 0. | 2 . | 1.0 | .0 | .1 | 1.0 | 0.0 | .2 | 1.0 | 0.0 | . |
| P I L | 1.00 | | 1.00 | 1.00 | | 0.0 | 0. 2 | | 1.00 | 0. 2 | | 1.00 |
| L G C | 1 | 2 1 | 10 | 12 | 2 1 | 12 | | 0 | 0 | | 0 | 0 |
| C R | 0.1 | 0. | 0. 1 | 0. | 0.2 | 0.2 | 2. | 0.00 | 0.1 | 1. 2 | 0.00 | 0.22 |
| A C | 1 | 2 1 | 10 | 12 | 2 1 | 12 | | 0 | 0 | | 0 | 0 |
| CM P R | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| U I | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| U D | 10. | 11. | 10. | . | . | . | 0.0 | 0.0 | . | . | 0.0 | .0 |
| I D 2 | 0. | 1. | 2. | 20. | 0.2 | 0. | . | 0.0 | 0.2 | 212.1 | 0.0 | 0. |
| I D | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0 | 0. | 12. | 10.0 | .2 | . | . | 1 . | 0.0 | 1. | . | 0.0 | 2.2 |
| L G D | 11.1 | 12. | 1 . | . | . | .2 | . | 0.0 | . | 2 0. | 0.0 | . |
| L G L | | | | E | A | A | | | C | | | D |
| A | | 2 2 | | | 10 2 | | | 2 | | | 1 | |
| A D | | 12. | | | 12.0 | | | 1 . | | | 1 2.1 | |
| A L | | | | | | | | | | | | |

| T | |
|---|---|
| A P | 2 |
| P D G Y R | .0 |
| C P Y R | . |
| M G G | .1 |
| M C T I1 | 2. |
| G E T | 0. |

| I | |
|---|---|
| CM 2010 C D | . |
| CM 2010 L | E |

| N | |
|---|---|

R

C M

| I | | | | | | |
|---|---|---|---|---|---|---|
| I | D | 0. | | | | |

| M | E L | E T | T | R | L | R |
|---|---|---|---|---|---|---|
| | 2 | 1 1 | | 10 | 1 | |
| C P | 0 | 0 | 0 | 0 | 0 | 0 |
| C | | | | | | |
| RT C | N | N | N | N | N | N |
| L | 200 | | | 0 | 0 | 200 |
| M | | 12 | 12 | | 12 | |
| G | | 0 | 0 | | 0 | |
| P | 0. 2 | 0. 2 | 0. 2 | 0. 2 | 0. 2 | 0. 2 |
| | 2 | 2 | 2 | 2 | 2 | 2 |
| M | 2 | 1 2 | | 11 | 1 | |
| N L | 1 | 2 | | 0 | 1 | 1 |

| M M | M 1 | M 2 | | | |
|---|---|---|---|---|---|
| C A | 0 | 0 | | 0 1 | |
| 1 | | | | | |
| 2 | | | | 1 | |
| | .12 | | | . | . 2 |
| P C 1 M | 1 | | | | |
| 1 | | | | 2 | |
| 2 | | | | 0 | |
| T P | 0 | | | 0 | 0 |
| M C 1 M | 1 | | | | |
| M C 2 M | | | | | |
| 1 | | | | 2 | |
| 2 | | | | 1 | |

| A | E | | | |
|---|---|---|---|---|
| CM C D | 0.2 | 0 | 2 .2 | |
| CM L | | | D | |

| M L M M | E L | E T | T R | L 1 | L 2 |
|---|---|---|---|---|---|
| C | 1 | | | | |
| CM C D | 1 . 0 | | | 1.1 | 1 . |
| CM L C R | 0.0 | | | 0.1 | 0.10 |
| CM L L | | | | | |
| CM | 0.2 | | | 0. | 0. |

| N | | | | | | | |
|---|---|---|---|---|---|---|---|
| E | C | D | E | 00 | E | C | N D |

| M | E L | E T | E R | L | T | R | N L | N T | N R | L | T | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L C | | | | | | | | | | | | |
| | 1 | 1 | 10 | 1 | | 1 | | 1 | | 1 | 1 | 11 |
| N | | | 1 | | | 1 | 1 | | 1 | | 2 | 12 |
| I | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| P A A T | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| P A | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| A | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . |
| L | 1 | 2 | 0 | 1 | | 0 | 1 | 1 | 0 | 1 | 1 | 0 |
| C | 2 | 2 | 1 | 2 0 | | 2 | 1 | 2 | 1 | 01 | 2 | 20 |
| A G | 0. | 0. | 0. | 0. | 0. | 0. | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| | 1 | 0 | 2 | 1 | 2 | 2 | 12 2 | 202 | 1 12 | 1 02 | 1 | 1 2 |
| G | 1 | | 1 | 1 | | 11 | | 0 | | | 0 | 12 |
| G | 1 | 1 0 | 1 | 1 | 1 | 1 | 12 2 | 0 | 1 1 | 1 02 | 0 | 1 |
| | . | 12.1 | 12.2 | 0.1 | .2 | . | 0. | 0.0 | 0.2 | 2. | 0.0 | .2 |
| C C | .2 | 12.1 | 12.2 | 12.2 | .2 | . | . | 0.0 | 0.2 | .2 | 0.0 | .2 |
| P I L | 1.00 | | 0.01 | 1.00 | | 0.2 | 1.00 | | 0. | 1.00 | | 0. |
| L G C | 2 | 12 | 1 | 2 0 | 2 | 1 0 | 1 | 0 | 20 | 01 | 0 | 20 |
| C R | 0.2 | 0. 0 | 0. 0 | 0.00 | 0.2 | 0.2 | 0.0 | 0.00 | 0.0 | 0.2 | 0.00 | 0. 0 |
| A C | 2 | 12 | 1 | 2 0 | 2 | 1 0 | 11 | 0 | 112 | 10 | 0 | 110 |
| CM P R | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| U I | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| U D | .0 | . | . | . | 2. | 2. | 2 . | 0.0 | 21. | 2 .2 | 0.0 | 2 . |
| I D 2 | 1. | 2.1 | 2.0 | 0.0 | 0.2 | 0. | 0. | 0.0 | 0. | 2.0 | 0.0 | 12. |
| I D | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0 | 0. | . | . | 0.0 | 0. | 0. | 0.1 | 0.0 | 0.1 | 1.2 | 0.0 | 2. |
| L G D | . | . | . | . | 2. | 2. | 2 .1 | 0.0 | 22.2 | 2 . | 0.0 | .0 |
| L G L | A | A | A | A | A | A | C | | C | C | | D |
| A | | 1 | | | | | | 1 | | | 201 | |
| A D | | . | | | 2. | | | 2 .0 | | | 1. | |
| A L | | A | | | A | | | C | | | C | |

| T | |
|---|---|
| A P | 2 |
| P D G Y R | .0 .0 11. 11. |
| C P Y R | .0 .0 .0 .0 |
| M G G | 2.0 2.0 0.0 0.0 |
| M C T I1 | 1 .2 1 .2 . .2 |
| G E T | 1 . 1 . 0. 0. |

| I | |
|---|---|
| CM 2010 C D | . |
| CM 2010 L | A |

| N |
|---|

R

C M

| M | E L | E T | E R | L | T | R | N L | N T | N R | L | T | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L C | | | | | | | | | | | | |
| | 1 | 2 | | | 110 | 2 | | 2 | | 12 | 2 | 2 |
| N | 1 | | 1 | | 2 | 12 | | | 1 | | | 1 |
| I | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| P A A T | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| P A | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| A | 1 . | 1 . | 1 . | 1 . | 1 . | 1 0.0 | 1 . | 1 . | 1 0.0 | 1 0.0 | 1 . | 1 . |
| L | 1 | 2 | 1 | 1 | | 0 | 2 | 1 | 0 | 0 | 1 | 1 |
| C | 1 | 2 1 | 102 | | 1 | | | 11 | 1 | 10 | | |
| A G | 0. | 0. | 0. | 0. | 0. | 0. | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| | 2 | 2 | 1 | 1 | 0 | 11 | 2 | 1 | 12 1 | 1 | 1 | 1 |
| G | | 0 | | 2 | 22 | 0 | | 0 | 12 | 1 | 0 | 2 |
| G | 2 | 1 | 1 | 1 | 1 | 1 2 | 1 2 | 0 | 1 | 10 | 0 | 1 |
| | . | . | 2.1 | .2 | 10. | 10. | 1 .2 | 0.0 | . | 0. | 0.0 | 1. |
| C C | 1 . | . | 2.1 | 10. | 10. | 10. | 2 .1 | 0.0 | . | .0 | 0.0 | 1. |
| P I L | 1.00 | | 1.00 | 1.00 | | 0.0 | 1.00 | | 0. | 0. | | 1.00 |
| L G C | 1 | 2 1 | 102 | | 2 1 | 11 | | 0 | | | 0 | |
| C R | 0.1 | 0.1 | 0.0 | 0.1 | 0. | 0. | 0. | 0.00 | 0.2 | 0.0 | 0.00 | 0.0 |
| A C | 1 | 2 1 | 102 | | 2 1 | 11 | | 0 | | 2 | 0 | 1 |
| CM P R | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| U I | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| U D | 12. | . | .0 | . | . | . | 0. | 0.0 | 0.2 | 0. | 0.0 | 2 . |
| I D 2 | 1.2 | 0.2 | 0.2 | 0. | 0. | 0. | 2. | 0.0 | 0. | 0.0 | 0.0 | 0.1 |
| I D | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0 | 0. | 2.2 | 0. | 1.1 | . | . | . | 0.0 | 2. | 0. | 0.0 | 0. |
| L G D | 1 . | . | .1 | 10. | . | . | 2. | 0.0 | 0. | 0. | 0.0 | 2 . |
| L G L | | A | A | | A | A | D | | C | C | | C |
| A | | 0 | | | 1 21 | | | 00 | | | | |
| A D | | .2 | | | .1 | | | 0.1 | | | 2 .2 | |
| A L | | A | | | A | | | D | | | C | |
| T | | | | | | | | | | | | |
| A P | | | | | 2 | | | | | | | |
| P D G Y R | | .0 | | | .0 | | | . | | | . | |
| C P Y R | | . | | | . | | | . | | | . | |
| M G G | | .1 | | | .1 | | | 2 . | | | 2 . | |
| M C T I1 | | 1 . | | | 12. | | | 2 .1 | | | .0 | |
| G E T | | 11. | | | 11. | | | 0. | | | .0 | |
| I | | | | | | | | | | | | |
| CM 2010 C D | | | 1 . | | | | | | | | | |
| CM 2010 L | | | | | | | | | | | | |
| N | | | | | | | | | | | | |

R

C M

| I | | |

| M | E L | E T | E R | L | T | R | N L | N T | N R | L | T | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L C | | | | | | | | | | | | |
| | | 2 | | | 11 | | 1 | | 1 | | 1 | |
| N | | | 1 | | | 1 | 1 | | 1 | | 2 | 12 |
| I | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| P A A T | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| P A | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| A | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . |
| L | 1 | 2 | 0 | 1 | 2 | 1 | 1 | 1 | 0 | 1 | 1 | 0 |
| C | 2 | 2 0 | 1 | 1 | 2 0 | 120 | 22 | 2 1 | | 2 | | 2 0 |
| A G | 0. | 0. | 0. | 0. | 0. | 0. | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| | 1 | 0 | 2 | 2 | | 1 | 1 1 | 1 0 | 02 | 1 0 | 21 | 1 |
| G | | 22 | 2 | | 12 | | 1 | 0 | | 2 | 0 | |
| G | 1 | 1 0 | 1 | 2 | 1 0 | 1 | 1 1 | 0 | 1 10 | 1 0 | 0 | 1 |
| | .0 | . | . | 0.1 | 1 . | 0. | 1.0 | 0.0 | 0. | .2 | 0.0 | .2 |
| C C | 21.2 | . | . | . | 1 . | 0. | .2 | 0.0 | 0. | . | 0.0 | .2 |
| P I L | 1.00 | | 0.01 | 1.00 | | 1.00 | 1.00 | | 0.1 | 1.00 | | 0. |
| L G C | 2 | 1 | 1 1 | 1 | 2 0 | 120 | 22 | 0 | 2 0 | 2 | 0 | 2 |
| C R | 0.22 | 0.1 | 0.1 | 0.01 | 0. | 0.0 | 0.0 | 0.00 | 0.02 | 0.1 | 0.00 | 0. 0 |
| A C | 2 | 1 | 1 1 | 1 | 2 0 | 120 | 22 | 0 | 2 0 | 2 | 0 | 2 |
| CM P R | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| U I | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| U D | . | . | . | . | . | .0 | . | 0.0 | . | . | 0.0 | .0 |
| I D 2 | 1. | 0. | 0. | 0.0 | 0. | 0.1 | 0. | 0.0 | 0.1 | 1. | 0.0 | 2. |
| I D | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0 | 0. | 1.2 | 1.2 | 0.0 | .2 | 0. | 0. | 0.0 | 0.1 | 1. | 0.0 | 1. |
| L G D | . | . | . | . | .1 | .1 | . | 0.0 | . | .2 | 0.0 | 0.0 |
| L G L | A | A | A | A | A | A | D | | D | D | | D |
| A | | | | | 1 2 | | | 21 | | | 12 | |
| A D | | . | | | .0 | | | . | | | . | |
| A L | | A | | | A | | | D | | | D | |
| T | | | | | | | | | | | | |
| A P | | | | | | | | | | | 2 | |
| P D G Y R | | 0.0 | | | 0.0 | | | 20.0 | | | 20.0 | |
| C P Y R | | .0 | | | .0 | | | .0 | | | .0 | |
| M G G | | .0 | | | .0 | | | 1 .0 | | | 1 .0 | |
| M C T I1 | | 2 .2 | | | 1 . | | | .2 | | | .2 | |
| G E T | | 11. | | | 11. | | | 0. | | | 0. | |
| I | | | | | | | | | | | | |
| CM 2010 C D | | | . | | | | | | | | | |
| CM 2010 L | | | A | | | | | | | | | |
| N | | | | | | | | | | | | |

R

C M

| I | | | | | | |
|---|---|---|---|---|---|---|
| I | D | 0.1 | | | | |

| M | E T | E R | L | T | N L | N R |
|---|---|---|---|---|---|---|
| | 0 | | 0 | 121 | 0 | 2 |
| C P | 0 | 0 | 0 | 0 | 0 | 0 |
| C | | | | | | |
| RT C | N | N | N | N | N | N |
| L | | 0 | 0 | | 0 | 0 |
| M | 12 | | | 12 | 0 | |
| G | 0 | | | 0 | 0 | |
| P | 0. 2 | 0. 2 | 0. 2 | 0. 2 | 0. 2 | 0. 2 |
| | 2 | 2 | 2 | 2 | 2 | 2 |
| M | | | 0 | 1 21 | 0 | 2 |
| N L | 2 | 1 | 0 | | 0 | 1 |

| M M | M 1 | | M 2 | | |
|---|---|---|---|---|---|
| C A | 0 | 0 | 0 | 10 | 2 |
| 1 | | | | | |
| 2 | | | | 2 | |
| | | 2.22 | | . | . 2 |
| P C 1 M | | 101 | | 2 | 2 |
| 1 | | | | 2 | |
| 2 | | | | 2 | |
| T P | | 0 | | 0 | 0 |
| M C 1 M | | 101 | | 2 | 2 |
| M C 2 M | | | | 2 | |
| 1 | | | | 2 | |
| 2 | | | | 2 | |

| A | E | N |
|---|---|---|
| CM C D | 0 | 0 | 10.2 |
| CM L | | | |

| M L M M | N L 1 | E T | E R | L | T |
|---|---|---|---|---|---|
| C | 2 | | | 101 | |
| CM C D | 10.2 | | | 0 | |
| CM L C R | 0.0 | | | | |
| CM L L | | | | A | |
| CM | 0.1 | | | 0.0 | |

| N | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| E | C | D | E | 00 | E | C | N | D |

R

C M

| M | E L | E T | E R | L | T | R | N L | N T | N R | L | T | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L C | | | | | | | | | | | | |
| | | 12 | 22 | 100 | 1 | 12 | 1 | 10 | | | | |
| N | 1 | | 1 | | 2 | 12 | | | 1 | | | 1 |
| I | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| P A A T | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| P A | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| A | 1 . | 1 . | 1 . | 1 . | 1 . | 1 0.0 | 1 . | 1 . | 1 0.0 | 1 0.0 | 1 . | 1 . |
| L | 1 | 2 | 1 | 1 | | 0 | 2 | 1 | 0 | 0 | 1 | 1 |
| C | | 2 | 11 | 20 | 0 | | 20 | | 2 | 1 | 1 | 2 1 |
| A G | 0. | 0. | 0. | 0. | 0. | 0. | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| | 1 | 2 | 1 | 22 | | | 2 | 2 | 1 | | | 1 |
| G | 2 | 1 | | 10 | | 2 | 1 | 0 | 0 | | 0 | |
| G | 1 | 1 | 1 | 22 | 1 | 1 | 12 | 0 | 1 22 | 1 | 0 | 1 |
| | 2. | 1 . | 1 .2 | . | .2 | .2 | . | 0.0 | .0 | 2. | 0.0 | . |
| C C | . | 1 . | 1 .2 | . | .2 | .2 | 1 .1 | 0.0 | .0 | . | 0.0 | . |
| P I L | 1.00 | | 1.00 | 1.00 | | 0.0 | 1.00 | | 0. | 0. 2 | | 1.00 |
| L G C | | 2 | 11 | 20 | 2 | 1 2 | 20 | 0 | 2 | 2 | 0 | 2 1 |
| C R | 0.0 | 0. | 0. | 0. | 0.1 | 0.1 | 0. | 0.00 | 0.2 | 0.2 | 0.00 | 0.2 |
| A C | | 2 | 11 | 20 | 2 | 1 2 | 0 | 0 | | | 0 | |
| CM P R | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| U I | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| U D | . | . | . | 1 . | . | .0 | . | 0.0 | . | . | 0.0 | . |
| I D 2 | 0. | 0. | 1. | . | 0.1 | 0. | 0. | 0.0 | 0. | 0. | 0.0 | 0. |
| I D | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0 | 0. | .0 | .0 | 2. | 1. | 1. | 2. | 0.0 | 1. | 2.0 | 0.0 | 1. |
| L G D | .2 | .0 | . | 2 . | .1 | .2 | . | 0.0 | . | . | 0.0 | . |
| L G L | A | A | A | C | A | A | D | | D | D | | D |
| A | | 1 | | | 1 | | | 2 | | | 1 | |
| A D | | .2 | | | .0 | | | .1 | | | . | |
| A L | | A | | | A | | | D | | | D | |
| **T** | | | | | | | | | | | | |
| A P | | | | | 2 | | | | | | | |
| P D G Y R | | .0 | | | .0 | | | 2 .2 | | | 2 .2 | |
| C P Y R | | . | | | . | | | . | | | . | |
| M G G | | .1 | | | .1 | | | 2 . | | | 2 . | |
| M C T I1 | | 1 . | | | . | | | 1 .1 | | | . | |
| G E T | | 2 . | | | 1 . | | | 1. | | | 1. | |
| **I** | | | | | | | | | | | | |
| CM 2010 C D | | | 10. | | | | | | | | | |
| CM 2010 L | | | | | | | | | | | | |
| **N** | | | | | | | | | | | | |

R

C M

| I | | | | | | | |
|---|---|---|---|---|---|---|---|
| I | D | 0. | | | | | |

| M | E L | E T | T | R | L | R |
|---|---|---|---|---|---|---|
| | 21 | 1 2 | | | 11 | |
| C P | 0 | 0 | 0 | 0 | 0 | 0 |
| C | | | | | | |
| RT C | N | N | N | N | N | N |
| L | 200 | | | 0 | 0 | 200 |
| M | | 12 | 12 | | 12 | |
| G | | 0 | 0 | | 0 | |
| P | 0. 2 | 0. 2 | 0. 2 | 0. 2 | 0. 2 | 0. 2 |
| | 2 | 2 | 2 | 2 | 2 | 2 |
| M | 2 | 1 | 12 | | 12 | |
| N L | 1 | 2 | | 0 | 1 | 1 |

| M M | M 1 | M 2 | | | |
|---|---|---|---|---|---|
| C A | 21 | 0 | 0 | 1 | 10 |
| 1 | | | | 1 | |
| 2 | | | | 0 | |
| | .12 | | | . | . 2 |
| P C 1 M | | | | 12 | 0 |
| 1 | | | | 21 | |
| 2 | | | | 0 | |
| T P | 0 | | | 0 | 0 |
| M C 1 M | | | | 11 | 0 |
| M C 2 M | | | | 11 | |
| 1 | | | | 21 | |
| 2 | | | | | |

| A | E |
|---|---|
| CM C D | 0.2 |
| CM L | |

| M L M M | E L | E T | T | R | L 1 | L 2 |
|---|---|---|---|---|---|---|
| C | | | | | 11 | 0 |
| CM C D | 12. 2 | | | | . | 12. |
| CM L C R | 0.0 | | | | 0.10 | 0.0 |
| CM L L | | | | | E | |
| CM | 0.2 | | | | 0. | 0. |

| N |
|---|
| E C D E 00 E C N D |

R

C M

| M | E L | E T | E R | L | T | R | N L | N T | N R | L | T | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L C | | | | | | | | | | | | |
| | 11 | 121 | | 1 | 2 | | | 1 | | | 1 | |
| N | | | 1 | | | 1 | 1 | | 1 | | 2 | 12 |
| I | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| P A A T | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| P A | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| A | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . |
| L | 1 | 2 | 0 | 1 | 2 | 1 | 1 | 1 | 0 | 1 | 1 | 0 |
| C | 11 | 2 1 | 20 | | 2 | 12 2 | 11 | 2 | 1 | 211 | 1 | 1 |
| A G | 0. 2 | 0. 2 | 0. 2 | 0. 2 | 0. 2 | 0. 2 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| | | 0 | 2 | 0 | | 1 | 12 | 2 1 | 1 | 1 0 | 1 | 1 1 |
| G | 12 | 1 | | 1 | 0 | | | 0 | | | 0 | 10 |
| G | | 1 0 | 1 | 0 | 1 0 | 1 | 12 | 0 | 1 2 | 1 0 | 0 | 1 |
| | . | 10.1 | 10.1 | 0.1 | . | 0. | 0. | 0.0 | 0. | .0 | 0.0 | . |
| C C | .2 | 10.1 | 10.1 | 10.2 | . | 0. | . | 0.0 | 0. | . | 0.0 | . |
| P I L | 1.00 | | 0.01 | 1.00 | | 1.00 | 1.00 | | 0. | 1.00 | | 0. |
| L G C | 11 | 1 | 1 1 | | 2 | 12 2 | 11 | 0 | 1 1 | 211 | 0 | 1 |
| C R | 0.21 | 0. | 0. | 0.00 | 0.2 | 0.0 | 0.0 | 0.00 | 0.0 | 0. 0 | 0.00 | 0. |
| A C | 11 | 1 | 1 1 | | 2 | 12 2 | | 0 | 02 | 2 | 0 | |
| CM P R | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| U I | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| U D | .0 | 2. | 2. | .0 | 2.0 | 1. | . | 0.0 | . | 0. | 0.0 | 1.1 |
| I D 2 | 0. | 1.0 | 1.0 | 0.0 | 0.2 | 0.1 | 0.1 | 0.0 | 0.1 | 0. | 0.0 | . |
| I D | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0 | 0. | 2. | .1 | 0.0 | 1.2 | 0.2 | 0.1 | 0.0 | 0.1 | 1. | 0.0 | 2. |
| L G D | . | . | . | .0 | 2.2 | 1. | . | 0.0 | . | 1.2 | 0.0 | . |
| L G L | A | A | A | A | A | A | D | | D | D | | D |
| A | | 1 0 | | | | | | 11 | | | 1 2 | |
| A D | | . | | | 2.2 | | | 1.2 | | | . | |
| A L | | A | | | A | | | D | | | D | |
| T | | | | | | | | | | | | |
| A P | | | | | | | | | | | 2 | |
| P D G Y R | | 1.0 | | | 1.0 | | | 1 . | | | 1 . | |
| C P Y R | | .0 | | | .0 | | | .0 | | | .0 | |
| M G G | | .0 | | | .0 | | | .0 | | | .0 | |
| M C T I1 | | 12.1 | | | 12.2 | | | . | | | . | |
| G E T | | 1 .2 | | | 1 .2 | | | 0. | | | 0. | |
| I | | | | | | | | | | | | |
| CM 2010 C D | | | .2 | | | | | | | | | |
| CM 2010 L | | | A | | | | | | | | | |
| N | | | | | | | | | | | | |

R

C M

| I | | |

| M | E L | E T | E R | L | T | R | N L | N T | N R | L | T | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L C | | | | | | | | | | | | |
| | 2 | | | | 1 2 | 1 | | | 10 | 1 | | |
| N | 1 | | 1 | | 2 | 12 | | | 1 | | | 1 |
| I | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| P A A T | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| P A | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| A | 1 . | 1 . | 1 . | 1 . | 1 . | 1 0.0 | 1 . | 1 . | 1 0.0 | 1 0.0 | 1 . | 1 . |
| L | 1 | 2 | 1 | 1 | | 0 | 2 | 1 | 0 | 0 | 1 | 1 |
| C | 22 | 2 0 | 1012 | 00 | 1 | | | 11 | | 2 | 0 | |
| A G | 0. | 0. | 0. | 0. | 0. | 0. 2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| | 20 | 2 | 1 | | | 11 | 2 | 1 | 12 1 | 10 | 1 | 1 |
| G | | 0 | 101 | | 10 2 | 2 | | 0 | 1 | 1 | 0 | |
| G | 20 | 1 | 1 | | 1 | 1 2 | 1 1 | 0 | 1 | | 0 | 1 |
| | 1 . | .2 | 2. | .1 | 1 . | 1 . | 22. | 0.0 | .0 | 0. | 0.0 | 1. |
| C C | 0.0 | .2 | 2. | 12. | 1 . | 1 . | 1.0 | 0.0 | .0 | . | 0.0 | 1. |
| P I L | 1.00 | | 1.00 | 1.00 | | 0.0 | 1.00 | | 0. | 0. | | 1.00 |
| L G C | 22 | 2 0 | 1012 | 00 | 2 0 | 11 | | 0 | 2 | | 0 | |
| C R | 0. 0 | 0.2 | 0.10 | 0.1 | 0. | 0. | 0. | 0.00 | 0. | 0.0 | 0.00 | 0.0 |
| A C | 22 | 2 0 | 1012 | 00 | 2 0 | 11 | | 0 | 2 | | 0 | |
| CM P R | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| U I | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| U D | 1 . | . | . | 11.0 | . | . | . | 0.0 | 0. | 1.0 | 0.0 | 2 .1 |
| I D 2 | . | 0.2 | 0.2 | 0. | 0. | 1.2 | 12. | 0.0 | 0. | 0.1 | 0.0 | 0.1 |
| I D | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0 | 1. | 2. | 1.0 | 1.0 | .2 | . | . | 0.0 | . | 0. | 0.0 | 0. |
| L G D | 20. | . | . | 11. | 10. | 11.1 | .1 | 0.0 | 0. | 1.0 | 0.0 | 2 .2 |
| L G L | C | A | A | | | | E | | C | C | | C |
| A | | | | | 1 2 | | | | | | | |
| A D | | . | | | 10. | | | 0. | | | 2 .1 | |
| A L | | A | | | | | | D | | | C | |

| T | |
|---|---|
| A P | 2 |
| P D G Y R | .0 |
| C P Y R | . |
| M G G | .1 |
| M C T I1 | 2.0 |
| G E T | 1 . |

| I | |
|---|---|
| CM 2010 C D | 20.1 |
| CM 2010 L | C |

| N |
|---|

R

C M

| I | | | | | | |
|---|---|---|---|---|---|---|
| I D | 0. | | | | | |

| M | E L | E T | T | R | L | R |
|---|---|---|---|---|---|---|
| | 1 | 0 | 1 | | | |
| C P | 0 | 0 | 0 | 0 | 0 | 0 |
| C | | | | | | |
| RT C | N | N | N | N | N | N |
| L | 200 | | | 0 | 0 | 200 |
| M | | 12 | 12 | | 12 | |
| G | | 0 | 0 | | 0 | |
| P | 0. 2 | 0. 2 | 0. 2 | 0. 2 | 0. 2 | 0. 2 |
| | 2 | 2 | 2 | 2 | 2 | 2 |
| M | | 2 | 1 0 | | | |
| N L | 1 | 2 | | 0 | 1 | 1 |

| M M | M 1 | M 2 | | | |
|---|---|---|---|---|---|
| C A | 1 20 | 0 | 0 | 2020 | 10 |
| 1 | | | | 1 00 | |
| 2 | | | | 20 | |
| | .12 | | | . | . 2 |
| P C 1 M | 1 | | | | 2 |
| 1 | | | | 10 | |
| 2 | | | | 10 | |
| T P | 0 | | | 0 | 0 |
| M C 1 M | 1 | | | 2 | 2 |
| M C 2 M | | | | 2 | |
| 1 | | | | 10 | |
| 2 | | | | | |

| A | E |
|---|---|
| CM C D | 1. |
| CM L | |

| M L M M | E L | E T | T | R | L 1 | L 2 |
|---|---|---|---|---|---|---|
| C | 1 | | | | 2 | 2 |
| CM C D | 2 .00 | | | | . | 1 . |
| CM L C R | 0.2 | | | | 0.1 | 0.02 |
| CM L L | | D | | | | C |
| CM | 0. | | | | 0. | 0.1 |

| N | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | E | C | D | E | 00 | E | C | N D |

R

C M

| M | E L | E T | E R | L | T | R | N L | N T | N R | L | T | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L C | | | | | | | | | | | | |
| | 1 | 22 | | 0 | 1 | | 2 | 10 | 11 | | | |
| N | | | 1 | | | 1 | 1 | | 1 | | 2 | 12 |
| I | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| P A A T | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| P A | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| A | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . |
| L | 1 | 2 | 0 | 1 | 2 | 1 | 1 | 1 | 0 | 1 | 1 | 0 |
| C | 2 1 | 2 21 | | | 2 0 | 120 | 21 | 1 1 | 1 2 | 2 | 11 | 2 |
| A G | 0. | 0. | 0. | 0. | 0. | 0. | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| | 2 | 0 | | | | 1 | 1 01 | 1 | 0 | 1 | 1 | 1 2 |
| G | | 2 0 | 2 | | 1 0 | 2 | 2 | 0 | 2 | | 0 | 0 |
| G | 2 | 1 0 | 1 | | 1 0 | 1 | 1 01 | 0 | 1 0 | 1 | 0 | 1 |
| | 1 . | . | . | 1. | 1 . | 1.1 | 2.0 | 0.0 | 1.1 | .1 | 0.0 | .0 |
| C C | . | . | . | .1 | 1 . | 1.1 | .1 | 0.0 | 1.1 | .2 | 0.0 | .0 |
| P I L | 1.00 | | 0.02 | 1.00 | | 1.00 | 1.00 | | 0. 2 | 1.00 | | 0. |
| L G C | 2 1 | 1 | 1 10 | | 2 0 | 120 | 21 | 0 | 2 | 2 | 0 | 2 |
| C R | 0. | 0.21 | 0.21 | 0.0 | 0. | 0.0 | 0.1 | 0.00 | 0.0 | 0.2 | 0.00 | 0. |
| A C | 2 1 | 1 | 1 10 | | 2 0 | 120 | 21 | 0 | 2 | 2 | 0 | 2 |
| CM P R | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| U I | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| U D | 12.0 | . | . | . | .0 | .0 | 0. | 0.0 | . | .0 | 0.0 | . |
| I D 2 | . | 0. | 0. | 0.2 | 0. | 0.1 | 1. | 0.0 | 0. | 1. | 0.0 | . |
| I D | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0 | 1. | 1. | 1. | 0. | . | 0. | 0. | 0.0 | 0. | 1. | 0.0 | 2. |
| L G D | 1 . | . | . | . | . | .1 | 1. | 0.0 | . | . | 0.0 | 1.2 |
| L G L | | A | A | A | A | A | D | | D | D | | D |
| A | | 2 | | | 1 1 | | | 2 | | | 1 | |
| A D | | . | | | . | | | . | | | 0. | |
| A L | | A | | | A | | | D | | | D | |
| T | | | | | | | | | | | | |
| A P | | | | | | | | | | | 2 | |
| P D G Y R | | 0.0 | | | 0.0 | | | 20.0 | | | 20.0 | |
| C P Y R | | .0 | | | .0 | | | .0 | | | .0 | |
| M G G | | .0 | | | .0 | | | 1 .0 | | | 1 .0 | |
| M C T I1 | | . | | | 1 . | | | .1 | | | .2 | |
| G E T | | 1 . | | | 1 .1 | | | 0. | | | 0. | |
| I | | | | | | | | | | | | |
| CM 2010 C D | | | . | | | | | | | | | |
| CM 2010 L | | | A | | | | | | | | | |
| N | | | | | | | | | | | | |

R

C M

| I | | | | | | | |
|---|---|---|---|---|---|---|---|
| I | D | 0.1 | | | | | |

| M | E T | E R | L | T | N L | N R |
|---|---|---|---|---|---|---|
| | 20 | | 0 | 1 | 0 | 0 |
| C P | 0 | 0 | 0 | 0 | 0 | 0 |
| C | | | | | | |
| RT C | N | N | N | N | N | N |
| L | | 0 | 0 | | 0 | 0 |
| M | 12 | | | 12 | 0 | |
| G | 0 | | | 0 | 0 | |
| P | 0. 2 | 0. 2 | 0. 2 | 0. 2 | 0. 2 | 0. 2 |
| | 2 | 2 | 2 | 2 | 2 | 2 |
| M | | | 0 | 1 | 0 | |
| N L | 2 | 1 | 0 | | 0 | 1 |

| M M | M 1 | | M 2 | | |
|---|---|---|---|---|---|
| C A | 0 | 0 | 0 | 1 0 | |
| 1 | | | | | |
| 2 | | | | | |
| | | 2.22 | | . | . 2 |
| P C 1 M | | 1 | | 1 1 | |
| 1 | | | | | |
| 2 | | | | 0 | |
| T P | | 0 | | 0 | 0 |
| M C 1 M | | 1 | | 1 1 | |
| M C 2 M | | | | 1 1 | |
| 1 | | | | | |
| 2 | | | | 0 | |

| A | E | N |
|---|---|---|
| CM C D | 0 | 0 | 10. |
| CM L | | |

| M L M M | N L 1 | E T | E R | L | T |
|---|---|---|---|---|---|
| C | | | | 1 | |
| CM C D | 10. | | | 0 | |
| CM L C R | 0.0 | | | | |
| CM L L | | | | A | |
| CM | 0.2 | | | 0.0 | |

| N | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| E | C | D | E | 00 | E | C | N | D |

R

C M

| M | E L | E T | E R | L | T | R | N L | N T | N R | L | T | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L C | | | | | | | | | | | | |
| | | 1 | 1 | | 1 | 1 | 20 | 1 | | | | |
| N | 1 | | 1 | | 2 | 12 | | | 1 | | | 1 |
| I | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| P A A T | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| P A | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| A | 1 . | 1 . | 1 . | 1 . | 1 . | 1 0.0 | 1 . | 1 . | 1 0.0 | 1 0.0 | 1 . | 1 . |
| L | 1 | 2 | 1 | 1 | | 0 | 2 | 1 | 0 | 0 | 1 | 1 |
| C | | 2 | 11 | 1 | 21 | 0 | | | 2 | 1 2 | 1 | |
| A G | 0. 2 | 0. 2 | 0. 2 | 0. 2 | 0. 2 | 0. 0 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 |
| | 0 | 2 | 1 | 1 | | | 2 1 | 2 | 1 | 0 | 2 | 1 |
| G | | 1 00 | | 10 | | 20 | 22 | 0 | | | 0 | 1 |
| G | 0 | 1 | 1 | 1 | 1 | 1 | 120 | 0 | 1 2 | 1 | 0 | 1 |
| | . | 2 . | 2 .2 | .1 | . | . | 10.0 | 0.0 | .0 | .0 | 0.0 | . |
| C C | 11. | 2 . | 2 .2 | 1.0 | . | . | 1 .0 | 0.0 | .0 | .0 | 0.0 | . |
| P I L | 1.00 | | 1.00 | 1.00 | | 0.0 | 1.00 | | 0. | 0. 2 | | 1.00 |
| L G C | | 2 | 11 | 1 | 2 | 1 22 | | 0 | | | 0 | |
| C R | 0.1 | 0. | 0. 1 | 0. | 0.2 | 0.2 | 0. 0 | 0.00 | 0.2 | 0.2 | 0.00 | 0.2 |
| A C | | 2 | 11 | 1 | 2 | 1 22 | | 0 | | 0 | 0 | |
| CM P R | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| U I | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| U D | . | . | .1 | . | . | . | . | 0.0 | .0 | . | 0.0 | .2 |
| I D 2 | 0. | 1.2 | 2. | . | 0.2 | 0. | 0. | 0.0 | 0. | 0. | 0.0 | 0. |
| I D | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0 | 0. | 10. | . | .2 | 2. | 2. | .2 | 0.0 | 2.1 | 2. | 0.0 | 2.2 |
| L G D | .1 | . | 10. | .0 | . | . | . | 0.0 | . | . | 0.0 | . |
| L G L | A | A | | E | A | A | D | | D | D | | D |
| A | | 2 0 | | | 10 | | | 0 | | | 1 | |
| A D | | . | | | 12. | | | . | | | . | |
| A L | | A | | | | | | D | | | D | |
| **T** | | | | | | | | | | | | |
| A P | | | | | 2 | | | | | | | |
| P D G Y R | | .0 | | | .0 | | | 2 .0 | | | 2 .0 | |
| C P Y R | | . | | | . | | | . | | | . | |
| M G G | | .1 | | | .1 | | | 2 . | | | 2 . | |
| M C T I1 | | 2 . | | | .0 | | | 21.0 | | | 11.0 | |
| G E T | | .0 | | | 0.0 | | | 1. | | | 2.1 | |
| **I** | | | | | | | | | | | | |
| CM 2010 C D | | | 1 . | | | | | | | | | |
| CM 2010 L | | | | | | | | | | | | |
| **N** | | | | | | | | | | | | |

R

C M

| I | | | | | | |
|---|---|---|---|---|---|---|
| I D | 0. | | | | | |

| M | E L | E T | T | R | L | R |
|---|---|---|---|---|---|---|
| | 2 | 1 2 | | 10 | 1 | |
| C P | 0 | 0 | 0 | 0 | 0 | 0 |
| C | | | | | | |
| RT C | N | N | N | N | N | N |
| L | 200 | | | 0 | 0 | 200 |
| M | | 12 | 12 | | 12 | |
| G | | 0 | 0 | | 0 | |
| P | 0. 2 | 0. 2 | 0. 2 | 0. 2 | 0. 2 | 0. 2 |
| | 2 | 2 | 2 | 2 | 2 | 2 |
| M | 2 | 1 0 | | 11 | 1 | |
| N L | 1 | 2 | | 0 | 1 | 1 |

| M M | M 1 | M 2 | | | |
|---|---|---|---|---|---|
| C A | 0 | | 0 | 1 1 | 2 |
| 1 | | | | | |
| 2 | | | | | |
| | .12 | | | . | . 2 |
| P C 1 M | | | | | |
| 1 | | | | 2 | |
| 2 | | | | 2 | |
| T P | 0 | | | 0 | 0 |
| M C 1 M | | | | | |
| M C 2 M | | | | | |
| 1 | | | | 2 | |
| 2 | | | | 0 | |

| A | E | | | |
|---|---|---|---|---|
| CM C D | 0.2 | 0 | 2 . | |
| CM L | | | D | |

| M L M M | E L | E T | T R | L 1 | L 2 |
|---|---|---|---|---|---|
| C | | | | | |
| CM C D | 1 . 0 | | | . | 1 |
| CM L C R | 0.0 | | | 0.21 | 0.11 |
| CM L L | | | | | |
| CM | 0.2 | | | 0. | 0. |

| N | | | | | | |
|---|---|---|---|---|---|---|
| E | C | D | E | 00 | E | C N D |

R

C M

| M | E L | E T | E R | L | T | R | N L | N T | N R | L | T | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L C | | | | | | | | | | | | |
| | 1 | 1 | 1 | | 1 | 1 | 1 | | 1 | 1 | | 11 |
| N | | | 1 | | | 1 | 1 | | 1 | | 2 | 12 |
| I | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| P A A T | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| P A | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| A | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . | 1 . |
| L | 1 | 2 | 0 | 1 | 2 | 1 | 1 | 1 | 0 | 1 | 1 | 0 |
| C | 1 | 2 | 2 | 2 | 2 0 | 12 | 1 0 | | 1 | 2 2 | 10 | 1 |
| A G | 0. | 0. | 0. | 0. | 0. | 0. | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| | 0 | 1 | | 0 | | 1 | 12 0 | 1 | 12 1 | 1 | | 1 12 |
| G | 1 1 | | | 1 | | | 1 | 0 | 21 | | 0 | 1 |
| G | 0 | 1 0 | 1 | 0 | 1 0 | 1 | 12 0 | 0 | 1 2 | 1 | 0 | 1 |
| | . | 1 . | 1 . | . | .2 | 1.0 | 1. | 0.0 | 1.1 | .1 | 0.0 | . |
| C C | 1 .0 | 1 . | 1 . | 22.2 | .2 | 1.0 | .1 | 0.0 | 1.1 | .2 | 0.0 | . |
| P I L | 1.00 | | 0.02 | 1.00 | | 1.00 | 1.00 | | 0. | 1.00 | | 0. |
| L G C | 1 | 1 0 | 1 2 | 2 | 2 0 | 12 | 1 0 | 0 | 20 | 2 2 | 0 | 1 |
| C R | 0.2 | 0. | 0. | 0.1 | 0. 0 | 0.0 | 0.1 | 0.00 | 0.10 | 0. | 0.00 | 0. |
| A C | 1 | 1 0 | 1 2 | 2 | 2 0 | 12 | 2 | 0 | 2 | | 0 | |
| CM P R | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| U I | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| U D | . | . | . | .0 | 2. | 2.2 | .0 | 0.0 | . | 0. | 0.0 | 0. |
| I D 2 | 1. | 1. | 1. | 1.2 | 0. | 0.1 | 0. | 0.0 | 0.2 | 0. | 0.0 | . |
| I D | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0 | 1.2 | . | . | 0. | 1. | 0. | 0. | 0.0 | 0. | 1. | 0.0 | . |
| L G D | .2 | . | . | .2 | .0 | 2. | . | 0.0 | . | 1.2 | 0.0 | . |
| L G L | A | A | A | A | A | A | D | | D | D | | D |
| A | | 1 | | | | | | | | | 211 | |
| A D | | . | | | .2 | | | 1. | | | . | |
| A L | | A | | | A | | | D | | | D | |

| T | |
|---|---|
| A P | 2 |
| P D G Y R | 1.0 1.0 1 .1 1 .1 |
| C P Y R | .0 .0 .0 .0 |
| M G G | .0 .0 .0 .0 |
| M C T I1 | 1 . 2 .2 11.1 . |
| G E T | 2 .0 22. 1.0 1.0 |

| I | |
|---|---|
| CM 2010 C D | . |
| CM 2010 L | A |

| N | |
|---|---|

R

C M

| I | | | | | | | |
|---|---|---|---|---|---|---|---|
| I | D | 0.2 | | | | | |

| M | E T | E R | L | T | N L | N R |
|---|---|---|---|---|---|---|
| | 1 21 | | 0 | 0 | 0 | 2 |
| C P | 0 | 0 | 0 | 0 | 0 | 0 |
| C | | | | | | |
| RT C | N | N | N | N | N | N |
| L | | 0 | 0 | | 0 | 0 |
| M | 12 | | | 12 | 0 | |
| G | 0 | | | 0 | 0 | |
| P | 0. 2 | 0. 2 | 0. 2 | 0. 2 | 0. 2 | 0. 2 |
| | 2 | 2 | 2 | 2 | 2 | 2 |
| M | 1 2 | 0 | 0 | 1022 | 0 | |
| N L | 2 | 1 | 0 | | 0 | 1 |

| M M | M 1 | | | M 2 | | |
|---|---|---|---|---|---|---|
| C A | 0 | 0 | 1 2 | 0 | 21 1 | 1 |
| 1 | | | | | 1 2 | |
| 2 | | | | | 0 | |
| | | | 2.22 | | . | . 2 |
| P C 1 M | | | 1 | | | 2 0 |
| 1 | | | | | 121 | |
| 2 | | | | | 0 | |
| T P | | | 0 | | 0 | 0 |
| M C 1 M | | | 1 | | | 2 0 |
| M C 2 M | | | | | | |
| 1 | | | | | 121 | |
| 2 | | | | | 0 | |

| A | E | N |
|---|---|---|
| CM C D | 0 | 0 | 1 .1 |
| CM L | | | C |

| M L M M | N L 1 | E T | E R | L | T |
|---|---|---|---|---|---|
| C | 2 0 | | | 1 | |
| CM C D | 1 .1 | | | 0 | |
| CM L C R | 0.12 | | | | |
| CM L L | C | | | A | |
| CM | 0. | | | 0.0 | |

| N | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | E | C | D | E | 00 | E | C | N | D |

# ROUNDABOUT REPORT

| General Information | | Site Information | |
|---|---|---|---|
| Analyst | CSM | Intersection | Cherryvale/Site Access |
| Agency or Co. | LSC | E/W Street Name | Site Access |
| Date Performed | 3/18/2013 | N/S Street Name | Cherryvale |
| Time Period | AM Peak | Analysis Year | 2015 Total |
| Peak Hour Factor | 0.88 | Project ID | LSC #110400 |

Project Description:

## Volume Adjustment and Site Characteristics

| | EB | | | | WB | | | | NB | | | | SB | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | L | T | R | U | L | T | R | U | L | T | R | U | L | T | R | U |
| Number of Lanes (N) | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 1 | 0 | | 0 | 1 | 0 | |
| Lane Assignment | | | LR | | | | LR | | | | TR | | | | LT | |
| Conflicting Lanes | 1 | | | | 1 | | | | 1 | | | | 1 | | | |
| Volume (V), veh/h | 0 | | 0 | 0 | 7 | | 37 | 0 | | 514 | 11 | 0 | 69 | 95 | | 0 |
| Heavy Veh. Adj. ($f_{HV}$), % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Pedestrians Crossing | 0 | | | | 0 | | | | 0 | | | | 0 | | | |

## Critical and Follow-Up Headway Adjustment

| | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Critical Headway (sec) | 5.1929 | 4.2000 | 5.1929 | 5.1929 | 4.2000 | 5.1929 | 5.1929 | 4.2000 | 5.1929 | 5.1929 | 4.2000 | 5.1929 |
| Follow-Up Headway (sec) | 3.1858 | 2.8000 | 3.1858 | 3.1858 | 2.8000 | 3.1858 | 3.1858 | 2.8000 | 3.1858 | 3.1858 | 2.8000 | 3.1858 |

## Flow Computations

| | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Circulating Flow ($V_c$), pc/h | 198 | | | 596 | | | 80 | | | 8 | | |
| Exiting Flow ($V_{ex}$), pc/h | 93 | | | 0 | | | 639 | | | 118 | | |
| Entry Flow ($V_e$), pc/h | | 0 | | | 51 | | | 609 | | | 190 | |
| Entry Volume veh/h | | | | | 50 | | | 597 | | | 186 | |

## Capacity and v/c Ratios

| | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Capacity ($c_{PCE}$), pc/h | | 1102 | | | 809 | | | 1208 | | | 1278 | |
| Capacity ($c$), veh/h | | 0 | | | 793 | | | 1184 | | | 1253 | |
| v/c Ratio (X) | | | | | 0.06 | | | 0.50 | | | 0.15 | |

## Delay and Level of Service

| | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Lane Control Delay (d), s/veh | | | | | 5.2 | | | 8.6 | | | 4.1 | |
| Lane LOS | | | | | A | | | A | | | A | |
| Lane 95% Queue | | | | | 0.2 | | | 2.9 | | | 0.5 | |
| Approach Delay, s/veh | | | | 5.16 | | | 8.61 | | | 4.12 | | |
| Approach LOS, s/veh | | | | A | | | A | | | A | | |
| Intersection Delay, s/veh | 7.08 | | | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | | | |

Copyright © 2012 University of Florida, All Rights Reserved *HCS 2010*™ 6.41 Roundabouts Generated: 3/18/2013 10:54 AM

# ROUNDABOUT REPORT

| General Information | | Site Information | |
|---|---|---|---|
| Analyst | CSM | Intersection | Cherryvale/Site Access |
| Agency or Co. | LSC | E/W Street Name | Site Access |
| Date Performed | 3/18/2013 | N/S Street Name | Cherryvale |
| Time Period | PM Peak | Analysis Year | 2015 Total |
| Peak Hour Factor | 0.88 | Project ID | LSC #110400 |

Project Description:

## Volume Adjustment and Site Characteristics

| | EB | | | | WB | | | | NB | | | | SB | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | L | T | R | U | L | T | R | U | L | T | R | U | L | T | R | U |
| Number of Lanes (N) | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 1 | 0 | | 0 | 1 | 0 | |
| Lane Assignment | | | LR | | | | LR | | | | TR | | | | LT | |
| Conflicting Lanes | 1 | | | | 1 | | | | 1 | | | | 1 | | | |
| Volume (V), veh/h | 0 | | 0 | 0 | 9 | | 46 | 0 | | 183 | 11 | 0 | 69 | 588 | | 0 |
| Heavy Veh. Adj. ($f_{HV}$), % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Pedestrians Crossing | 0 | | | | 0 | | | | 0 | | | | 0 | | | |

## Critical and Follow-Up Headway Adjustment

| | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Critical Headway (sec) | 5.1929 | 4.2000 | 5.1929 | 5.1929 | 4.2000 | 5.1929 | 5.1929 | 4.2000 | 5.1929 | 5.1929 | 4.2000 | 5.1929 |
| Follow-Up Headway (sec) | 3.1858 | 2.8000 | 3.1858 | 3.1858 | 2.8000 | 3.1858 | 3.1858 | 2.8000 | 3.1858 | 3.1858 | 2.8000 | 3.1858 |

## Flow Computations

| | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Circulating Flow ($V_c$), pc/h | 772 | | | 212 | | | 80 | | | 10 | | |
| Exiting Flow ($V_{ex}$), pc/h | 93 | | | 0 | | | 265 | | | 692 | | |
| Entry Flow ($V_e$), pc/h | | 0 | | | 64 | | | 225 | | | 762 | |
| Entry Volume veh/h | | | | | 63 | | | 221 | | | 747 | |

## Capacity and v/c Ratios

| | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Capacity ($c_{PCE}$), pc/h | | 705 | | | 1090 | | | 1208 | | | 1275 | |
| Capacity ($c$), veh/h | | 0 | | | 1069 | | | 1184 | | | 1250 | |
| v/c Ratio (X) | | | | | 0.06 | | | 0.19 | | | 0.60 | |

## Delay and Level of Service

| | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Lane Control Delay (d), s/veh | | | | | 3.9 | | | 4.7 | | | 10.0 | |
| Lane LOS | | | | | A | | | A | | | B | |
| Lane 95% Queue | | | | | 0.2 | | | 0.7 | | | 4.2 | |
| Approach Delay, s/veh | | | | 3.87 | | | 4.67 | | | 10.05 | | |
| Approach LOS, s/veh | | | | A | | | A | | | B | | |
| Intersection Delay, s/veh | 7.08 | | | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | | | |

Copyright © 2012 University of Florida, All Rights Reserved *HCS 2010*™ 6.41 Roundabouts Generated: 3/18/2013 10:57 AM

# ROUNDABOUT REPORT

| General Information | | Site Information | |
|---|---|---|---|
| Analyst | CSM | Intersection | Cherryvale/Site Access |
| Agency or Co. | LSC | E/W Street Name | Site Access |
| Date Performed | 3/18/2013 | N/S Street Name | Cherryvale |
| Time Period | AM Peak | Analysis Year | 2035 Total |
| Peak Hour Factor | 0.88 | Project ID | LSC #110400 |

Project Description:

## Volume Adjustment and Site Characteristics

| | EB | | | | WB | | | | NB | | | | SB | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | L | T | R | U | L | T | R | U | L | T | R | U | L | T | R | U |
| Number of Lanes (N) | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 1 | 0 | | 0 | 1 | 0 | |
| Lane Assignment | | | | | | | LR | | | | TR | | | | LT | |
| Conflicting Lanes | 1 | | | | 1 | | | | 1 | | | | 1 | | | |
| Volume (V), veh/h | | | | 0 | 13 | | 60 | 0 | | 629 | 15 | 0 | 49 | 116 | | 0 |
| Heavy Veh. Adj. ($f_{HV}$), % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Pedestrians Crossing | 0 | | | | 0 | | | | 0 | | | | 0 | | | |

## Critical and Follow-Up Headway Adjustment

| | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Critical Headway (sec) | 5.1929 | 4.2000 | 5.1929 | 5.1929 | 4.2000 | 5.1929 | 5.1929 | 4.2000 | 5.1929 | 5.1929 | 4.2000 | 5.1929 |
| Follow-Up Headway (sec) | 3.1858 | 2.8000 | 3.1858 | 3.1858 | 2.8000 | 3.1858 | 3.1858 | 2.8000 | 3.1858 | 3.1858 | 2.8000 | 3.1858 |

## Flow Computations

| | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Circulating Flow ($V_c$), pc/h | 206 | | | 729 | | | 57 | | | 15 | | |
| Exiting Flow ($V_{ex}$), pc/h | 74 | | | 0 | | | 799 | | | 150 | | |
| Entry Flow ($V_e$), pc/h | | 0 | | | 85 | | | 746 | | | 191 | |
| Entry Volume veh/h | | | | | 83 | | | 731 | | | 187 | |

## Capacity and v/c Ratios

| | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Capacity ($c_{PCE}$), pc/h | | 0 | | | 729 | | | 1230 | | | 1271 | |
| Capacity ($c$), veh/h | | 0 | | | 715 | | | 1206 | | | 1246 | |
| v/c Ratio (X) | | | | | 0.12 | | | 0.61 | | | 0.15 | |

## Delay and Level of Service

| | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Lane Control Delay (d), s/veh | | | | | 6.3 | | | 10.5 | | | 4.2 | |
| Lane LOS | | F | | | A | | | B | | | A | |
| Lane 95% Queue | | | | | 0.4 | | | 4.3 | | | 0.5 | |
| Approach Delay, s/veh | | | | 6.28 | | | 10.50 | | | 4.15 | | |
| Approach LOS, s/veh | | | | A | | | B | | | A | | |
| Intersection Delay, s/veh | 8.97 | | | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | | | |

Copyright © 2012 University of Florida, All Rights Reserved *HCS 2010*™ 6.41 Roundabouts Generated: 3/18/2013 2:36 PM

# ROUNDABOUT REPORT

| General Information | | Site Information | |
|---|---|---|---|
| Analyst | CSM | Intersection | Cherryvale/Site Access |
| Agency or Co. | LSC | E/W Street Name | Site Access |
| Date Performed | 3/18/2013 | N/S Street Name | Cherryvale |
| Time Period | PM Peak | Analysis Year | 2035 Total |
| Peak Hour Factor | 0.88 | Project ID | LSC #110400 |

Project Description:

## Volume Adjustment and Site Characteristics

| | EB | | | | WB | | | | NB | | | | SB | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | L | T | R | U | L | T | R | U | L | T | R | U | L | T | R | U |
| Number of Lanes (N) | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 1 | 0 | | 0 | 1 | 0 | |
| Lane Assignment | | | | | | | LR | | | | TR | | | | LT | |
| Conflicting Lanes | 1 | | | | 1 | | | | 1 | | | | 1 | | | |
| Volume (V), veh/h | | | | 0 | 13 | | 60 | 0 | | 224 | 18 | 0 | 60 | 719 | | 0 |
| Heavy Veh. Adj. ($f_{HV}$), % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Pedestrians Crossing | 0 | | | | 0 | | | | 0 | | | | 0 | | | |

## Critical and Follow-Up Headway Adjustment

| | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Critical Headway (sec) | 5.1929 | 4.2000 | 5.1929 | 5.1929 | 4.2000 | 5.1929 | 5.1929 | 4.2000 | 5.1929 | 5.1929 | 4.2000 | 5.1929 |
| Follow-Up Headway (sec) | 3.1858 | 2.8000 | 3.1858 | 3.1858 | 2.8000 | 3.1858 | 3.1858 | 2.8000 | 3.1858 | 3.1858 | 2.8000 | 3.1858 |

## Flow Computations

| | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Circulating Flow ($V_c$), pc/h | 918 | | | 260 | | | 70 | | | 15 | | |
| Exiting Flow ($V_{ex}$), pc/h | 90 | | | 0 | | | 329 | | | 848 | | |
| Entry Flow ($V_e$), pc/h | | 0 | | | 85 | | | 280 | | | 903 | |
| Entry Volume veh/h | | | | | 83 | | | 275 | | | 885 | |

## Capacity and v/c Ratios

| | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Capacity ($c_{PCE}$), pc/h | | 0 | | | 1051 | | | 1218 | | | 1271 | |
| Capacity ($c$), veh/h | | 0 | | | 1030 | | | 1194 | | | 1246 | |
| v/c Ratio (X) | | | | | 0.08 | | | 0.23 | | | 0.71 | |

## Delay and Level of Service

| | EB | | | WB | | | NB | | | SB | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Lane Control Delay (d), s/veh | | | | | 4.2 | | | 5.1 | | | 13.2 | |
| Lane LOS | | F | | | A | | | A | | | B | |
| Lane 95% Queue | | | | | 0.3 | | | 0.9 | | | 6.4 | |
| Approach Delay, s/veh | | | | 4.21 | | | 5.06 | | | 13.18 | | |
| Approach LOS, s/veh | | | | A | | | A | | | B | | |
| Intersection Delay, s/veh | 10.79 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |

Copyright © 2012 University of Florida, All Rights Reserved *HCS 2010*™ 6.41 Roundabouts Generated: 3/18/2013 2:39 PM

# APPENDIX C
# Queuing Analyses

## Intersection: 1: Cherryvale Rd. & Arapahoe Rd.

| M | E | E | E | E | | | | | N | N | N | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D | L | T | T | R | L | T | T | TR | L | L | TR | LT |
| M | 10 | | 10 | 0 | | 1 | 1 0 | 1 | 220 | 2 | 1 | |
| A | | | 1 | 11 | 2 | | | | 1 | 1 2 | | 12 |
| | 2 | | 0 | 2 | 0 | 1 | 1 | 12 | 1 | 22 | 111 | |
| L D | | 2 | 2 | | | 10 | 10 | 10 | | | 20 | 2 |
| U T | | | | | | | | | | | | |
| P | | | | | | | | | | | | |
| D | 00 | | | 1 0 | 2 | | | | 0 | 0 | | |
| T | | | | | | | | | | | | |
| P | | | | | | | | | | | | |

## Intersection: 1: Cherryvale Rd. & Arapahoe Rd.

| M |
|---|
| D R |
| M |
| A 1 |
| |
| L D |
| U T |
| P |
| D 100 |
| T |
| P |

## Intersection: 2: Arapahoe Rd. & 62nd St

| M | E | | |
|---|---|---|---|
| D | L | L | R |
| M | | | 1 |
| A | 1 | | |
| | | 22 | 21 |
| L D | | | 2 |
| U T | | | |
| P | | | |
| D | 200 | 200 | |
| T | | | |
| P | | | |

T R

C M

## Intersection: 3: 63 rd St/63rd St & Arapahoe Rd.

| M | E | E | E | | | | | N | N | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| D | L | T | TR | L | T | T | R | L | TR | L | TR |
| M | | | | 2 | 1 | 1 | 1 | | | | |
| A | | 2 | 2 | 2 | 1 | | | | | | 1 |
| | 0 | 1 | 2 | 1 | 1 0 | 10 | 1 | 1 | 2 | 1 | |
| L D | | 0 | 0 | | | | | | | 1 | 1 |
| U T | | | | | | | | | | | |
| P | | | | | | | | | | | |
| D | 100 | | | 100 | | | 100 | 100 | | | |
| T | 0 | 0 | | | 2 | 0 | | | | | |
| P | 0 | 0 | | | 0 | 0 | | | | | |

## Intersection: 4: Cherryvale Rd. & JCC Access

| M | N | | |
|---|---|---|---|
| D | LR | TR | LT |
| M | 0 | 1 | 10 |
| A | | 2 | 1 |
| | 2 | | |
| L D | 0 | 0 | 20 |
| U T | | | |
| P | | | |
| D | | | |
| T | | | |
| P | | | |

## Intersection: 10: Site Access RIRO & Arapahoe Rd.

| M | N |
|---|---|
| D | R |
| M | 2 |
| A | 1 |
| | 1 |
| L D | 1 2 |
| U T | |
| P | |
| D | |
| T | |
| P | |

## Network Summary

| | | |
|---|---|---|
| N | P | 1 |

T R

C M

## Intersection: 1: Cherryvale Rd. & Arapahoe Rd.

| M | E | E | E | E | | | | | | | N | N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D | L | T | T | R | L | T | T | TR | T | T | L | L |
| M | 2 | 2 | 2 2 | 1 | 00 | 2 | 0 | 2 2 | 1 | 1 0 | 1 1 | 1 |
| A | 2 | 10 | 10 | | 22 | | 2 | | 1 | 0 | | |
| | 1 | 1 1 | 201 | 12 | 1 | | 1 | 1 | 221 | 1 | 122 | 1 |
| L D | | 2 0 | 2 0 | | | 22 | 22 | 22 | 2 | 2 | | |
| U T | | | | | | | 1 | 0 | | 0 | | |
| P | | | | | | | 2 | 0 | 11 | 1 | | |
| D | 00 | | | 1 0 | 2 | | | | | | 0 | 0 |
| T | | | 1 | 0 | 0 | 0 | | | | | | |
| P | | | | 0 | 1 | 0 | | | | | | |

## Intersection: 1: Cherryvale Rd. & Arapahoe Rd.

| M | N | | |
|---|---|---|---|
| D | TR | LT | R |
| M | | 1 | 11 |
| A | 2 | | |
| | | 12 | 1 |
| L D | 20 | 2 | |
| U T | | 0 | |
| P | | 0 | |
| D | | | 100 |
| T | | | 0 |
| P | | | 0 |

## Intersection: 2: Arapahoe Rd. & 62nd St

| M | E | | |
|---|---|---|---|
| D | L | L | R |
| M | 0 | | 1 |
| A | | 1 | 2 |
| | 2 | | |
| L D | | 2 | |
| U T | | | |
| P | | | |
| D | 200 | | 200 |
| T | | | |
| P | | | |

T R

C M

## Intersection: 3: 63rd St & Arapahoe Rd.

| M | E | E | E | | | | | N | N | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| D | L | T | TR | L | T | T | R | L | TR | L | TR |
| M | | 12 | 1 | 10 | | 2 | | | 2 | | |
| A | 2 | 0 | | 1 | | 10 | | | | 0 | |
| | | 102 | 12 | | | | | 2 | 22 | | |
| L D | | 1 | 1 | | | | | | 1 | | 22 |
| U T | | | | | | | | | | | |
| P | | | | | | | | | | | |
| D | 100 | | | 100 | | | 100 | 100 | | 200 | |
| T | 0 | 1 | | | 0 | | | | | | |
| P | 0 | 1 | | | 0 | | | | | | |

## Intersection: 4: Cherryvale Rd. & Site Access

| M | | N | |
|---|---|---|---|
| D | LR | TR | LT |
| M | | 2 | |
| A | | | 2 |
| | 21 | | 1 |
| L D | | | 20 |
| U T | | | |
| P | | | |
| D | | | |
| T | | | |
| P | | | |

## Intersection: 5: Site Access RIRO & Arapahoe Rd.

| M | E | | | N |
|---|---|---|---|---|
| D | T | T | T | R |
| M | 1 | 0 | | |
| A | 1 | | | 1 |
| | 10 | | | |
| L D | 2 | | | 22 |
| U T | | | | |
| P | | | | |
| D | | | | |
| T | | | | |
| P | | | | |

## Network Summary

N P 2 1

T R

C M

## Intersection: 1: Cherryvale Rd. & Arapahoe Rd.

| M | E | E | E | E | | | | | N | N | N | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D | L | T | T | R | L | T | T | TR | L | L | TR | LT |
| M | 10 | 1 2 | 1 | | | 2 0 | 2 | 2 | 2 | 2 1 | 1 | |
| A | 1 | | | 1 | | 112 | 1 1 | 110 | 1 | 1 | | 1 |
| | | 11 | 10 | | | 1 | 221 | 1 | 2 1 | 2 | 10 | |
| L D | | 2 | 2 | | | 10 | 10 | 10 | | | 20 | 2 |
| U T | | | | | | | | | | | | |
| P | | | | | | | | | | | | |
| D | 00 | | | 1 0 | 2 | | | | 0 | 0 | | |
| T | | | | | | | | | 0 | 0 | | |
| P | | | | | | | | | 0 | 0 | | |

## Intersection: 1: Cherryvale Rd. & Arapahoe Rd.

| M |
|---|
| D R |
| M |
| A 1 |
| |
| L D |
| U T |
| P |
| D 100 |
| T |
| P |

## Intersection: 2: Arapahoe Rd. & 62nd St

| M | E | | | |
|---|---|---|---|---|
| D | L | TR | L | R |
| M | | | | 1 |
| A | 2 | 0 | | |
| | | | 0 | 2 |
| L D | | 2 | 2 | |
| U T | | | | |
| P | | | | |
| D | 200 | | | 200 |
| T | | | | |
| P | | | | |

T R

C M

## Intersection: 3: 63 rd St/63rd St & Arapahoe Rd.

| M | E | E | E | | | | | N | N | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| D | L | T | TR | L | T | T | R | L | TR | L | TR |
| M | 110 | 1 2 | 1 0 | | 1 | 1 1 | | | | 10 | 11 |
| A | | | 2 | 20 | | | | 1 | 1 | | |
| | 10 | | 102 | | 1 | 12 | | | | 1 | |
| L D | | 2 | 2 | | | | | | | | 1 |
| U T | | | | | | | | | | | |
| P | | | | | | | | | | | |
| D | 100 | | | 100 | | | 100 | 100 | | 200 | |
| T | | 0 | | | | 1 | | 0 | | | |
| P | 1 | 0 | | | 2 | 1 | | 0 | | | |

## Intersection: 4: Cherryvale Rd. & JCC Access

| M | | N | |
|---|---|---|---|
| D | LR | TR | LT |
| M | | 2 | 1 |
| A | 1 | 1 | 1 |
| | | 1 1 | 12 |
| L D | 0 | 0 | 20 |
| U T | | | |
| P | | | |
| D | | | |
| T | | | |
| P | | | |

## Intersection: 10: Site Access RIRO & Arapahoe Rd.

| M | N |
|---|---|
| D | R |
| M | 2 |
| A | 1 |
| | 2 |
| L D | 1 2 |
| U T | |
| P | |
| D | |
| T | |
| P | |

## Network Summary

| | | |
|---|---|---|
| N | P | 1 |

T R

C M

## Intersection: 1: Cherryvale Rd. & Arapahoe Rd.

| M | E | E | E | E | | | | | | | N | N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D | L | T | T | R | L | T | T | TR | T | T | L | L |
| M | | 2 0 | 22 | 21 | 00 | 0 | 2 | 1 | 0 | 2 | 1 | 1 0 |
| A | | 1 | 1 2 | | 2 | | 1 | | 1 0 | | 0 | 10 |
| | | 2 | 2 | 212 | | 0 | | 12 | | 2 | 1 2 | 1 |
| L D | | 2 0 | 2 0 | | | 22 | 22 | 22 | 2 | 2 | | |
| U T | | | | | | 0 | 0 | | 2 | 0 | | |
| P | | | | | | 1 | 1 | | | 1 | | |
| D | 00 | | | 1 0 | 2 | | | | | | 0 | 0 |
| T | | | 2 | 1 | | 0 | | | | | | |
| P | | | 1 | | 22 | 0 | | | | | | |

## Intersection: 1: Cherryvale Rd. & Arapahoe Rd.

| M | N | | |
|---|---|---|---|
| D | TR | LT | R |
| M | 10 | 1 | 12 |
| A | 1 | | |
| | | 1 | 10 |
| L D | 20 | 2 | |
| U T | | | |
| P | | | |
| D | | | 100 |
| T | | | 0 |
| P | | | 0 |

## Intersection: 2: Arapahoe Rd. & 62nd St

| M | E | | | | |
|---|---|---|---|---|---|
| D | L | T | T | L | R |
| M | | 2 | | | |
| A | 11 | 2 | 1 | 1 | 2 |
| | | 20 | 1 | 1 | 0 |
| L D | | 1 | 1 | 2 | |
| U T | | | | | |
| P | | | | | |
| D | 200 | | | | 200 |
| T | | | | | |
| P | | | | | |

T R

C M

## Intersection: 3: 63rd St & Arapahoe Rd.

| M | E | E | E | | | | | N | N | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| D | L | T | TR | L | T | T | R | L | TR | L | TR |
| M | 122 | 1 | 2 | 0 | 1 | 11 | | 0 | 2 | 11 | 1 0 |
| A | | | 0 | 2 | | 2 | 11 | 1 | 1 | | 2 |
| | 102 | 1 | 1 | | 11 | | | | 2 | 10 | |
| L D | | 1 | 1 | | | | | | 1 | | 22 |
| U T | | | | | | | | | | | |
| P | | | | | | | | | | | |
| D | 100 | | | 100 | | | 100 | 100 | | 200 | |
| T | 1 | 2 | | 0 | 1 | 0 | | | | | |
| P | 10 | 2 | | 0 | 1 | 0 | | | | | |

## Intersection: 4: Cherryvale Rd. & Site Access

| M | | N | |
|---|---|---|---|
| D | LR | TR | LT |
| M | | | |
| A | | | |
| | 2 | 1 | 2 |
| L D | | | 20 |
| U T | | | |
| P | | | |
| D | | | |
| T | | | |
| P | | | |

## Intersection: 5: Site Access RIRO & Arapahoe Rd.

| M | | | | | N |
|---|---|---|---|---|---|
| D | T | T | T | T | R |
| M | 10 | 1 | 1 | | 0 |
| A | 0 | | 0 | 2 | 1 |
| | | 2 | 2 | | |
| L D | 22 | | | | 22 |
| U T | | 1 | 0 | | |
| P | | 2 | 0 | | |
| D | | | | | |
| T | | | | | |
| P | | | | | |

## Network Summary

| N | P |
|---|---|

T R

C M

**C I T Y O F B O U L D E R**
**AGENDA ITEM PLANNING BOARD**
**MEETING DATE: October 24, 2013**

**AGENDA TITLE:**
Public hearing for consideration of Site Review application LUR2013-00033 to redevelop the former Boulder County fire training center site into 31 single family homes with a mixture of attached and detached garages. The units are proposed to range from approximately 2,060 to 3,940 square feet in area. The project includes the extension of Zamia Avenue to the east and the construction of 10th Street as a connection from Yellow Pine Avenue to Lee Hill Drive.

Applicant: Coburn Development for Allison Management/Thistle Communities
Property Owner: Boulder County

**REQUESTING DEPARTMENT:**
**Community Planning and Sustainability:**
David Driskell, Executive Director
Susan Richstone, Deputy Director
Charles Ferro, Development Review Manager
Sloane Walbert, Associate Planner

**OBJECTIVE:**
1. Hear applicant and staff presentations
2. Hold public hearing
3. Planning Board discussion
4. Planning Board action to approve, approve with conditions, or deny the Site Review application.

**PROPOSAL AND SITE SUMMARY:**

| | |
|---|---|
| **Proposal:** | Site Review for the proposed development of 31 detached units on 6.2 acres served by new public rights-of-way. The proposal includes modifications to the required setbacks, solar access and open space standards in the Residential - Low 2 (RL-2) zone district. |
| **Project Name:** | 820 Lee Hill Drive Site Review |
| **Location:** | 820 Lee Hill Drive |
| **Zoning:** | Residential - Low 2 (RL-2) |
| **Comprehensive Plan:** | Low Density Residential |

## I. KEY ISSUES

Staff has identified the following key issues to help guide the board's discussion:

1. Is the project consistent with the North Boulder Subcommunity Plan?
2. Is the proposal consistent with the Site Review criteria set forth in section 9-2-14(h), "*Site Review*," B.R.C. 1981?
3. Are the proposed modifications to the setbacks consistent with surrounding neighborhood?
4. Are the architectural and site design consistent with the Site Review criteria in terms of quality and compatibility with the surrounding neighborhood?
5. Do the Solar Access modifications meet the Site Design and Solar Siting criteria for Site Review?

## II. BACKGROUND

The application for Site Review is required pursuant to section 9-2-14(b) because the proposal exceeds 3 acres or 18 dwelling units in the Residential - Low 2 (RL-2) zone district. The applicant has not requested any modifications to the city's land use code that would require a mandatory Planning Board hearing. However, given the level of public interest and amount of change in the area, staff will be referring this site review request to Planning Board for a public hearing and decision.

**Site Context.**
The 6.2 acre site was formerly used as the Boulder County Fire Training Center from 1974 to 2010. A new fire training facility was built near Boulder Reservoir in 2010, and since then, the property has been used as a transportation maintenance facility for the County. The site is still owned by Boulder County, but will be purchased by the applicant following site review. The parcel was annexed as part of the larger North Boulder Annexation in 1990.

As shown in Figure 2, the site is designated as Low Density Residential under the Boulder Valley Comprehensive Plan with an intended density of two to six units per acre. The North Boulder Subcommunity Plan also designates the site as LR: Low Density Residential. In 1997, the proposed density of the site was changed from ER (Estate Density Residential) to LR to more closely match the adjacent established residential densities and zoning to the north, south, and west.

**Figure 1: Birds-Eye View of Existing Context**

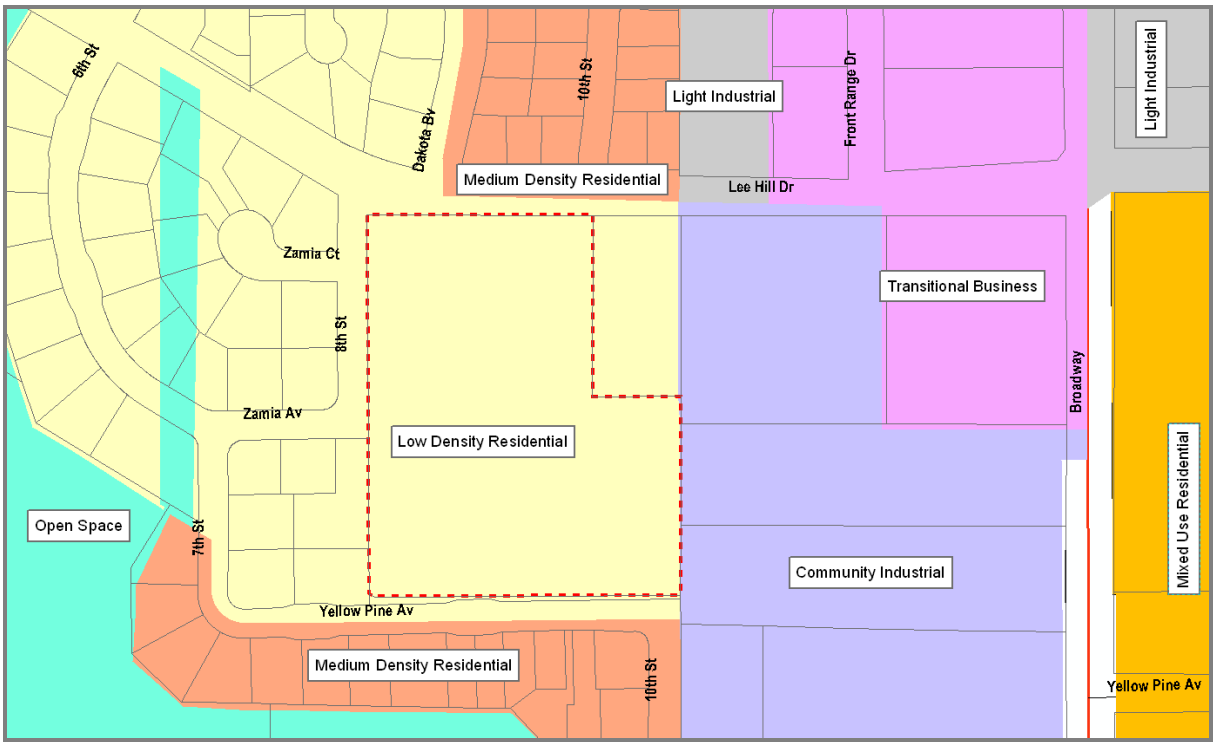



**Figure 2: BVCP Land Use**

As shown in Figure 3, the property is located in a Residential - Low 2 (RL-2) zone district, which is described under section 9-5-2, B.R.C. 1981 as follows, *"medium density residential areas primarily used for small-lot residential development, including, without limitation, duplexes, triplexes or townhouses, where each unit generally has direct access at ground level."*

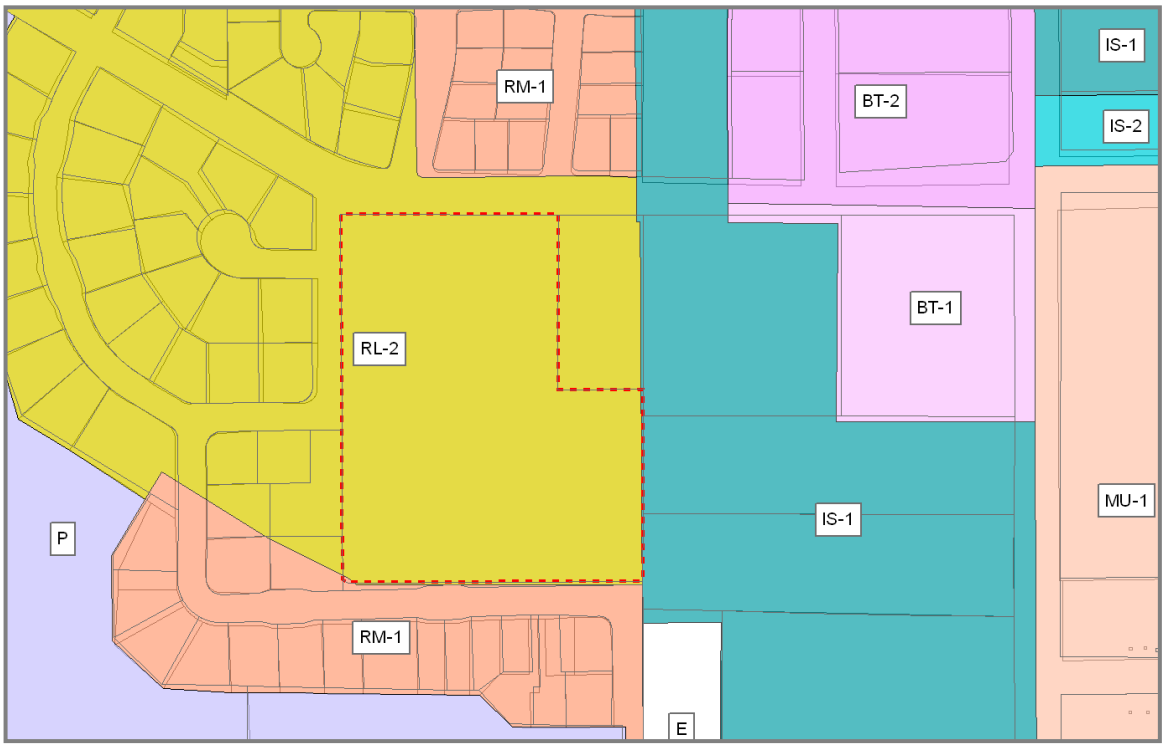



**Figure 3: Zoning**

The architecture of surrounding neighborhoods in general consists of large, traditional style single family homes most representative of construction in the 1990s and early 2000s. The Northbriar Estates subdivision surrounds the site to the west and south. This neighborhood is well-established and is characterized by large single family homes with front loaded attached garages. The homes in Northbriar Estates range from approximately 2,900 to 6,700 square feet in area, including garage space, based on Boulder County Assessor data. Please refer to the image in Figure 4 below, which typifies the general neighborhood character. The Dakota Ridge East and Dakota Ridge West developments are located to the north, across Lee Hill Drive, and are also characterized by single family homes with attached garages. Figure 5 below typifies the area directly across Lee Hill Drive from the site. The homes in Dakota Ridge East and Dakota Ridge West range from approximately 1,770 to 6,060 square feet in area, including garage space, based on Boulder County Assessor data.

**Figure 4: Northbriar Estates to the South**

**Figure 5: Dakota Ridge North across Lee Hill Drive**

Dakota Ridge Village, located north of these developments, is a mixed density residential development with a diversity of housing types, including apartment, townhomes, and single family homes. The subject property is located with easy access to City of Boulder open space to the south and west and Foothills Community Park to the southwest. Also, the site has easy access to commercial and service uses to the east on North Broadway. RTD operates several transit routes on Broadway, including the Skip and 204.

## III. PROPOSAL

The proposal includes redevelopment of the former Boulder County Fire Training Center at Lee Hill Drive, east of 8th Street with 31 single family homes with a mixture of attached and detached garages. The units are proposed to range from approximately 2,060 to 3,940 square feet in area. The project would involve the extension of Zamia Avenue to the east and the construction of 10th Street as a connection from Yellow Pine Avenue to Lee Hill Drive.

### SITE DESIGN

The applicant proposes to redevelop the 6.2 acre property with 31 single family homes on individual lots. The site plan for the proposed development is arranged around a grid street system, with connections to the surrounding street system (see Figure 6 below). The design includes the extension of Zamia Avenue to the east and the construction of 10th Street as a north-south connection between Lee Hill Drive and Yellow Pine Avenue, as required by the North Boulder Subcommunity Plan. The design emphasizes logical, convenient pedestrian connections, high quality, accessible open space, narrow streets and traffic calming features for pedestrians and bicyclists.

The portion of the site north of Zamia Avenue includes seventeen residential lots bisected by a “woonerf,” which is a shared alley for pedestrian and vehicular access. Fifteen of the lots will include one- and two-car detached garages that will be

accessed from the woonerf alley. The woonerf shared street concept allows for low speed, low volume vehicular access and also permits use of the space as an informal recreation area for children's play and other activities. Alley access on this portion of the site will provide a service side to these properties and reduce curb cuts, enhancing the pedestrian experience. The southern portion of the site contains fourteen larger residential lots with driveway access and attached garages, which mirrors a similar pattern of residential development to the west and south. Shared access drives have been used along Yellow Pine Avenue to reduce curb cuts and maximize available on-street parking.

The lots range in size from approximately 4,100 to 7,300 square feet in area. Accordingly, the single family houses planned for the site will be moderately sized and will vary in size from approximately 1,200 square feet to 2,360 square feet in finished floor area, with approximately 864 to 1,578 square feet in unfinished area, including basement and garage space. Smaller lots with smaller home types have been positioned on the interior of the site to provide a relief to increased density from surrounding development. Accordingly, larger lots with larger homes are located on the perimeter of the property to provide a transition to the surrounding residential development.

**Figure 6: Proposed Site Plan, Viewed from the Southeast**

**Open Space.**

The allowable intensity of development in the RL-2 zone district is controlled with a requirement of 6,000 square feet per dwelling unit. There are no restrictions on minimum lot size, floor area ratio, lot area per dwelling unit, or dwelling units per acre in this zoning district. With a total of 31 dwelling units proposed on the site, a minimum of 186,000 square feet of useable open space is required. The applicant is proposing 187,727 square feet of usable open space, an excess of 1,727 square feet.

The proposal includes of a variety of open space areas, including a formal neighborhood park, informal natural area, back yards, and front porches. The formal neighborhood park is planned for the central part of the site at the terminus of the woonerf alley. This space would be used for active recreation with formal elements like a playground and picnic plaza to serve as a focal point and a gathering space in the heart of the neighborhood. A space has been reserved on the east side of the site for a community garden. In addition, an informal open space has been provided on the southeast corner of the site, which will also serve as an area for water quality purposes. The space provides important passive open space for residents, a place for walking the dog, sitting and casual play. Due to the low vehicular volume expected, the woonerf will also be used as an informal recreation area for children's play and other activities, such as court sports or ball games. Private open space is planned for each lot as back yards, front porches, balconies, and decks.

**Access and Parking.**
The parking standards in the RL-2 zoning district require a minimum of one off-street parking space per detached dwelling unit. The site design includes at least a one-car garage for each house, which fulfills this requirement. Additionally, on-street parking is provided on Zamia Avenue, 8th Street, and 10th Street north of Zamia Ave. The proposed street connections fully connect existing internal streets and provide direct access to Lee Hill Road. The western edge of North Boulder is a wildfire high hazard zone and 10th Street will serve as an important connection and excavation route for residents in the event of a wildfire. The existing multi-use path on the west side of the site is continued to the north along 8th Street to connect to existing bicycle routes.

**Architecture and Building Design.**
The proposed project represents a modestly-scaled, infill development with homes that are neo-traditional in design with front porches, gabled roofs, and orientation toward the street. There is variety in building design but the proposed architectural character utilizes varying roof pitches and layout features consistent with that of the surrounding neighborhoods. The design includes the use of cement board lap siding and hardcoat stucco as primary materials with the use of accent materials like standing seam metal roofing accents, brick, wood porches, and metal railings. A pedestrian level of detailing, including railings, porch detailing and other architectural elements, are given prominence. The proposal includes the addition of both detached and attached garages. Where garages are attached, they are setback and do not dominate the front façade. The applicant has proposed a variety of color choices, each of which relates to the surrounding natural environment (see applicant's color and material board included in **Attachment A**). Each home is expected to use one or two body colors and a contrasting trim color. While the proposed development is more contemporary in nature, the project is compatible with the area in terms of colors, materials, and building orientation.

The single family homes are modestly sized and will range from approximately 1,200 square feet to 2,900 square feet in above-grade floor area (excluding detached garages). All homes also include an unfinished basement that will range from approximately 600 square feet to 1,050 square feet, with the option for a finished basement at purchase. The majority of the homes are proposed as pedestrian-scaled, two story structures and the height of the homes range from under 29 feet to 35 feet; all homes will be below the permitted 35 feet for the zoning district. Three of the homes are proposed to be 3-stories in height, excluding a basement, and require modifications to the solar access standards. These homes are proposed to be located on the interior of the site and allow the applicant to provide a variety of building forms. The consistency and compatibility of the proposed architectural and site design is further discussed in the key issues section.

**Inclusionary Housing**
The proposed project generates an inclusionary requirement of 6.2 affordable units. At this time, the applicant has indicated that either six affordable units will be provided on-site or they will make a cash-in-lieu contribution to the affordable housing fund.

**REQUESTED MODIFICATIONS**
The proposal includes the following requested modifications to the development standards, as permitted through the site review process (section 9-2-14(c)). Please see the key issues analysis below for more information regarding requested setback and solar access modifications.

**Setback Modifications pursuant section 9-7, "Form and Bulk Standards," B.R.C. 1981:**

1. Section 9-7-1: Minimum front yard landscape setback on Lots 7, 8, 9, and 10 as follows, where 20-feet is required:
    a. Lot 7 – 13' 6"
    b. Lot 8 – 12' 8"
    c. Lot 9 – 12' 7 ½"

d. Lot 10 – 12' 7 ½"

2. Section 9-7-1: Minimum side yard setback from an interior lot line on Lots 1, 2, 3, 4, 5, 6, 7, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, and 31, to permit a minimum of 5 feet with no increased setback based on height.
3. Section 9-7-1: Minimum rear yard setback on Lots 7, 8, 9, and 10 as follows, where 20-feet is required:
   a. Lot 7 – 9' 7 ½"
   b. Lot 8 – 13' 3"
   c. Lot 9 – 10' 6"
   d. Lot 10 – 10' 0"
4. Section 9-7-1: Minimum front yard setback for accessory buildings on Lots 8 and 9 as follows, where 55-feet is required:
   a. Lot 8 – 52' 2 5/16"
   b. Lot 9 – 52' 1 13/16"

**Solar Access Modification pursuant section 9-9-17, "Solar Access."B.R.C. 1981:**
Section 9-9-17: Solar access to allow shading by proposed homes on Lots 13, 14, and 15 to a greater degree than the adjacent lot would be shaded by a solar fence twenty-five feet in height.

**Open Space Modifications pursuant section 9-9-11, "Useable Open Space, "B.R.C. 1981:**

1. Section 9-9-11(f)(4): Request to include landscape areas within the public right-of-way to count for no more than 10 percent of the required open space.
2. Aggregation of open space across the site as permitted in RL-2 zoning through site review.

## IV. PROJECT HISTORY

**Previous Reviews and Neighborhood Meetings.**
The proposed residential development was reviewed as a Concept Plan at the April 4, 2013 Planning Board hearing. The packet for this meeting can be found here. Generally, the Board was supportive of the proposed design and concept. Minutes from that meeting can be found here. The applicant organized a neighborhood meeting on May 6, 2013 to gather input on the site design prior to submitting for site review. In response to suggestions by staff, Planning Board and neighborhood comments, the applicant made the following key changes to the proposal:

- 10th Street has been extended through the east side of the site to connect to Yellow Pine Avenue, which provides better street connectivity and access to homes on Yellow Pine Avenue.
- Larger home models with larger lots have been moved to the south and west sides of the site, to act as a transition to the existing neighborhood.
- Shared access drives have been added for the majority of homes on Yellow Pine Avenue to reduce curb cuts and congestion and maximize available on-street parking.
- 8th Street has been widened to accommodate on-street parking and the planned multi-use path connection, which results in the removal of a distinctive row of pine and juniper street trees. Planning Board and the neighborhood expressed an interest in preserving these trees. However, it has been determined by staff that it is important to provide on-street parking and construct the multi-use path in this location. The update to the streetscape will include the planting of tree species better suited as urban street trees. The existing trees would have to be

significantly pruned to accommodate on-street parking and it is unclear whether they would survive the grading required for site preparation.

- The number of units proposed was reduced from 33 to 31 in order to meet open space requirements and to accommodate necessary right-of-way connections.
- The informal natural open space has been expanded on the southeast corner of the site. The informal open space creates an interface with the existing neighborhood to the south and provides a relief to the density.

## V. KEY ISSUES

Staff has identified the following key issues and provided a detailed analysis to supplement the attached analysis of the site review criteria.

### 1. Is the project consistent with the North Boulder Subcommunity Plan (NBSP)?

In general, the proposed concept addresses the goals and policies expressed in the North Boulder Subcommunity Plan. The proposed redevelopment is a logical extension to an existing neighborhood and presents opportunities for attractive single family homes along with additional open space and pedestrian linkages that benefits the surrounding neighborhoods.

Goals and Objectives.
The goals found in the NBSP state that new neighborhoods should be designed by taking into account the need for more affordable housing, walking distance to transit and park facilities, connections to existing and future pedestrian and bike path systems, and the scale and positive architectural attributes of adjacent housing. The development will fill an important gap in North Boulder's housing stock by providing moderately sized homes in moderate income brackets. The site has easy access to public transit, bike and pedestrian corridors, and open space. In addition, the design includes frequent and convenient connections for pedestrians and bicyclists, which link to the city-wide system. See key issue #4 below for analysis regarding compatibility with area's architectural character.

Page 9 of the NBSP defines the objectives for future development in the North Boulder Subcommunity. In general, the development is consistent with the following objectives for residential areas:

- Connections are provided to the larger community and the site design integrates into the existing network of streets. The transportation network promotes the use of alternate modes of transportation and the site has easy access to public transit, bike and pedestrian corridors.
- The proposed design has an appropriate house size to lot size ratio.
- The site design and proposed homes are compatible with the surrounding context. While the proposed development is more contemporary, the project is compatible with the area in terms of colors, materials, and building orientation.
- The project provides smaller homes in comparison to the larger single family houses that surround it, providing a diversity of housing types. There are a variety of housing and lot sizes that contribute to overall diversity in housing types, sizes, and price ranges.

Development Guidelines.
The subject property is within the Lee Hill Road Area of the North Boulder Subcommunity Plan. The project is subject to the Development Guidelines for All Neighborhoods and guidelines specific to the Lee Hill Road Area on page 11 of the NBSP.

In general, the development is consistent with the following guidelines as discussed below:

- Site plan includes tree-lined streets that are pleasant for all modes of travel.
- Houses are positioned so that front doors and front yards face the street. Where attached garages face the street they are setback from the front facade of the home.
- Contains a variety of building designs that include human scale features such as porches and railings.
- Site is designed so that the fronts of buildings and lots face the street and one another, and backs face one another.
- Compatible building types face one another across streets. Larger home models are used along Yellow Pine Avenue to mimic larger homes located across the street.
- Includes well-placed pedestrian and bicycle trails that connect to neighborhood amenities, including parks and trails.
- Homes are positioned close to the street to create a more pedestrian friendly atmosphere. The applicant has requested front yard setback modifications on four lots.
- The project provides smaller homes in comparison to the larger single family houses that surround it, contributing to a diversity of housing types, sizes, and price ranges.
- The site plan encourages walking, biking, and transit by providing safe, comfortable and convenient connections.
- Design includes small blocks and narrow streets to better serve pedestrians and to help calm traffic.
- An alley is used on the north end of the site to reduce curb cuts and sidewalk interruptions.

Transportation.
The NBSP emphasizes the importance of an integrated network of streets to create more path options for motorists and users of alternate travel modes. The development guidelines for the Lee Hill Area include the provision that new developments should include transportation connections that "fully connect internal streets and provide direct access to Lee Hill Road and Broadway (page 11). The provision of 10th Street through the east side of the site to Yellow Pine Avenue and the continuation of Zamia Avenue to the east significantly benefits the local street network. The east portion of the city's open space to the south has been reserved for the extension of 10th Street, to be constructed when the adjacent properties develop. The North Boulder Subcommunity Plan calls for a "Village Center" concept near the intersection of Broadway and Violet. The extension of 10th Street was planned to better connect the residential areas to the north (Dakota Ridge, Northbriar, etc.) to the neighborhood center as part of improved overall connectivity in the area. Per the guidelines, the site design continues a traditional gridded street pattern and streets are designed as multi-purpose public spaces where automobiles are physically separated from and made subordinate to bicyclists and pedestrians.

**2. Is the proposal consistent with the Site Review criteria set forth in section 9-2-14(h), "*Site Review*," B.R.C. 1981?**

Yes, as required in the criteria, the project is compatible, contextual, well scaled, and includes the provision high-quality housing. The proposed development is consistent with its surroundings as an infill project. The proposal follows traditional design and layout concepts and contains elements which provide for the safety and convenience of the pedestrian. For a more complete consistency analysis please refer to the site review criteria checklist in **Attachment B**. In addition, there are specific criteria that are analyzed for project consistency as key issues below, among them setbacks, architectural and site design consistency, and solar encroachment.

**3. Are the proposed modifications to the setbacks consistent with surrounding neighborhood?**

The proposed site design requires modifications to the front yard and rear yard landscape setbacks on four lots that front on Zamia Avenue, side yard setback from an interior lot line on 28 lots, and front yard setback for an accessory building on two lots. The allowable intensity of development in the RL-2 zone district is controlled by the minimum open space per dwelling

unit of 6,000 square feet per dwelling unit. There are no restrictions on minimum lot size, floor area ratio, lot area per dwelling unit, or dwelling units per acre in this zoning district. No other form and bulk or intensity standards are being requested as part of this proposal. While the proposed project represents a comparatively dense project, the proposed setback modifications are consistent with the surrounding neighborhood. The applicant is interested in providing single family homes rather than duplex or tri-plex units to fill an important gap in the housing market and to ensure compatibility with the surrounding neighborhoods. The proposed setback modifications allow the applicant to achieve the desired density for the site, per the land use designation and zoning, while providing an important housing choice. The modifications also allow the applicant to provide high quality common open space, which can be used by the community at large.

The proposed setback modifications for the four front yards along Zamia Avenue do not result in negative impacts, rather they enhance the interaction of the buildings' front porches with the street. Three of these homes would not have a reduced side-yard setback and therefore will not increase the perceived density on these lots. Two of these lots (Lots 8 and 9) also require a modification to the minimum front yard setback for accessory buildings for the detached garage that will be accessed from the woonerf alley. This variance allows for an improved design that reduces curb-cuts and provides a service side to the property.

Due to the configuration of the street grid the majority of the lots are fairly narrow with expansive back yards. Reduced side yard setbacks on Lots 1-6 and 11-31 allow for proportionally sized homes and is in keeping with surrounding development. The Northbriar Estates Planned Unit Development to the south allowed for a zero setback between attached dwelling units in cases where the side yard opposite the zero setbacks is 7.5-feet. The proposed development will require a minimum of 10-feet between homes, which meets the minimum fire separate required in the building code. The Dakota Ridge East and Dakota Ridge West developments to the north were approved for side yard setback modifications that allow for a 5-foot minimum, similar to the applicant's request.

**4. Are the architectural and site design consistent with the Site Review criteria in terms of quality and compatibility with the surrounding neighborhood?**

The site review criteria state that the proposed "building height, mass, scale, orientation, architecture and configuration are compatible with the existing character of the area or the character established by adopted design guidelines or plans for the area." The objectives for residential areas and development guidelines for neighborhoods within the North Boulder Subcommunity Plan (NBSP) also emphasize compatibility. One of the main objectives in the NBSP was to support appropriate house size to lot size ratio and limit the construction of big houses on small lots.

While more contemporary in design compared to the surrounding developments, the proposed project is compatible with the surrounding area in terms of colors, materials, and building orientation and meets the site review criteria related to building design. The building orientation follows a traditional pattern where houses and porches face the street. The architecture of the homes has traditional elements with a contemporary style, similar to other new single family developments in North Boulder, including 1000 Rosewood and Yarmouth Way. The homes are modestly sized and include front porches, gabled roofs, and a pedestrian level of detailing. The design includes the use of cement board lap siding and hardcoat stucco as the primary materials with the use of accent materials like standing seam metal roofing accents, brick, wood porches, and metal railings (see Figures 7 and 8 below).

The proposed building architecture, while more contemporary in nature, draws from a similar building material palette as the surrounding development, where cement or fiber board lap siding, brick and stucco are prevalent (see Figures 9-12 below). The architecture of immediate surrounding neighborhoods consists mainly of large suburban style, front loaded single family homes most representative of construction in the 1990s and early 2000s. The proposed architectural character utilizes varied roof pitches and finish materials consistent with that of the surrounding neighborhoods. For a more complete consistency analysis please refer to the site review criteria checklist in **Attachment B**.

## PROPOSED BUILDING DESIGN

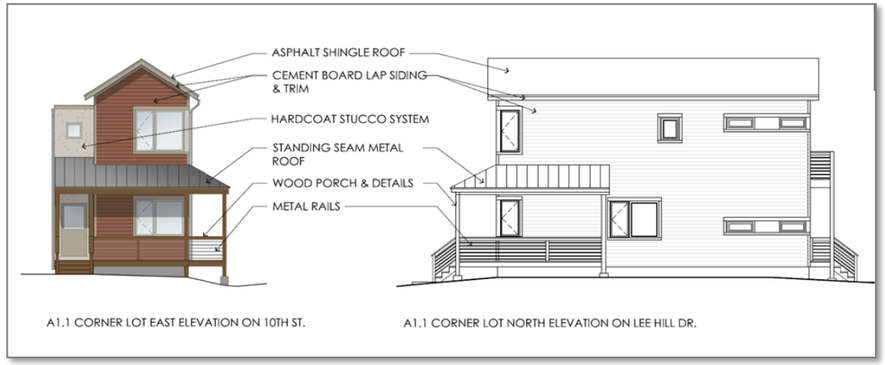



**Figure 7: Proposed Building Design**

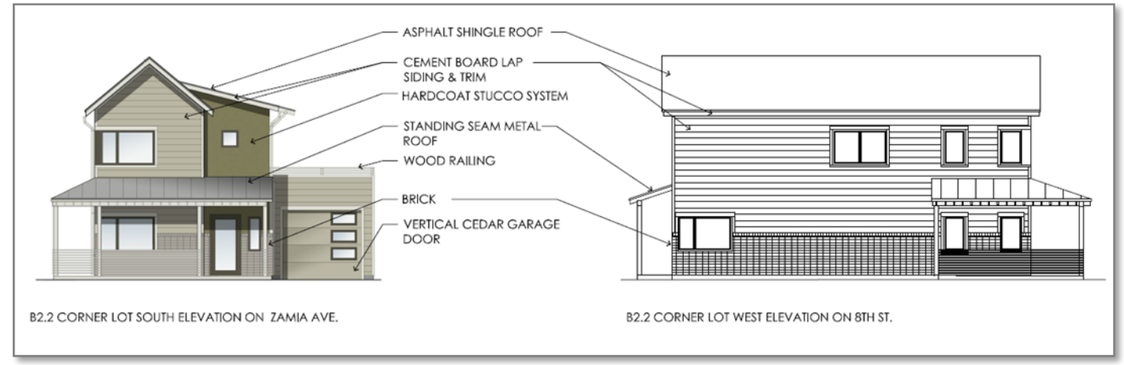



**Figure 8: Proposed Building Design**

## CONTEXTUAL EXAMPLES

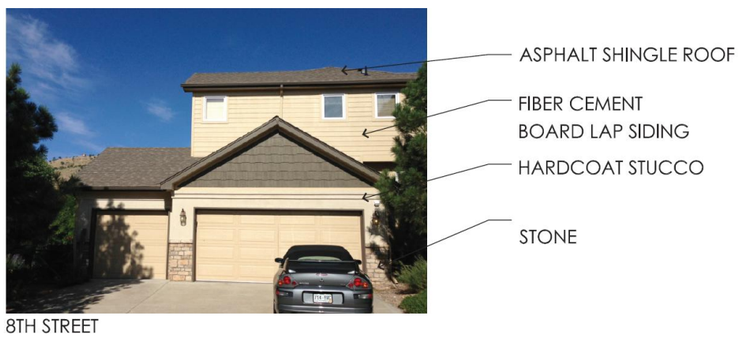



**Figure 9: Northbriar Estates, 8th Street**

**Figure 10: Northbriar Estates, Yellow Pine Ave.**

**Figure 11: Dakota Ridge East, 10th Street**

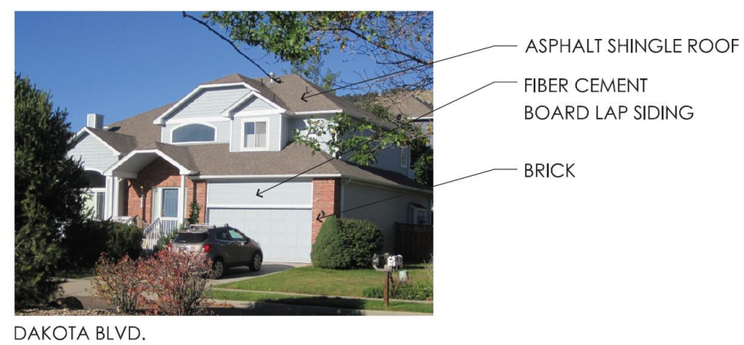



**Figure 12: Dakota Ridge East, Dakota Blvd.**

**5. Do the Solar Access modifications meet the Site Design and Solar Siting criteria for Site Review?**

The site and the surrounding neighborhoods are located within Solar Access Area II, defined under the land use code in section 9-9-17(c)(2), B.R.C. 1981 as follows:

> *"Solar Access Area II is designed to protect solar access principally for rooftops in areas where, because of planned density, topography or lot configuration or orientation, the preponderance of lots therein currently enjoy such access and where solar access of this nature would not unduly restrict permissible development. SA Area II includes all property in RL-2, RM, MU-1, MU-3, RMX, RH-1, RH-2, RH-3, RH-4, RH-5 and I zoning districts."*

The applicant is proposing three homes on the north side of the site that would produce encroachments beyond the hypothetical 25 foot solar fence shadow of adjacent properties. The structures will not exceed the permitted height for the zoning district. The solar access regulations are designed to regulate structures and vegetation on property, to the extent necessary to ensure access to solar energy. The intent is to ensure that solar heating and cooling of buildings, solar heated hot water, and solar generated electricity can provide a significant contribution to the city's energy supply.

Under the land use code, per section 9-9-17(d)(B), B.R.C.,1981,

> *"No person shall erect an object or structure on any other lot that would shade a protected lot in SA Area II to a greater degree than the lot would be shaded by a solar fence twenty-five feet in height, between two hours before and two hours after local solar noon on a clear winter solstice day (Dec. 21, the shortest day of the year)."*

While building walls are not the principal area intended to be protected in Solar Access Area II, encroachments into the neighboring property must either be approved through a solar exception or modified in site review. In site review, the solar access requirements are considered as one of the factors in determining whether the site design criterion is met. As shown Figure 13 below, the winter shadows cast at 10 a.m., 12 p.m., and 2 p.m. on the winter solstice, Dec. 21st, would not encroach onto the rooftops of the future buildings. The hypothetical solar fence establishes a reasonable envelope or area of protection within which actual building shadows should be contained.

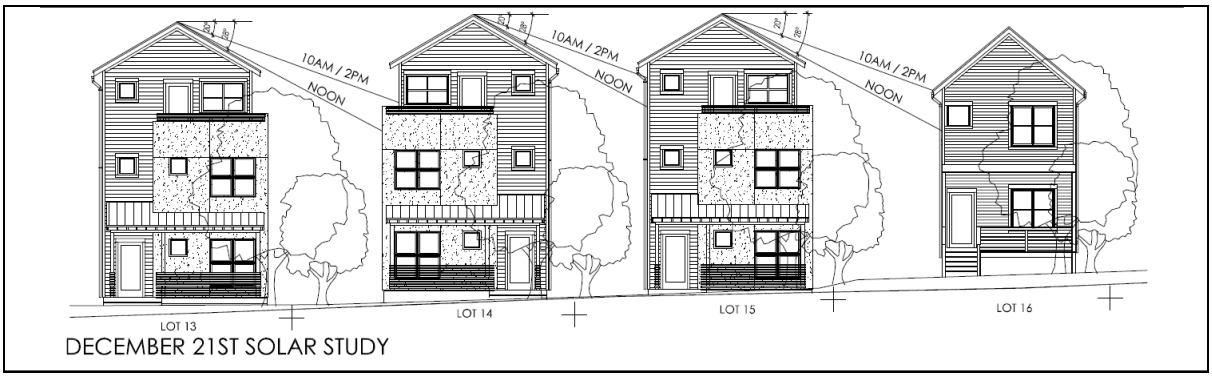



**Figure 13: Shadows Cast on Winter Solstice**

As noted in the Background section, the land use designation and zoning call for medium density small-lot residential development on the property. The shape of the site and configuration of the existing street grid means that the lots on the north side of the site are long and narrow, resulting in several encroachments onto future building wall faces (see applicant's Solar Analysis included in **Attachment A**). Staff finds that due to a lack of rooftop shadow impacts, overall the project meets the site design criterion and is consistent with the site review criteria. The requested modifications allow for an improved site layout and diversity of home types.

## VI. PUBLIC COMMENT AND PROCESS

Required public notice was given in the form of written notification mailed to all property owners within 600 feet of the project site and a sign posted on the property for at least 10 days. All notice requirements of section 9-4-3, B.R.C. 1981 have been met.

In response to the public notice, and to date, several comments have been received. Generally, the comments that have been received express concerns regarding:

- The site plan is insular and creates a neighborhood within a neighborhood, with all public spaces and paths effectively closed off to the surrounding neighborhood;
- Provision of the two small parks is not functional for the surrounding neighborhood;
- Expanded informal open space with water quality and detention pond is not functional and could become a gathering place for vagrants;
- Perceived density, the proposed homes are too close together;
- Requested setback modifications create a safety hazard because side yard setbacks help to reduce the risk of fire spreading from one home to another;
- Color scheme, architecture, and building materials are not compatible with surrounding neighborhood;
- The recent flood would have severely damaged homes on lots 18 and 31 on the southwest side of the property (and perhaps lots 19 and 30 as well), the park space should be relocated to this area to serve as mitigation;
- One-car garages do not provide enough parking to accommodate residents and visitors.

Refer to **Attachment C** for the public comments received regarding the Site Review submittal.

## VII. FINDINGS AND RECOMMENDATION

Planning staff finds that the proposed application for Site Review meets the Site Review criteria found in section 9-2-14(h), B.R.C., 1981. Therefore, staff recommends that Planning Board approve Site Review #LUR2013-00033 incorporating this staff memorandum and the attached Site Review Criteria Checklist as findings of fact, and subject to the following recommended conditions of approval.

### RECOMMENDED CONDITIONS OF APPROVAL

*Conditions provided herein are draft only and are subject to change.*

1. The Applicant shall ensure that the **development shall be in compliance with all approved plans** dated _____ on file in the City of Boulder Planning Department, except to the extent that the development may be modified by the conditions of this approval.

2. The Applicant shall **comply with all previous conditions** contained in any previous approvals, except to the extent that any previous conditions may be modified by this approval, including, but not limited to, the following:

   a. Annexation Ordinance #5355 recorded at Film No. 1655, Reception No. 1079937;

b. Ordinance #5392 (to amend Annexation Ordinance #5355) recorded at Film No. 1655, Reception No. 1103103; and

c. Annexation Agreement recorded at Reception No. 1088243.

3. Prior to building permit, the Applicant shall submit a Technical Document Review application for the following items, subject to the approval of the City Manager:

a. **Final architectural plans**, including material samples and colors, to insure compliance with the intent of this approval and compatibility with the surrounding area. The architectural intent shown on the approved plans dated _____ is acceptable. Planning staff will review plans to assure that the architectural intent is performed.

b. A **final site plan** which illustrates the approved final site configuration.

c. A **final utility plan** meeting the City of Boulder Design and Construction Standards.

d. A **final storm water report and plan** meeting the City of Boulder Design and Construction Standards.

e. **Final transportation plans** meeting the City of Boulder Design and Construction Standards and CDOT Access Code Standards, for all transportation improvements. These plans must include, but are not limited to: street plan and profile drawings, street cross-sectional drawings, retaining wall plan and profile drawings, signage and striping plans in conformance with Manual on Uniform Traffic Control Devices (MUTCD) standards, street lighting plan, transportation detail drawings, retaining wall detail drawings, geotechnical soils report, and pavement design report. The retaining wall on the east side of 10th Street must be entirely contained on the property or within an easement meeting the requirements of section 9-9-10, "Easements," B.R.C. 1981.

f. A **detailed landscape plan**, including size, quantity, and type of plants existing and proposed; type and quality of non-living landscaping materials; any site grading proposed; and any irrigation system proposed, to insure compliance with this approval and the City's landscaping requirements. Removal of trees must receive prior approval of the Planning Department. Removal of any tree in City right of way must also receive prior approval of the City Forester.

g. A **detailed outdoor lighting plan** showing location, size, and intensity of illumination units, indicating compliance with section 9-9-16, B.R.C.1981.

h. A **detailed shadow analysis** to insure compliance with the City's solar access requirements of section 9-9-17, B.R.C. 1981, for all lots that have not received modifications to the solar access standards through site review.

4. Prior to a building permit application, the **Applicant shall subdivide the property** in accordance with chapter 9-12, "Subdivision," B.R.C. 1981, and execute a subdivision agreement which provides for the dedication of public right-of-way and easements and the construction of all public improvements necessary to serve the Property as shown on the approved plans including, but not limited to the following:

a. The dedication, to the City, in fee, of the following:

i. A **60-foot right-of-way** dedication for Zamia Avenue between the east and west property boundaries.

ii. A **41.5-foot right-of-way** dedication for 10th Street north of Zamia Avenue.

iii. A **34-foot right-of-way** dedication for 10th Street south of Zamia Avenue.

iv. The additional **right-of-way** required for all curb, gutter, and asphalt pavement along Lee Hill Drive, to be dedicated to 1-foot behind the back of the curb.

b. The dedication, to the City, of the following easements:

i. An approximately **12-foot wide public access easement** from the right-of-way line for Lee Hill Drive to one (1) foot behind the multi-use path.

ii. A **12-foot wide public access easement** for the 10-foot multi-use path on the east side of 8th Street.

iii. A **20-foot wide public access easement** through the north side of the site for the woonerf alley.

iv. Three **30-foot wide public access easements** for the shared driveways along Yellow Pine Avenue, on the south side of the site.

v. A **20-foot wide drainage easement** that crosses Lots 25, 26, 27, 28, 29, 30, and 31 for drainage swales on the south side of the site.

vi. A **20-foot wide drainage easement** that crosses Lots 13, 14, 15, 16, and 17 for drainage swales on the northeast side of the site.

c. A **financial guarantee** in the form of an escrow of funds with City, a letter of credit, or other financial guarantee that is acceptable to the City Manager to secure the installation of the following public improvements serving the site in conformance with the approved engineering plans and with the City of Boulder Design and Construction Standards. Additional requirements not presently identified may be required during the subdivision process.

i. The widening of **8th Street** to provide a 30-foot flow-line to flow-line pavement section.

ii. An approximate **7-foot 10-inch landscape strip and 10-foot detached multi-use path** on the east side of 8th Street.

iii. The construction of the **Zamia Avenue cross-section**, as shown on the approved plans.

iv. The construction of the **10th Street cross-section**, as shown on the approved site plans.

v. A **5-foot detached sidewalk** along Lee Hill Drive, where the existing curb cut will be closed.

vi. A **5-foot detached sidewalk** along the north side of Yellow Pine Avenue.

vii. A **10-foot detached multi-use path** along Lee Hill Drive, as shown on the approved site plans.

viii. The extension of the **water line and sewer main** within the Zamia Avenue right-of-way.

ix. The extension of the **water line and sewer main** within the 10th Street right-of-way, north of Zamia Avenue.

d. The construction of the following **private improvements**:

i. A **water quality pond, retaining wall, outlet structure, and overflow weir on** the southeastern corner of the property.

5. Prior to a building permit application, the Applicant shall **demonstrate compliance with Subsection 9-9-10(c), "Structures in Private Easement," B.R.C. 1981.**

6. Prior to a building permit application, the Applicant shall submit a **financial guarantee**, in a form acceptable to the Director of Public Works, in an amount equal to the cost of providing eco-passes to the residents of the development for three years after the issuance of a certificate of occupancy as proposed in the Applicant's Transportation Demand Management (TDM) plan.

Approved By:

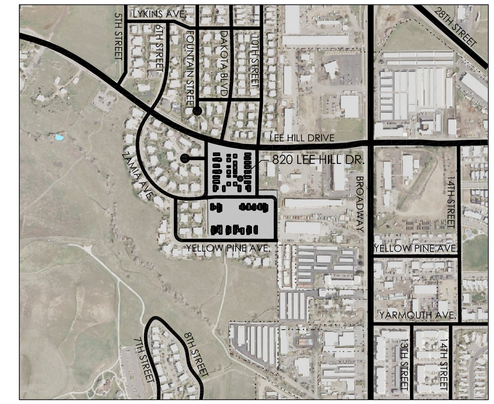
David Driskell, Executive Director
Department of Community Planning and Sustainability

**ATTACHMENTS:**

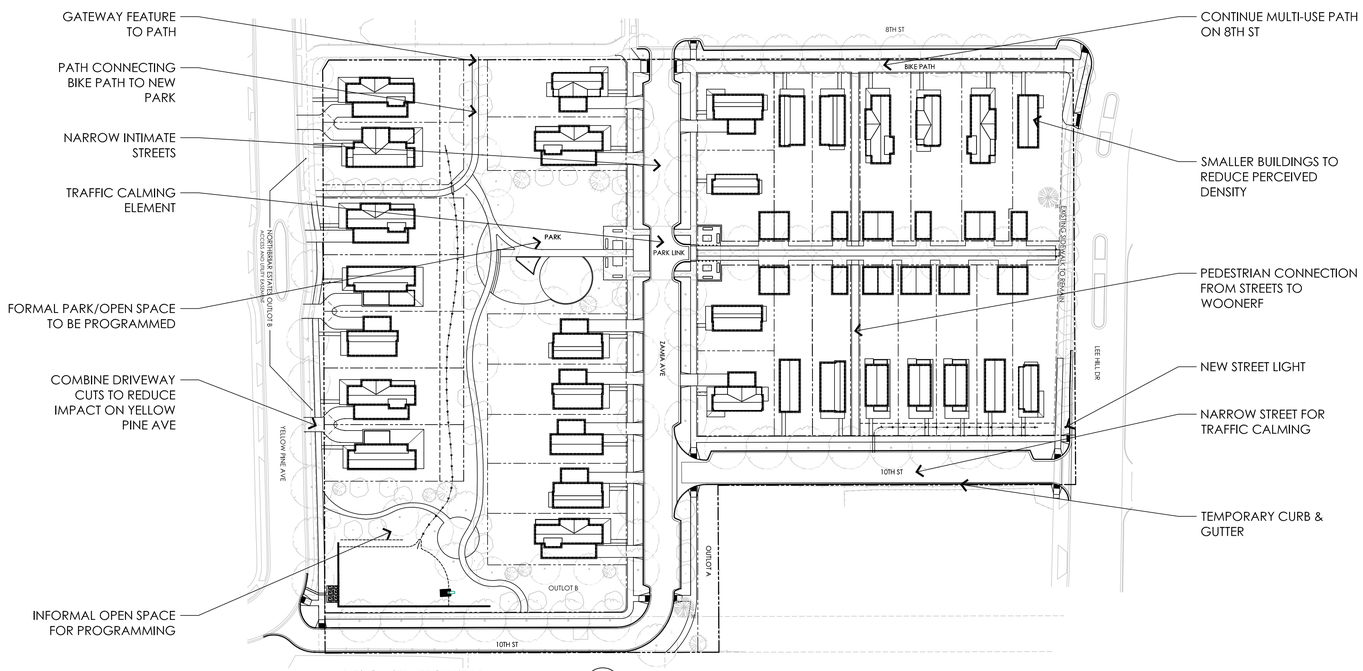
Attachment A: Link to Applicant Plans and Written Statement
Attachment B: Site Review Criteria
Attachment C: Neighborhood Comments
Attachment D: Development Review Comments and Responses

# 820 LEE HILL DRIVE: SITE REVIEW

COBURN ARCHITECTURE




VICINITY MAP
SCALE: NTS




DESIGN STRATEGY KEY PLAN
SCALE: 1" = 60'-0"

## Project Information

### Owner:

Thistle Communities / Allison Management, LLC
1845 Folsom Street
Boulder, CO 80302
p: 303-443-0007

### Applicant:

Coburn Development
3020 Carbon Place # 203
Boulder, Colorado
p: 303-442-3351
f: 303-447-3933

### Project Information:

| | |
|---|---|
| Parcel Area: | 271,097 SF (6.224 acres) |
| Current Zoning: | RL-2 |
| Proposed Use: | Residential |
| Proposed Units Per Acre: | 4.98 |
| Proposed FAR: | .19 |

## Drawing Index


| | |
|---|---|
| SR-1 | Project Information & Vicinity Map |
| SR-2 | Site Development Plan |
| SR-3 | Shadow Analysis & Open Space Diagrams |
| SR-4 | Architectural Plans & Elevations |
| SR-5 | Architectural Plans & Elevations |
| SR-6 | Architectural Plans & Elevations |
| SR-7 | Architectural Plans & Elevations |
| SR-8 | Street Elevations |
| LP-1 | Landscape Site Plan |
| LP-2 | Landscape Planting Plan |
| LP-3 | Landscape Planting Plan Enlargement |
| LP-4 | Landscape Notes & Details |
| C1.0 | Preliminary Drainage & Grading Plan |
| C2.0 | Preliminary Utility Plan |


SITE REVIEW CORRECTIONS

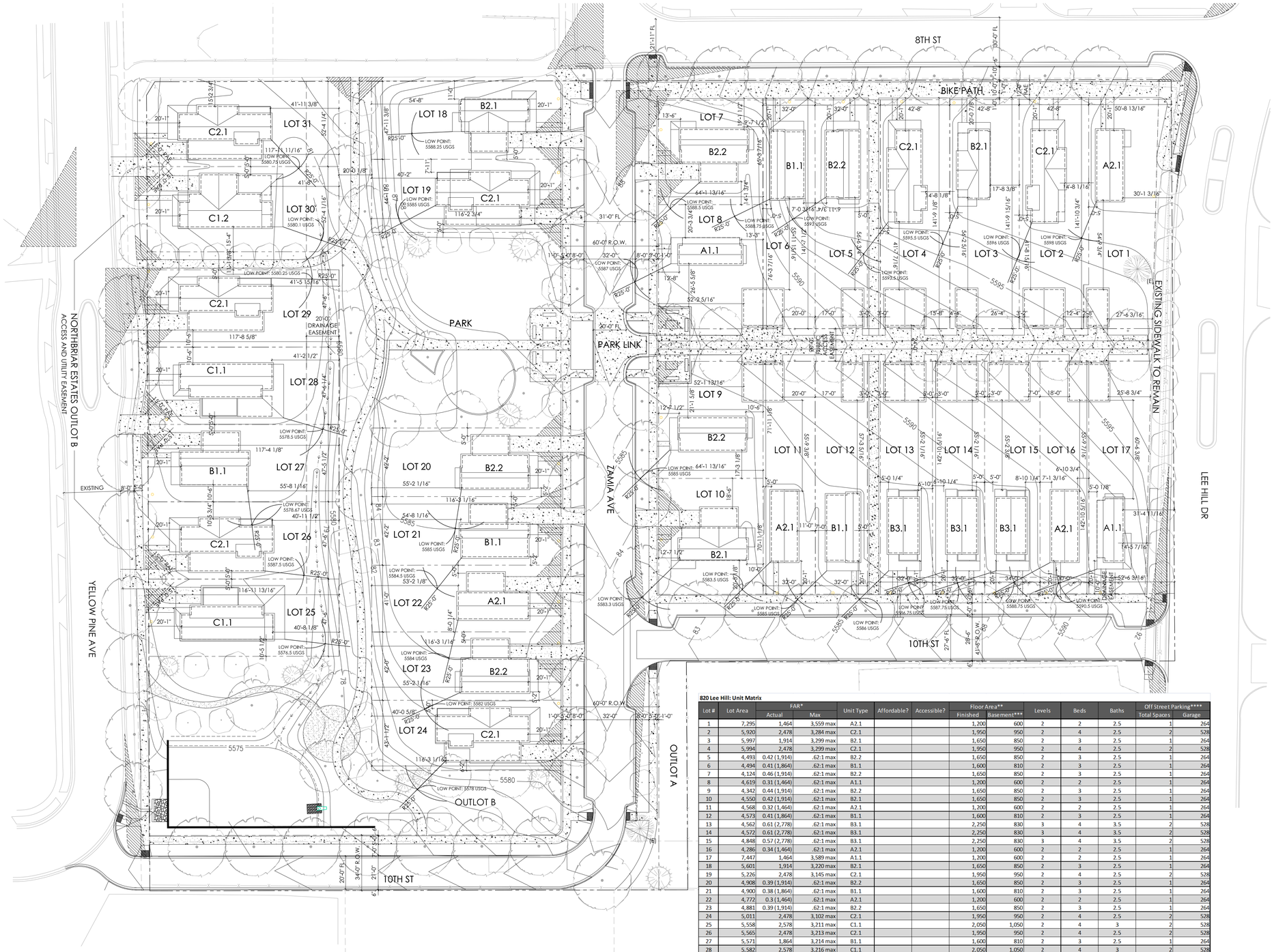
SR-1

10.01.13

820 LEE HILL DRIVE

BOULDER, COLORADO

Planners · Designers · Builders
3020 Carbon Place # 203
Boulder, CO 80301
303-442-3351
coburndev.com




SITE DEVELOPMENT PLAN

SCALE: 1" = 30'-0"

| REQUESTED SETBACK MODIFICATIONS | | | |
|---|---|---|---|
| SECTION 9-7-1 REQUIREMENTS | REQUIRED | PROPOSED | |
| MINIMUM FRONT YARD LANDSCAPED SETBACK | 20' | LOT 7 | 13'-6" |
| | | LOT 8 | 12'-8" |
| | | LOT 9 | 12'-7 1/2" |
| | | LOT 10 | 12'-7 1/2" |
| MINIMUM REAR YARD SETBACK | 20' | LOT 7 | 9'-7 1/2" |
| | | LOT 8 | 13'-3" |
| | | LOT 9 | 10'-6" |
| | | LOT 10 | 10'-0" |
| MINIMUM INTERIOR LOT LINE SETBACK | 1' PER 2' BLDG HT., 5' MIN. | | |
| | | 17'-6" | LOT 1 | 5'-0" MIN. |
| | | 15'-9" | LOT 2 | 5'-0" MIN. |
| | | 16'-0" | LOT 3 | 5'-0" MIN. |
| | | 16'-0" | LOT 4 | 5'-0" MIN. |
| | | 16'-0" | LOT 5 | 5'-0" MIN. |
| | | 17'-0" | LOT 6 | 5'-0" MIN. |
| | | 16'-6" | LOT 7 | 5'-0" MIN. |
| | | 16'-6" | LOT 11 | 5'-0" MIN. |
| | | 15'-4" | LOT 12 | 5'-0" MIN. |
| | | 17'-6" | LOT 13 | 5'-0" MIN. |
| | | 17'-6" | LOT 14 | 5'-0" MIN. |
| | | 17'-6" | LOT 15 | 5'-0" MIN. |
| | | 16'-9" | LOT 16 | 5'-0" MIN. |
| | | 15'-6" | LOT 17 | 5'-0" MIN. |
| | | 15'-6" | LOT 18 | 5'-0" MIN. |
| | | 16'-6" | LOT 19 | 5'-0" MIN. |
| | | 15'-9" | LOT 20 | 5'-0" MIN. |
| | | 16'-0" | LOT 21 | 5'-0" MIN. |
| | | 17'-3" | LOT 22 | 5'-0" MIN. |
| | | 17'-0" | LOT 23 | 5'-0" MIN. |
| | | 17'-3" | LOT 24 | 5'-0" MIN. |
| | | 15'-3" | LOT 25 | 5'-0" MIN. |
| | | 14'-6" | LOT 26 | 5'-0" MIN. |
| | | 15'-0" | LOT 27 | 5'-0" MIN. |
| | | 15'-6" | LOT 28 | 5'-0" MIN. |
| | | 15'-0" | LOT 29 | 5'-0" MIN. |
| | | 16'-0" | LOT 30 | 5'-0" MIN. |
| | | 15'-0" | LOT 31 | 5'-0" MIN. |
| MINIMUM FRONT YARD ACCESSORY SETBACK | 55' | LOT 8 | 52'-2 1/4" |
| | 55' | LOT 9 | 52'-1 3/4" |

*FRONT PORCHES WILL COMPLY WITH BRC 9-7-4 "SETBACKS FOR FRONT PORCHES"

**820 Lee Hill: Unit Matrix**

| Lot # | Lot Area | FAR* Actual | FAR* Max | Unit Type | Affordable? | Accessible? | Floor Area** Finished | Floor Area** Basement*** | Levels | Beds | Baths | Off Street Parking**** Total Spaces | Off Street Parking**** Garage |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 7,295 | 1,464 | 3,559 max | A2.1 | | | 1,200 | 600 | 2 | 2 | 2.5 | 1 | 264 |
| 2 | 5,920 | 2,478 | 3,284 max | C2.1 | | | 1,950 | 950 | 2 | 4 | 2.5 | 2 | 528 |
| 3 | 5,997 | 1,914 | 3,299 max | B2.1 | | | 1,650 | 850 | 2 | 3 | 2.5 | 1 | 264 |
| 4 | 5,994 | 2,478 | 3,299 max | C2.1 | | | 1,950 | 950 | 2 | 4 | 2.5 | 2 | 528 |
| 5 | 4,493 | 0.42 (1,914) | .62:1 max | B2.2 | | | 1,650 | 850 | 2 | 3 | 2.5 | 1 | 264 |
| 6 | 4,494 | 0.41 (1,864) | .62:1 max | B1.1 | | | 1,600 | 810 | 2 | 3 | 2.5 | 1 | 264 |
| 7 | 4,124 | 0.46 (1,914) | .62:1 max | B2.2 | | | 1,650 | 850 | 2 | 3 | 2.5 | 1 | 264 |
| 8 | 4,619 | 0.31 (1,464) | .62:1 max | A1.1 | | | 1,200 | 600 | 2 | 2 | 2.5 | 1 | 264 |
| 9 | 4,342 | 0.44 (1,914) | .62:1 max | B2.2 | | | 1,650 | 850 | 2 | 3 | 2.5 | 1 | 264 |
| 10 | 4,550 | 0.42 (1,914) | .62:1 max | B2.1 | | | 1,650 | 850 | 2 | 3 | 2.5 | 1 | 264 |
| 11 | 4,568 | 0.32 (1,464) | .62:1 max | A2.1 | | | 1,200 | 600 | 2 | 2 | 2.5 | 1 | 264 |
| 12 | 4,573 | 0.41 (1,864) | .62:1 max | B1.1 | | | 1,600 | 810 | 2 | 3 | 2.5 | 1 | 264 |
| 13 | 4,562 | 0.61 (2,778) | .62:1 max | B3.1 | | | 2,250 | 830 | 3 | 4 | 3.5 | 2 | 528 |
| 14 | 4,572 | 0.61 (2,778) | .62:1 max | B3.1 | | | 2,250 | 830 | 3 | 4 | 3.5 | 2 | 528 |
| 15 | 4,848 | 0.57 (2,778) | .62:1 max | B3.1 | | | 2,250 | 830 | 3 | 4 | 3.5 | 2 | 528 |
| 16 | 4,286 | 0.34 (1,464) | .62:1 max | A2.1 | | | 1,200 | 600 | 2 | 2 | 2.5 | 1 | 264 |
| 17 | 7,447 | 1,464 | 3,589 max | A1.1 | | | 1,200 | 600 | 2 | 2 | 2.5 | 1 | 264 |
| 18 | 5,601 | 1,914 | 3,220 max | B2.1 | | | 1,650 | 850 | 2 | 3 | 2.5 | 1 | 264 |
| 19 | 5,226 | 2,478 | 3,145 max | C2.1 | | | 1,950 | 950 | 2 | 4 | 2.5 | 2 | 528 |
| 20 | 4,908 | 0.39 (1,914) | .62:1 max | B2.2 | | | 1,650 | 850 | 2 | 3 | 2.5 | 1 | 264 |
| 21 | 4,900 | 0.38 (1,864) | .62:1 max | B1.1 | | | 1,600 | 810 | 2 | 3 | 2.5 | 1 | 264 |
| 22 | 4,772 | 0.3 (1,464) | .62:1 max | A2.1 | | | 1,200 | 600 | 2 | 2 | 2.5 | 1 | 264 |
| 23 | 4,881 | 0.39 (1,914) | .62:1 max | B2.2 | | | 1,650 | 850 | 2 | 3 | 2.5 | 1 | 264 |
| 24 | 5,011 | 2,478 | 3,102 max | C2.1 | | | 1,950 | 950 | 2 | 4 | 2.5 | 2 | 528 |
| 25 | 5,558 | 2,578 | 3,211 max | C1.1 | | | 2,050 | 1,050 | 2 | 4 | 3 | 2 | 528 |
| 26 | 5,565 | 2,478 | 3,213 max | C2.1 | | | 1,950 | 950 | 2 | 4 | 2.5 | 2 | 528 |
| 27 | 5,571 | 1,864 | 3,214 max | B1.1 | | | 1,600 | 810 | 2 | 3 | 2.5 | 1 | 264 |
| 28 | 5,582 | 2,578 | 3,216 max | C1.1 | | | 2,050 | 1,050 | 2 | 4 | 3 | 2 | 528 |
| 29 | 5,591 | 2,478 | 3,218 max | C2.1 | | | 1,950 | 950 | 2 | 4 | 2.5 | 2 | 528 |
| 30 | 6,089 | 2,888 | 3,318 max | C1.2 | | | 2,360 | 1,050 | 2 | 5 | 4 | 2 | 528 |
| 31 | 6,174 | 2,478 | 3,335 max | C2.1 | | | 1,950 | 950 | 2 | 4 | 2.5 | 2 | 528 |
| Total: | 162,113 | | | | TBD | TBD | 53,660 | 25,930 | | | | 44 | 11,616 |

* FAR calculated per BRC Table 8-3. Lots <5,000 SF (Max FAR= 0.62:1). Lots 5,000 to 10,000 SF (Max FAR= (Lot Size x 0.2) + 2,100)

**Unit sizes may vary by +/- 15%

*** Basements are optional finish

****All units have either an attached or detached 1 or 2 car garage included in total number of parking spaces

SITE REVIEW CORRECTIONS

SR-2

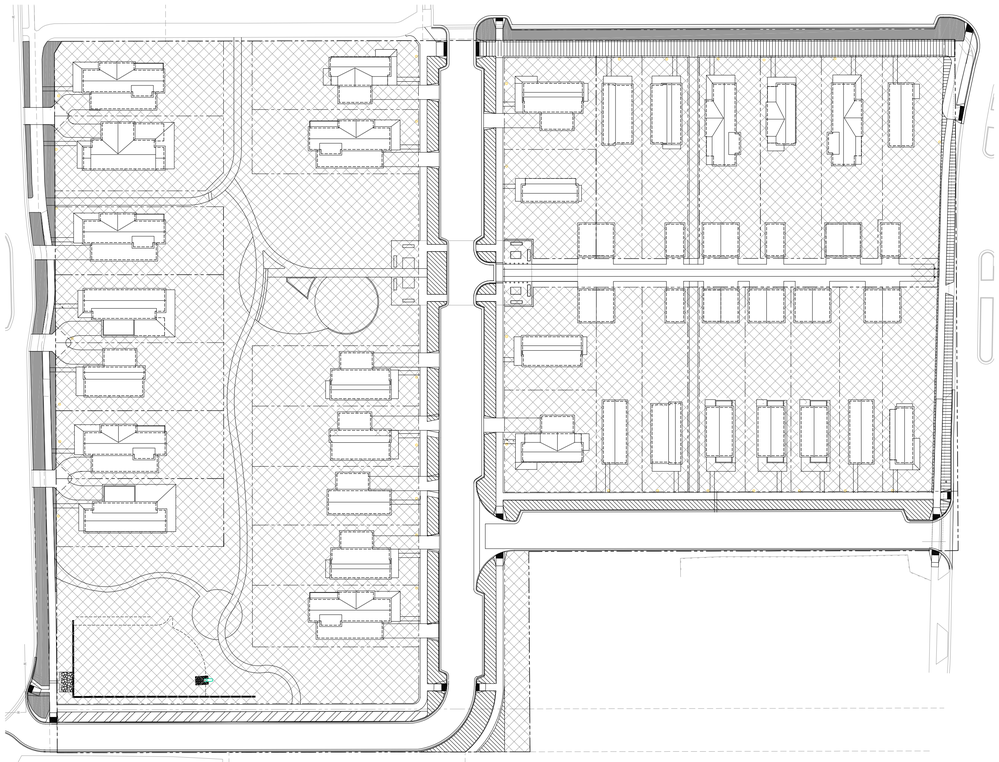
10.01.13

820 LEE HILL DRIVE

BOULDER, COLORADO

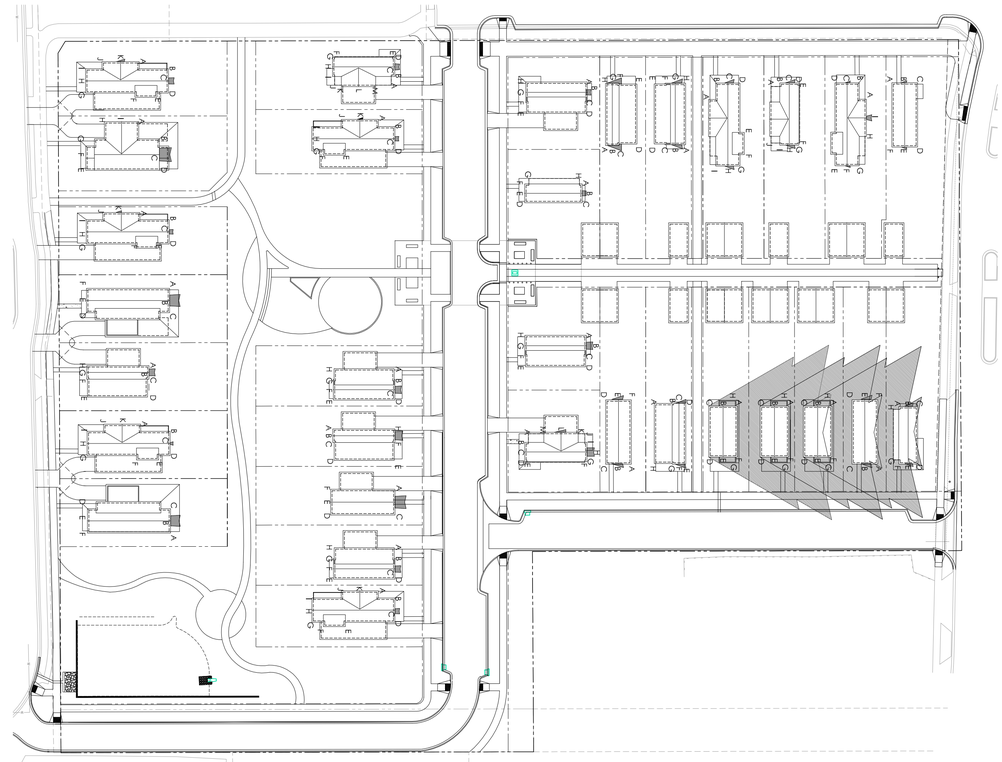
COBURN ARCHITECTURE

Planners · Designers · Builders
3020 Carbon Place # 203
Boulder, CO 80301
303-442-3351
coburndev.com



OPEN SPACE DIAGRAM

SCALE: 1" = 50'-0"



SOLAR ANALYSIS DIAGRAM

SCALE: 1" = 50'-0"

COBURN ARCHITECTURE

## OPEN SPACE SUMMARY

| TYPE | TOTAL AREA | PERCENTAGE ALLOWED TOWARDS REQUIRED OPEN SPACE | OPEN SPACE COUNTED |
|---|---|---|---|
| TOTAL LOT AREA | 271,097 SF | | |
| REQUIRED OPEN SPACE | 31 HOMES X 6,000 SF = **186,000 SF** | | |
| OPEN SPACE WITHIN ROW (ZAMIA & 10TH) | 9,552 SF | | |
| OPEN SPACE WITHIN 10TH EXTENSION PAE | 1,796 SF | | |
| OPEN SPACE IN PAE ON LEE HILL | 1,807 SF | 20,665 SF TOTAL 10% OF 186,000 SF = 18,600 SF | 18,600 SF |
| OPEN SPACE IN ROW ON YELLOW PINE | 4,407 | | |
| OPEN SPACE IN ROW ON 8TH STREET | 2,711 | | |
| OPEN SPACE IN SHARED DRIVE PAE | 392 | | |
| MULTI USE PATH PAE ON 8TH STREET | 3,844 SF | 0% | |
| *PRIVATE PORCHES / BALCONIES | 6,984 SF | 25% OF 186,000 SF = 46,500 SF | 6,984 SF |
| **TOTAL BUILDING & GARAGE FOOTPRINTS | 37,921.5 SF | | |
| OPEN SPACE OUTSIDE OF ROW & PAE | 162,143 SF | 100% | 162,143 SF |
| | | TOTAL: | 187,727 SF |

*PRIVATE BALCONIES, DECKS AND PATIOS TO BE NOT LESS THAN 36 SF AND NOT LESS THAN 48" IN ANY DIMENSION. BALCONIES, DECKS, OR PATIO AREAS CONSTRUCTED OVER AN ENCLOSED BUILDING ARE NOT TO BE COUNTED PER BRC 9-9-11(I)(B)(B). FRONT PORCHES WILL COMPLY WITH BRC 9-7-4 "SETBACKS FOR FRONT PORCHES".
**FLOOR AREA PER UNIT MAY VARY +/- 15% AND THEREFORE FOOTPRINTS MAY VARY PROPORTIONALLY AS WELL.

KEY:

- OPEN SPACE
- OPEN SPACE IN R.O.W.
- PUBLIC ACCESS EASEMENT OPEN SPACE - LEE HILL
- PUBLIC ACCESS EASEMENT OPEN SPACE - 8TH STREET
- PUBLIC ACCESS EASEMENT OPEN SPACE - 10TH STREET EXTENSION
- OPEN SPACE IN R.O.W. ON YELLOW PINE & 8TH

## SOLAR ANALYSIS WORKSHEET

**Property Zone District: RL-2**

**LOT 13** — **Solar Fence Height** 0

| Roof Element | Step 1: Elevation of Building Element (x) (relative to USGS or datum) | Step 2: Elevation of Grade at Property Line (y)* 10:00 AM | 12:00 PM | 2:00 PM | Step 3: Relative Height of Building Element (h)** 10:00 AM | 12:00 PM | 2:00 PM | Step 4: Length of Shadow (L)*** 10:00 AM | 12:00 PM | 2:00 PM |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 5615 | 5588.4 | 5588.25 | 5588.2 | 26.6 | 26.75 | 26.8 | 70.5 | 53.5 | 71 |
| B | 5621 | 5588.8 | 5588.25 | 5588.2 | 32.2 | 32.75 | 32.8 | 85.3 | 65.5 | 86.9 |
| C | 5615 | 5588.2 | 5588.25 | 5588.2 | 25.8 | 26.75 | 26.8 | 68.4 | 53.5 | 71 |
| D | 5615 | 5588.2 | 5588.05 | 5587.5 | 26.8 | 26.95 | 27.5 | 71 | 53.9 | 72.9 |
| E | 5621 | 5588.1 | 5588.05 | 5587.9 | 32.9 | 32.95 | 33.1 | 87.2 | 65.9 | 87.7 |
| F | 5615 | 5588.1 | 5588.05 | 5588 | 26.9 | 26.95 | 27 | 71.3 | 53.9 | 71.6 |
| G | 5610 | 5588.05 | 5588 | 5587.9 | 21.95 | 22 | 22.1 | 58.2 | 44 | 58.6 |
| H | 5610 | 5588.8 | 5588.5 | 5588.3 | 21.2 | 21.5 | 21.7 | 56.2 | 43. | 57.5 |

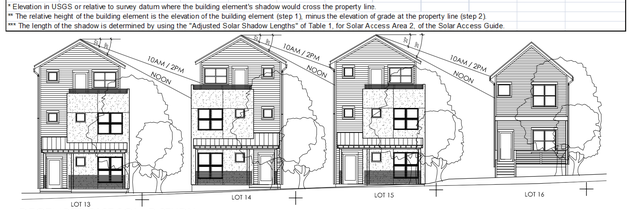
**LOT 14** — **Solar Fence Height** 0

| Roof Element | Step 1: Elevation of Building Element (x) (relative to USGS or datum) | Step 2: Elevation of Grade at Property Line (y)* 10:00 AM | 12:00 PM | 2:00 PM | Step 3: Relative Height of Building Element (h)** 10:00 AM | 12:00 PM | 2:00 PM | Step 4: Length of Shadow (L)*** 10:00 AM | 12:00 PM | 2:00 PM |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 5615.75 | 5588.1 | 5589.1 | 5589.1 | 26.65 | 26.65 | 26.65 | 70.6 | 53.3 | 70.6 |
| B | 5621.75 | 5589.6 | 5589.1 | 5589.05 | 32.15 | 32.65 | 32.7 | 85.2 | 65.3 | 86.7 |
| C | 5615.75 | 5590.1 | 5589.1 | 5589 | 25.65 | 26.65 | 26.75 | 68 | 53.3 | 70.9 |
| D | 5615.75 | 5589 | 5588.9 | 5588.58 | 26.75 | 26.85 | 27.17 | 70.9 | 53.7 | 72 |
| E | 5621.75 | 5589 | 5588.9 | 5588.9 | 32.75 | 32.85 | 32.85 | 86.8 | 65.7 | 87.1 |
| F | 5615.75 | 5588.9 | 5588.9 | 5588.9 | 26.85 | 26.85 | 26.85 | 71.2 | 53.7 | 71.2 |
| G | 5610.75 | 5588.9 | 5588.9 | 5588.9 | 21.85 | 21.85 | 21.85 | 57.9 | 43.7 | 57.9 |
| H | 5610.75 | 5589.6 | 5589.4 | 5589.1 | 21.15 | 21.35 | 21.65 | 56. | 42.7 | 57.4 |

**LOT 15** — **Solar Fence Height** 0

| Roof Element | Step 1: Elevation of Building Element (x) (relative to USGS or datum) | Step 2: Elevation of Grade at Property Line (y)* 10:00 AM | 12:00 PM | 2:00 PM | Step 3: Relative Height of Building Element (h)** 10:00 AM | 12:00 PM | 2:00 PM | Step 4: Length of Shadow (L)*** 10:00 AM | 12:00 PM | 2:00 PM |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 5616.75 | 5591.1 | 5591.1 | 5591.1 | 25.65 | 25.65 | 25.65 | 68 | 51.3 | 68. |
| B | 5622.75 | 5591.2 | 5591.1 | 5591.1 | 31.55 | 31.65 | 31.65 | 83.6 | 63.3 | 83.9 |
| C | 5616.75 | 5591.4 | 5591.1 | 5591.1 | 25.35 | 25.65 | 25.65 | 67.2 | 51.3 | 68. |
| D | 5616.75 | 5591.1 | 5591.1 | 5589.8 | 25.65 | 25.65 | 26.95 | 68 | 51.3 | 71.4 |
| E | 5622.75 | 5591.1 | 5591.1 | 5590.8 | 31.65 | 31.65 | 31.95 | 83.9 | 63.3 | 84.7 |
| F | 5616.75 | 5591.1 | 5591.1 | 5591.1 | 25.65 | 25.65 | 25.65 | 68 | 51.3 | 68. |
| G | 5611.75 | 5591.1 | 5591.1 | 5591 | 20.65 | 20.65 | 20.75 | 54.7 | 41.3 | 55. |
| H | 5611.75 | 5591.2 | 5591.1 | 5591.1 | 20.55 | 20.65 | 20.65 | 54.5 | 41.3 | 54.7 |

* Elevation in USGS or relative to survey datum where the building element's shadow would cross the property line.
** The relative height of the building element is the elevation of the building element (step 1) minus the elevation of grade at the property line (step 2).
*** The length of the shadow is determined by using the "Adjusted Solar Shadow Lengths" of Table 1, for Solar Access Area 2, of the Solar Access Guide.




DECEMBER 21ST SOLAR STUDY

SHADOW ANALYSIS TABLE: FROM TABLE 1 ACCESS AREA II

SHADOW ANALYSIS HAS BEEN DONE ONLY FOR BUILDINGS WITH ROOF ELEMENTS AT ELEVATIONS GREATER THAN 20' ABOVE GRADE. THERE IS NO ANALYSIS DONE FOR GARAGES.

| LOT NUMBER (FFE) | ROOF ELEMENT | HEIGHT ABOVE GRADE | SHADOW LENGTH 10 AM | NOON | 2 PM |
|---|---|---|---|---|---|
| LOT 1 | A | 24.9' | NA | NA | NA |
| | B | 26.1' | 2.87' | 2.2' | 2.87' |
| | C | 24.9' | NA | NA | NA |
| | D | 24.9' | NA | NA | NA |
| | E | 26.1' | 2.87' | 2.2' | 2.87' |
| | F | 24.9' | NA | NA | NA |
| LOT 2 | A | 19.13' | NA | NA | NA |
| | B | 18.95' | NA | NA | NA |
| | C | 26.04' | 2.7' | 2.1' | 2.7' |
| | D | 18.95' | NA | NA | NA |
| | E | 18.95' | NA | NA | NA |
| | F | 26.04' | 2.7' | 2.1' | 2.7' |
| | G | 18.95' | NA | NA | NA |
| | H | 19.13' | NA | NA | NA |
| | I | 25.63' | 4.3' | 3.26' | 4.3' |
| LOT 3 | A | 21.34' | NA | NA | NA |
| | B | 22.28' | NA | NA | NA |
| | C | 26.82' | 4.8' | 3.64' | 4.8' |
| | D | 22.28' | NA | NA | NA |
| | E | 21.34' | NA | NA | NA |
| | F | 21.34' | NA | NA | NA |
| | G | 22.28' | NA | NA | NA |
| | H | 26.82' | 4.8' | 3.64' | 4.8' |
| | I | 22.28' | NA | NA | NA |
| | J | 21.34' | NA | NA | NA |
| LOT 4 | A | 20.0' | NA | NA | NA |
| | B | 19.85' | NA | NA | NA |
| | C | 26.94' | 5.1' | 3.9' | 5.1' |
| | D | 19.85' | NA | NA | NA |
| | E | 22.47' | NA | NA | NA |
| | F | 22.47' | NA | NA | NA |
| | G | 19.85' | NA | NA | NA |
| | H | 26.94' | 5.1' | 3.9' | 5.1' |
| | I | 19.85' | NA | NA | NA |
| LOT 5 | A | 21.34' | NA | NA | NA |
| | B | 27.24' | 5.92' | 4.62' | 5.92' |
| | C | 21.34' | NA | NA | NA |
| | D | 21.34' | NA | NA | NA |
| | E | 21.34' | NA | NA | NA |
| | F | 21.34' | NA | NA | NA |
| | G | 27.24' | 5.92' | 4.62' | 5.92' |
| | H | 21.34' | NA | NA | NA |
| LOT 6 | A | 23.85' | NA | NA | NA |
| | B | 27.81' | 7.4' | 6.1' | 7.4' |
| | C | 23.85' | NA | NA | NA |
| | D | 21.69' | NA | NA | NA |
| | E | 21.69' | NA | NA | NA |
| | F | 23.85' | NA | NA | NA |
| | G | 27.81' | 7.4' | 6.1' | 7.4' |
| | H | 23.85' | NA | NA | NA |
| LOT 7 | A | 20.40' | NA | NA | NA |
| | B | 26.49' | 3.9' | 2.9' | 3.9' |
| | C | 20.40' | NA | NA | NA |
| | D | 20.40' | NA | NA | NA |
| | E | 20.40' | NA | NA | NA |
| | F | 20.40' | NA | NA | NA |
| | G | 26.49' | 3.9' | 2.9' | 3.9' |
| | H | 20.40' | NA | NA | NA |
| LOT 8 | A | 21.78' | NA | NA | NA |
| | B | 26.23' | 3.2' | 2.46' | 3.2' |
| | C | 21.78' | NA | NA | NA |
| | D | 21.78' | NA | NA | NA |
| | E | 26.23' | 3.2' | 2.46' | 3.2' |
| | F | 21.78' | NA | NA | NA |
| | G | 20.48' | NA | NA | NA |
| | H | 20.48' | NA | NA | NA |
| LOT 9 | A | 20.87' | NA | NA | NA |
| | B | 27' | 5.3' | 4.0' | 5.3' |
| | C | 20.87' | NA | NA | NA |
| | D | 20.87' | NA | NA | NA |
| | E | 20.87' | NA | NA | NA |
| | F | 20.87' | NA | NA | NA |
| | G | 27'-0' | 5.3' | 4.0' | 5.3' |
| | H | 20.87' | NA | NA | NA |
| LOT 10 | A | 21.54 | NA | NA | NA |
| | B | 22.49' | NA | NA | NA |
| | C | 26.96 | 5.9' | 4.6 | 5.9' |
| | D | 22.49 | NA | NA | NA |
| | E | 21.54 | NA | NA | NA |
| | F | 21.54 | NA | NA | NA |
| | G | 22.49 | NA | NA | NA |
| | H | 26.96' | 5.9' | 4.6 | 5.9' |
| | I | 22.49 | NA | NA | NA |
| | J | 21.54 | NA | NA | NA |
| | K | 22.49 | NA | NA | NA |
| | L | 26.48 | 3.9' | 3.0' | 3.9' |
| | M | 22.49 | NA | NA | NA |
| LOT 11 | A | 20.38 | NA | NA | NA |
| | B | 27.0' | 5.3' | 4.0' | 5.3' |
| | C | 20.38 | NA | NA | NA |
| | D | 20.38 | NA | NA | NA |
| | E | 27.0' | 5.3' | 4.0' | 5.3' |
| | F | 20.38 | NA | NA | NA |
| LOT 12 | A | 21.03 | NA | NA | NA |
| | B | 23.19' | NA | NA | NA |
| | C | 27.15 | 5.9' | 4.3 | 5.9' |
| | D | 23.19' | NA | NA | NA |
| | E | 23.19 | NA | NA | NA |
| | F | 27.15 | 5.9' | 4.3 | 5.9' |
| | G | 23.19' | NA | NA | NA |
| | H | 21.03 | NA | NA | NA |
| LOT 16 | A | 19.58' | NA | NA | NA |
| | B | 27.19' | 5.8' | 4.4' | 5.8' |
| | C | 19.58 | NA | NA | NA |
| | D | 19.58' | NA | NA | NA |
| | E | 27.19' | 5.8' | 4.4' | 5.8' |
| | F | 19.58' | NA | NA | NA |
| LOT 17 | A | 22.08' | NA | NA | NA |
| | B | 26.54 | 4.1' | 3.1 | 4.1' |
| | C | 22.08 | NA | NA | NA |
| | D | 22.08' | NA | NA | NA |
| | E | 26.54' | 4.1' | 3.1 | 4.1' |
| | F | 22.08 | NA | NA | NA |
| | G | 20.78 | NA | NA | NA |
| | H | 20.78 | NA | NA | NA |
| LOT 18 | A | 21.04 | NA | NA | NA |
| | B | 21.98 | NA | NA | NA |
| | C | 26.46' | 3.8 | 2.9' | 3.8 |
| | D | 21.98 | NA | NA | NA |
| | E | 21.04 | NA | NA | NA |
| | F | 21.04 | NA | NA | NA |
| | G | 21.98 | NA | NA | NA |
| | H | 26.46 | 3.8 | 2.9' | 3.8 |
| | I | 21.98 | NA | NA | NA |
| | J | 21.04 | NA | NA | NA |
| | K | 21.46 | NA | NA | NA |
| | L | 25.98 | 2.6 | 2' | 2.6 |
| | M | 21.46' | NA | NA | NA |
| LOT 19 | A | 19.32' | NA | NA | NA |
| | B | 19.15' | NA | NA | NA |
| | C | 26.23 | 3.2 | 2.5 | 3.2 |
| | D | 19.15' | NA | NA | NA |
| | E | 21.81' | NA | NA | NA |
| | F | 21.81' | NA | NA | NA |
| | G | 19.15' | NA | NA | NA |
| | H | 26.23' | 3.2 | 2.5 | 3.2 |
| | I | 19.15' | NA | NA | NA |
| | J | 19.32' | NA | NA | NA |
| | K | 25.82 | 2.6 | 2' | 2.6 |
| LOT 20 | A | 20.87' | NA | NA | NA |
| | B | 20.87' | NA | NA | NA |
| | C | 26.99' | 5.3 | 4.0' | 5.3 |
| | D | 20.87' | NA | NA | NA |
| | E | 20.87' | NA | NA | NA |
| | F | 26.99' | 5.3 | 4.0' | 5.3 |
| | G | 20.87' | NA | NA | NA |
| | H | 20.87' | NA | NA | NA |
| LOT 21 | A | 23.39' | NA | NA | NA |
| | B | 27.4' | 3.7' | 2.8' | 3.7' |
| | C | 23.39' | NA | NA | NA |
| | D | 21.22' | NA | NA | NA |
| | E | 21.22' | NA | NA | NA |
| | F | 23.39' | NA | NA | NA |
| | G | 27.4 | 3.7' | 2.8' | 3.7' |
| | H | 23.39' | NA | NA | NA |
| LOT 22 | A | 20.78 | NA | NA | NA |
| | B | 28.39' | 9.0' | 6.8' | 9.0' |
| | C | 20.78 | NA | NA | NA |
| | D | 20.78 | NA | NA | NA |
| | E | 28.39' | 9.0' | 6.8' | 9.0' |
| | F | 20.78 | NA | NA | NA |
| LOT 23 | A | 20.67 | NA | NA | NA |
| | B | 20.67 | NA | NA | NA |
| | C | 26.78 | 4.7' | 3.6' | 4.7' |
| | D | 20.67' | NA | NA | NA |
| | E | 20.67 | NA | NA | NA |
| | F | 26.78 | NA | NA | NA |
| | G | 20.67 | NA | NA | NA |
| | H | 20.67 | NA | NA | NA |
| LOT 24 | A | 19.52' | NA | NA | NA |
| | B | 19.35' | NA | NA | NA |
| | C | 26.44 | 3.8' | 2.9' | 3.8' |
| | D | 19.35' | NA | NA | NA |
| | E | 21.97' | NA | NA | NA |
| | F | 21.97' | NA | NA | NA |
| | G | 19.35' | NA | NA | NA |
| | H | 26.44' | 3.8' | 2.9' | 3.8' |
| | I | 19.35' | NA | NA | NA |
| | J | 19.52' | NA | NA | NA |
| | K | 26.02' | 2.6' | 2.0' | 2.6' |
| LOT 25 | A | 18.39' | NA | NA | NA |
| | B | 27.97' | 7.8' | 5.9' | 7.8' |
| | C | 18.39' | NA | NA | NA |
| | D | 18.39' | NA | NA | NA |
| | E | 27.97' | 7.8' | 5.9' | 7.8' |
| | F | 18.39' | NA | NA | NA |
| LOT 26 | A | 18.58' | NA | NA | NA |
| | B | 18.4' | NA | NA | NA |
| | C | 25.48 | 2.6 | 2.0' | 2.6 |
| | D | 18.4' | NA | NA | NA |
| | E | 21.07' | NA | NA | NA |
| | F | 21.07' | NA | NA | NA |
| | G | 18.4' | NA | NA | NA |
| | H | 25.48 | 2.6 | 2.0' | 2.6 |
| | I | 18.4' | NA | NA | NA |
| | J | 18.58 | NA | NA | NA |
| | K | 25.07' | NA | NA | NA |
| LOT 27 | A | 22.94' | NA | NA | NA |
| | B | 26.90 | 5.0' | 3.8' | 5.0' |
| | C | 22.94' | NA | NA | NA |
| | D | 20.77' | NA | NA | NA |
| | E | 20.77' | NA | NA | NA |
| | F | 22.84' | NA | NA | NA |
| | G | 26.90' | 5.0' | 3.8' | 5.0' |
| | H | 22.94' | NA | NA | NA |
| LOT 28 | A | 18.59' | NA | NA | NA |
| | B | 28.17' | 8.4' | 6.3' | 8.4' |
| | C | 18.59' | NA | NA | NA |
| | D | 18.59' | NA | NA | NA |
| | E | 28.17' | 8.4' | 6.3' | 8.4' |
| | F | 18.59' | NA | NA | NA |
| LOT 29 | A | 19.32' | NA | NA | NA |
| | B | 19.15' | NA | NA | NA |
| | C | 26.23 | 3.2' | 2.5' | 3.2' |
| | D | 19.15' | NA | NA | NA |
| | E | 21.77' | NA | NA | NA |
| | F | 21.77' | NA | NA | NA |
| | G | 19.15' | NA | NA | NA |
| | H | 26.23 | 3.2' | 2.5' | 3.2' |
| | I | 19.15' | NA | NA | NA |
| | J | 19.32' | NA | NA | NA |
| | K | 25.82' | 2.6' | 2.0' | 2.6' |
| LOT 30 | A | 19.27' | NA | NA | NA |
| | B | 19.09' | NA | NA | NA |
| | C | 28.67' | 9.7' | 7.3' | 9.7' |
| | D | 19.09' | NA | NA | NA |
| | E | 19.09' | NA | NA | NA |
| | F | 28.67' | 9.7' | 7.3' | 9.7' |
| | G | 19.09' | NA | NA | NA |
| | H | 19.27' | NA | NA | NA |
| LOT 31 | I | 28.22' | 8.5' | 6.4' | 8.5' |
| | A | 19.82' | NA | NA | NA |
| | B | 19.65' | NA | NA | NA |
| | C | 26.73' | 4.6' | 3.5' | 4.6' |
| | D | 19.65' | NA | NA | NA |
| | E | 22.67' | NA | NA | NA |
| | F | 22.67' | NA | NA | NA |
| | G | 19.65' | NA | NA | NA |
| | H | 26.73' | 4.6' | 3.5' | 4.6' |
| | I | 19.65' | NA | NA | NA |
| | J | 19.82' | NA | NA | NA |
| | K | 26.32' | 3.5' | 2.6 | 3.5' |

SITE REVIEW CORRECTIONS

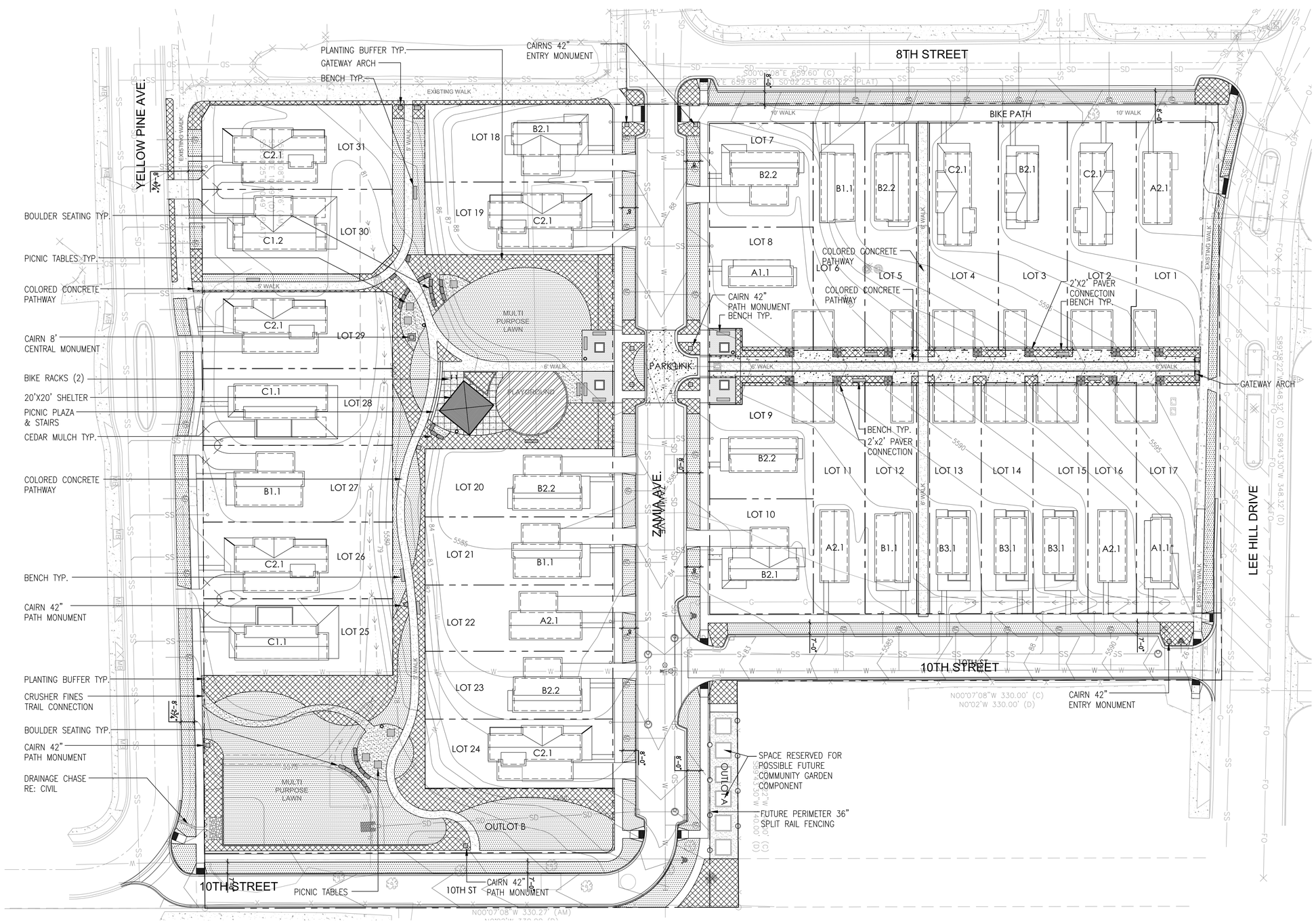
SR-3

10.01.13

820 LEE HILL DRIVE

BOULDER, COLORADO


Planners · Designers · Builders
3020 Carbon Place # 203
Boulder, CO 80301
303-442-3351
coburndev.com




## SURFACE LEGEND

- CONCRETE PAVERS
- STANDARD CONCRETE
- COLORED CONCRETE
- IRRIGATED TURF
- CEDAR GARDEN MULCH
- RUBBER PLAY SURFACE
- STABILIZED CRUSHER FINES

## LEGEND

- CAIRN COLUMNS (HEIGHT VARIES)
- U STYLE BIKE RACKS
- PICNIC TABLE SEATING
- BOULDER SEATING
- BENCH SEATING
- TRASH RECEPTACLE
- IRON TREE GRATE
- FUTURE GARDEN PLOT
- 2'X2' CONCRETE PAVERS

COBURN
creating great places™

christopherhoydesigngroup
LANDSCAPE ARCHITECTS
3002 WALNUT STREET
DENVER, CO 80205
303.451.7986

# LANDSCAPE SITE PLAN

SCALE: 1"=30'-0"

0 15' 30' 60' 90'

NORTH

SITE REVIEW

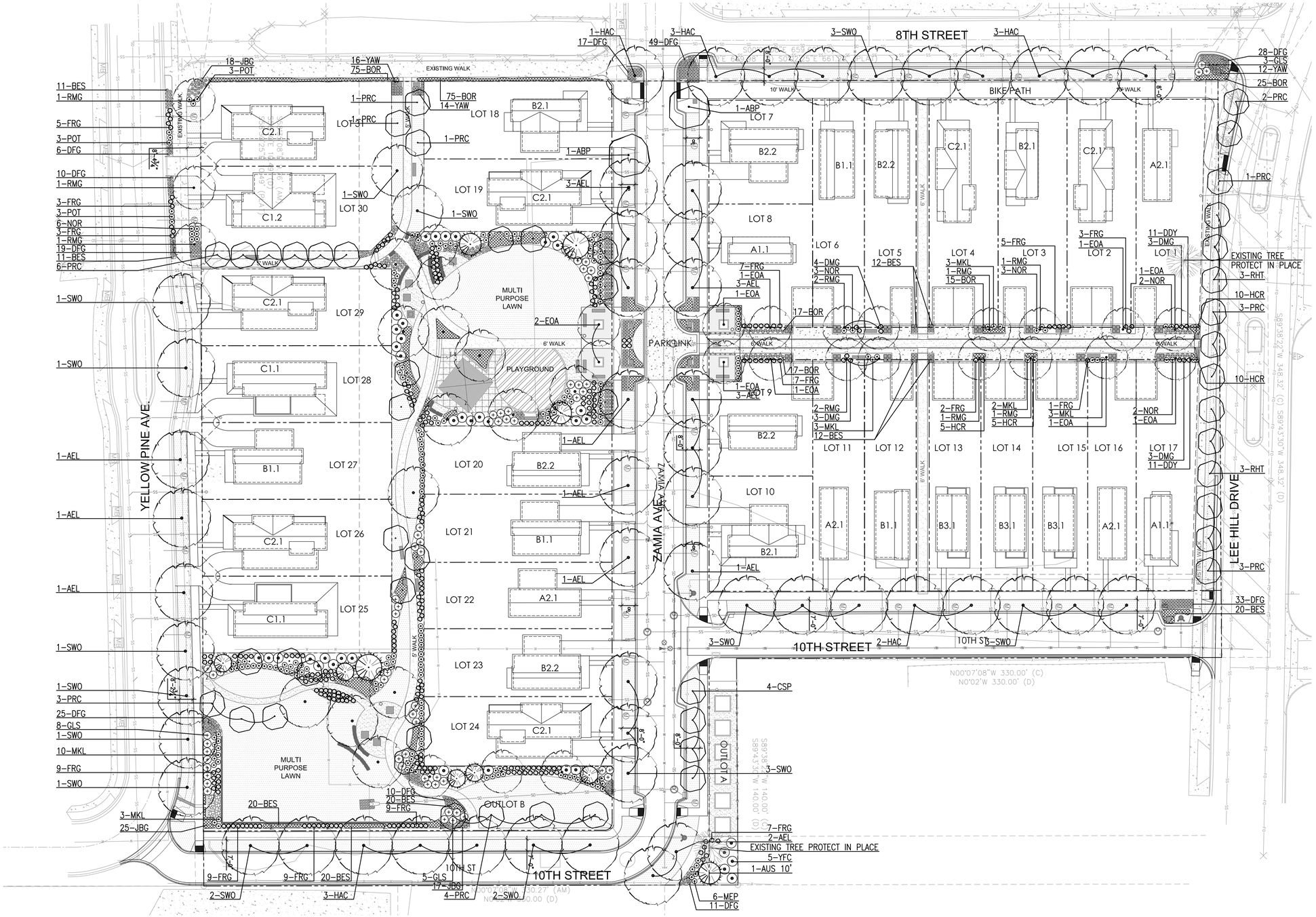
LP-1

09.27.13

820 LEE HILL DRIVE

BOULDER, COLORADO

Planners · Designers · Builders
3020 Carbon Place # 203
Boulder, CO 80301
303-442-3351
coburndev.com




## LANDSCAPE LEGEND

- EXISTING TREE TO REMAIN PROTECT IN PLACE
- DECIDUOUS SHADE TREE MEDIUM TO LARGE
- EVERGREEN TREE
- SMALL SHADE TREE OR ORNAMENTAL TREE
- ORNAMENTAL SHRUBS & GRASSES
- IRRIGATED TURF
- PERENNIAL / GROUNDCOVER

## LEGEND

- GABION CAIRN COLUMNS (HEIGHT VARIES)
- U STYLE BIKE RACKS
- PICNIC TABLE SEATING
- BOULDER SEATING
- BENCH SEATING
- TRASH RECEPTACLE
- IRON TREE GRATE
- FUTURE GARDEN PLOT
- 2'X2' CONCRETE PAVERS

## TURF SCHEDULE

### SOD

CHARACTERISTICS:
LOW TO MODERATE WATER USE

CONTAINS:

- 20% HARD FESCUE
- 20% CHEWING FESCUE
- 20% CREEPING RED FESCUE
- 15% NEWPORT KENTUCKY BLUEGRASS
- 15% PENGUIN PERENNIAL BLUEGRASS
- 10% BLUESTAR KENTUCKY BLUEGRASS

COBURN
creating great places™

christopherhoydesigngroup
LANDSCAPE ARCHITECTS
3002 WALNUT STREET
DENVER, CO 80205
303.451.7986

## LANDSCAPE PLANTING PLAN

SCALE: 1"=30'-0"

0 15' 30' 60' 90' NORTH

820 LEE HILL DRIVE

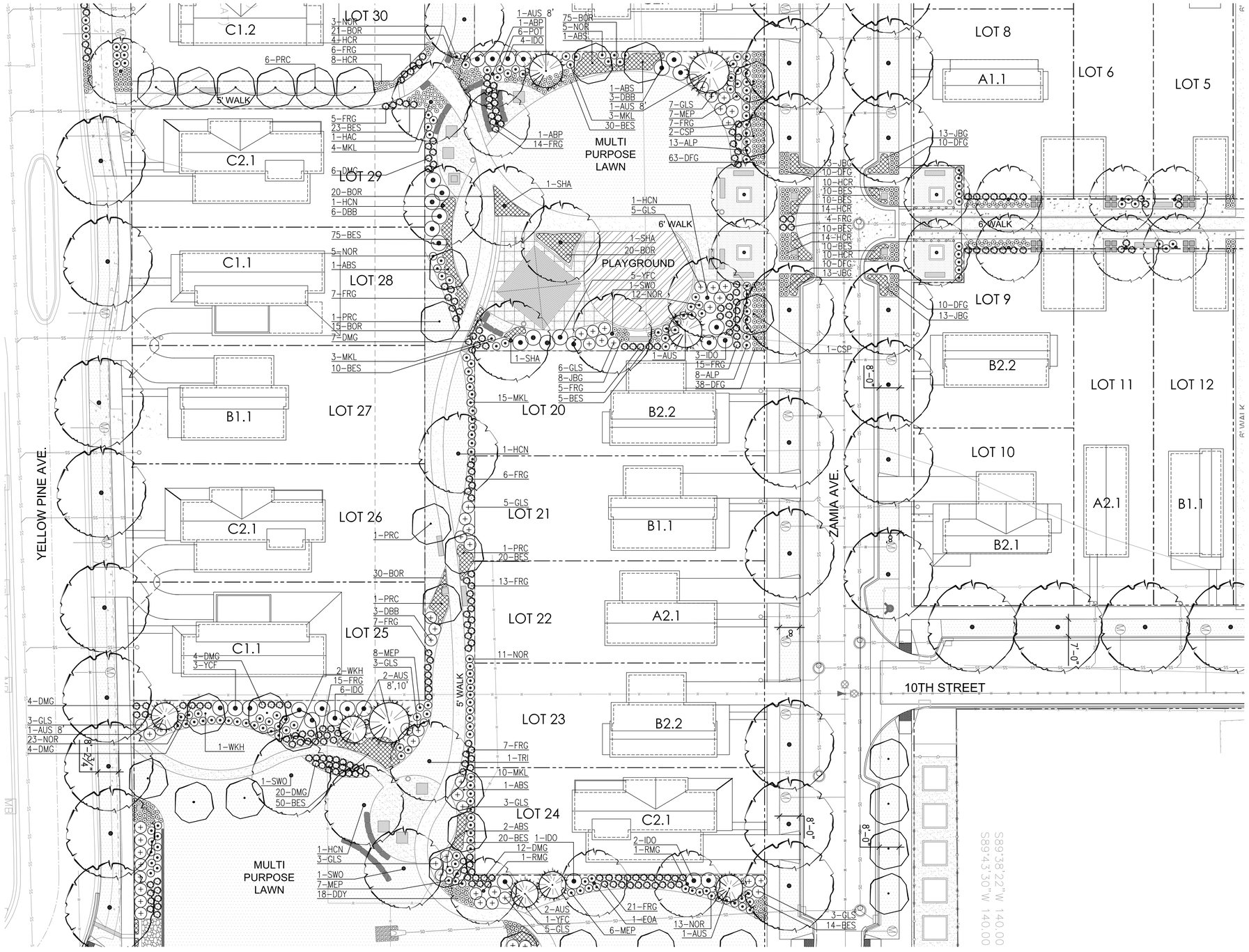
BOULDER, COLORADO

SITE REVIEW

LP-2

09.27.13

Planners · Designers · Builders
3020 Carbon Place # 203
Boulder, CO 80301
303-442-3351
coburndev.com




## LANDSCAPE PLANTING PLAN ENLARGEMENT

SCALE: 1"=20'-0"

0 10' 20' 40' 60'

NORTH

## LANDSCAPE LEGEND

- EXISTING TREE TO REMAIN PROTECT IN PLACE
- DECIDUOUS SHADE TREE MEDIUM TO LARGE
- EVERGREEN TREE
- SMALL SHADE TREE OR ORNAMENTAL TREE
- ORNAMENTAL SHRUBS & GRASSES
- IRRIGATED TURF
- PERENNIAL / GROUNDCOVER

## LEGEND

- GABION CAIRN COLUMNS (HEIGHT VARIES)
- U STYLE BIKE RACKS
- PICNIC TABLE SEATING
- BOULDER SEATING
- BENCH SEATING
- TRASH RECEPTACLE
- IRON TREE GRATE
- FUTURE GARDEN PLOT
- 2'X2' CONCRETE PAVERS

## TURF SCHEDULE

### SOD

CHARACTERISTICS:
LOW TO MODERATE WATER USE

CONTAINS:

- 20% HARD FESCUE
- 20% CHEWING FESCUE
- 20% CREEPING RED FESCUE
- 15% NEWPORT KENTUCKY BLUEGRASS
- 15% PENGUIN PERENNIAL BLUEGRASS
- 10% BLUESTAR KENTUCKY BLUEGRASS

COBURN
creating great places™

christopherhoydesigngroup
LANDSCAPE ARCHITECTS
3002 WALNUT STREET
DENVER, CO 80205
303.451.7986

SITE REVIEW

# LP-3

09.27.13

820 LEE HILL DRIVE

BOULDER, COLORADO

Planners · Designers · Builders
3020 Carbon Place # 203
Boulder, CO 80301
303-442-3351
coburndev.com

## GENERAL NOTES

1. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS PRIOR TO BIDDING OR PERFORMING ANY CONSTRUCTION OPERATIONS.
2. PROVIDE PROTECTIVE BARRIERS, FENCING, ETC.. AS REQUIRED BY ALL JURISDICTIONS HAVING AUTHORITY.
3. BEFORE CONSTRUCTION, LOCATE ALL PUBLIC AND PRIVATE UNDERGROUND UTILITIES WITH RESPECTIVE UTILITY COMPANIES, AND LOCATE IRRIGATION LINES AND WIRES.
4. CONTRACTOR TO REPAIR ANY ASPHALT, CONCRETE AND OTHER SITE IMPROVEMENTS DAMAGED DURING CONSTRUCTION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY PERMITS OR LICENSES REQUIRED FOR THE PERFORMANCE OF THE WORK AS APPLICABLE TO THIS PROJECT.
6. REFER TO LP2 FOR PLANTING LAYOUT.
7. ROLLED TOP EDGING SHALL OCCUR BETWEEN ALL OF THE FOLLOWING SURFACE MATERIALS: SOD & MULCHES UNLESS OTHERWISE INDICATED N THESE DRAWINGS.
8. EXISTING TREES LOCATED ON THE PROPERTY ARE TO REMAIN, AND SHALL BE PROTECTED IN PLACE.
9. BENCH SEATING SHALL BE LANDSCAPE BRANDS RENDEZVOUS COLLECTION MODEL L1364 6' LENGTH OR APPROVED EQUAL. FINAL LOCATION TO BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. COLOR IS TO BE DETERMINED.

## LANDSCAPE PLANTING NOTES

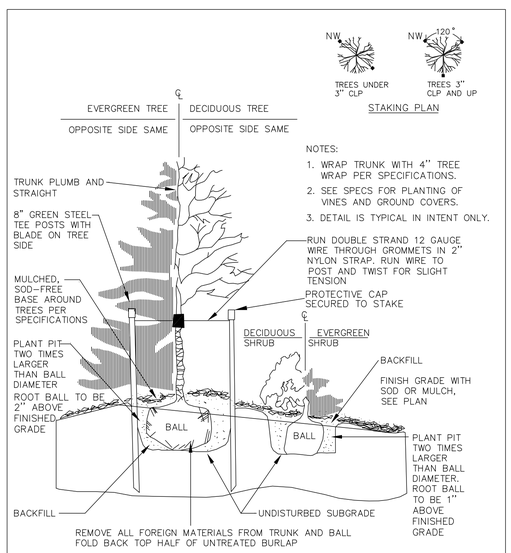
1. STAKE ALL TREES AND SHRUBS BASED ON THESE DRAWINGS. EXACT LOCATIONS OF PLANT MATERIALS TO BE APPROVED BY THE LANDSCAPE ARCHITECT IN THE FIELD PRIOR TO INSTALLATION. LANDSCAPE ARCHITECT RESERVES THE RIGHT TO ADJUST TO EXACT LOCATIONS IN THE FIELD.
2. ALL TREES TO MEET THE CITY OF BOULDER LAND USE CODE STANDARDS FOR SIZE AND SPECIES.
3. PROVIDE MATCHING FORM AND SIZES FOR PLANT MATERIALS WITHIN EACH SPECIES AND SIZE AS DESIGNATED ON THE DRAWINGS.
4. ALL LANDSCAPE MATERIAL TO BE DISEASE AND INSECT FREE. LANDSCAPE ARCHITECT TO REVIEW PLANT MATERIAL AT SOURCE OR BY PHOTOGRAPHS PRIOR TO DIGGING OR SHIPPING OF PLANT MATERIAL.
5. ALL LANDSCAPE BEDS ARE TO BE MULCHED WITH 4" MINIMUM LAYER OF WESTERN SHREDDED CEDAR MULCH OVER PLANTING SOIL. UNLESS OTHERWISE INDICATED IN THESE DRAWINGS.
6. ALL LANDSCAPE BEDS AND TURF AREAS ARE TO RECEIVE ORGANIC SOIL AMENDMENTS AT A RATE OF 5 CY/1000 S.F. OF LANDSCAPE AREA. AMENDMENTS ARE TO BE TILLED TO A DEPTH OF 8" AND FINE GRADED TO A SMOOTH SURFACE WITH POSITIVE DRAINAGE AWAY FROM ALL STRUCTURES.
7. MINOR CHANGES IN SPECIES AND PLANT LOCATIONS MAY BE MADE DURING CONSTRUCTION WITH PRIOR APPROVAL FROM THE CITY OF BOULDER, AS REQUIRED BY SITE CONDITIONS. OVERALL QUANTITY AND QUALITY TO BE CONSISTENT WITH APPROVED PLANS.
8. STREET TREE LOCATIONS SHALL BE ADJUSTED TO ALLOW FOR A MINIMUM OF A 40' CLEARANCE TO STREET LIGHTS (15' MINIMUM IF THE TREE IS ORNAMENTAL).
9. LOCATE ALL UTILITIES PRIOR TO ANY DIGGING OR LANDSCAPE PLANTING.
10. STREET TREE LOCATIONS SHALL HAVE A MINIMUM SEPARATION OF 10' BETWEEN WATER AND SEWER UTILITY LINES.
11. ALL LANDSCAPE AREAS SHALL BE WATERED BY AN AUTOMATIC IRRIGATION SYSTEM.

## PLANT SCHEDULE

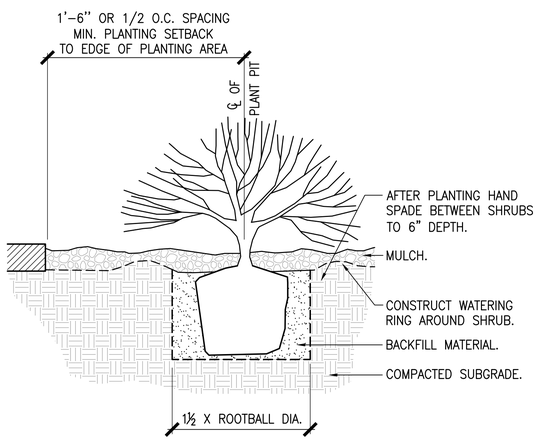
| PLANT TYPE: DECIDUOUS & EVERGREEN TREES | | | | | | | |
|---|---|---|---|---|---|---|---|
| Abbr. | No. | Genus | Species | Common Name | Min. Size | Spacing | Notes |
| ABP | 4 | Pyrus | calleryana 'Autumn Blaze' | Autumn Blaze Pear | 2.5" | Per Plan | |
| ABS | 6 | Amelanchier | x grandiflora | Brilliant Serviceberry | 8' Clump | Per Plan | |
| AEL | 19 | Ulmus x | morton 'Accolade' | Triumph Elm | 2.5" | Per Plan | |
| AUS | 10 | Pinus | nigra | Austrian Pine | 8'–11' | Per Plan | |
| CSP | 7 | Pyrus | calleryana | Chanticleer Pear | 2.5" | Per Plan | |
| EOA | 9 | Quercus | robur | English Oak | 2.5" | Per Plan | |
| HAC | 13 | Celtis | occidentalis | Common Hackberry | 2.5" | Per Plan | |
| HCN | 4 | Aesculus | hippocastanum | Common Horsechestnut | 2.5" | Per Plan | |
| PRC | 29 | Malus | ioensis 'Prairie Rose' | Prairie Rose Crab | 2.0" | Per Plan | |
| RMG | 13 | Acer | grandidentatum | Rocky Mountain Glow Maple | 2.0" | Per Plan | |
| RHT | 6 | Crataegus | ambigua | Russian Hawthorn | 2.5" | Per Plan | |
| SHA | 2 | Gleditsia | triacanthos inermis | Shademaster Honeylocust | 3.0" | Per Plan | |
| SWO | 27 | Quercus | bicolor | Swamp White Oak | 2.5" | Per Plan | |
| WKH | 3 | Crataegus | viridis 'Winter King' | Winter King Hawthorn | 2.0" | Per Plan | |

| PLANT TYPE: SHRUBS | | | | | | | |
|---|---|---|---|---|---|---|---|
| Abbr. | No. | Genus | Species | Common Name | Min. Size | Spacing | Notes |
| ALP | 21 | Ribes | alpinum 'Green Mound' | Green Mound Currant | 5 Gal | 3' O.C. | |
| DBB | 12 | Euonymus | alatus 'Compacta' | Dwarf Burning Bush | 5 Gal | 4' O.C. | |
| GLS | 59 | Sumac | aromatica 'Grow–Low' | Grow Low Sumac | 5 Gal | 3' O.C. | |
| IDO | 16 | Cornus | sericea 'Isanti' | Isanti Dogwood | 5 Gal | 4' O.C. | |
| MEP | 28 | Rosa | x 'Meipoque' | Pink Meidiland Rose | 5 Gal | 3' O.C. | |
| MKL | 59 | Syringa | patula 'Miss Kim' | Miss Kim Lilac | 5 Gal | 4' O.C. | |
| NOR | 88 | Spirea | japonica | Norman Spirea | 5 Gal | 3' O.C. | |
| POT | 15 | Potentilla | fruiticosa 'Gold Drop' | Yellow Gem Potentilla | 5 Gal | 3' O.C. | |
| YFC | 14 | Ribes | aureum | Yellow Flowering Currant | 5 Gal | 5' O.C. | |

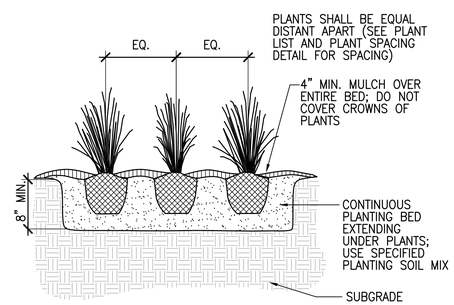
| PLANT TYPE: PERENNIALS & GRASSES | | | | | | | |
|---|---|---|---|---|---|---|---|
| Abbr. | No. | Genus | Species | Common Name | Min. Size | Spacing | Notes |
| BES | 413 | Rudbeckia | fulgida 'Goldsturm' | Black Eyed Susan | 1 Gal | 18" O.C. | |
| BOR | 405 | Persicaria | affinis | Border Jewel | 1 Gal | 24" O.C. | |
| DDY | 40 | Hemerocallis | 'Stella D'Oro Dwarf' | Dwarf Daylily | 1 Gal | 24" O.C. | |
| DFG | 349 | Pennisetum | alopecuroides 'Hameln' | Dwarf Fountain Grass | 1 Gal | 18" O.C. | |
| DMG | 70 | Miscanthus | sinensis 'Yaku Jima' | Dwarf Maiden Grass | 1 Gal | 3' O.C. | |
| FRG | 211 | Calamagrostis | acutiflora 'Karl Foerster' | Feather Reed Grass | 1 Gal | 3' O.C. | |
| HCR | 90 | Agastache | 'Pstessene' | Coronado Red Hyssop | 1 Gal | 18" O.C. | |
| JBG | 120 | Geranium | x 'Johnson's Blue' | Johnson's Blue Geranium | 1 Gal | 18" O.C. | |
| YAW | 42 | Achillea | 'Moonshine' | Moonshine Yarrow | 1 Gal | 18" O.C. | |




| | | |
|---|---|---|
| DRAWN BY: JSH<br>CHECKED BY: SRW<br>APPROVED BY: DIRECTOR OF PUBLIC WORKS | CITY OF BOULDER, COLORADO<br>TREES AND SHRUBS PLANTING DETAIL | ISSUED: JULY 2, 1998<br>REVISED: OCT. 17, 2000<br>DRAWING NO. 3.02 |




SHRUB PLANTING
SCALE: NTS
shrb.dwg




ORNAMENTAL GRASS/PERENNIAL PLANTING
SCALE: NTS
orn.grass.dwg

## LANDSCAPE REQUIREMENTS CHART

| | |
|---|---|
| TOTAL LOT SIZE | 271,097 SF |
| BUILDING COUNT | 31 UNITS |
| OPEN SPACE AREA | 187,767 SF |
| ZONING | RL–2 |

| REQUIREMENTS | REQUIRED FORMULA | AREA OR QUANTITY | REQUIRED | PROVIDED |
|---|---|---|---|---|
| STREETSCAPE TREES YELLOW PINE AVE. | 1 TREE / 35 LF | 433 LF | 12 EA | 12 EACH |
| STREETSCAPE TREES LEE HILL ROAD | 1 TREE / 20 LF | 300 LF | 15 EA | 15 EACH |
| STREETSCAPE TREES ZAMIA AVE. | 1 TREE / 35 LF | 950 LF | 25 EA | 24 EACH |
| STREETSCAPE TREES 10TH STREET | 1 TREE / 35 LF | 592 LF | 16 EA | 16 EACH |
| ALLEY TREES WOONERF | 1 TREE / 40 LF | 610 LF | 15 EA | 16 EACH |


COBURN
creating great places™

christopherhoydesigngroup
LANDSCAPE ARCHITECTS
3002 WALNUT STREET
DENVER, CO 80205
303.451.7986


SITE REVIEW

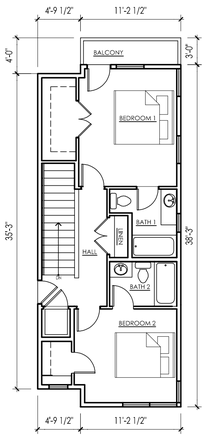
LP-4

09.27.13

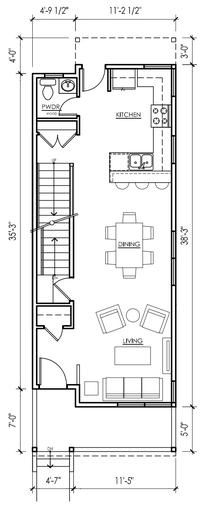
820 LEE HILL DRIVE

BOULDER, COLORADO

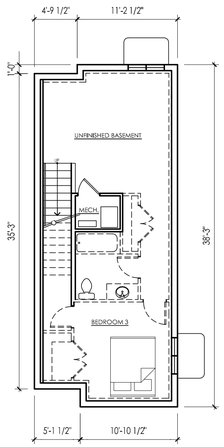

Planners · Designers · Builders
3020 Carbon Place # 203
Boulder, CO 80301
303-442-3351
coburndev.com



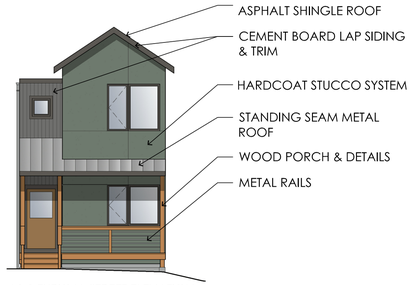

SECOND FLOOR




GROUND FLOOR

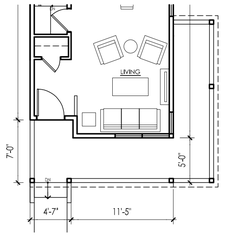



BASEMENT




A1.1 TYPICAL STREET ELEVATION

(COLORS AND MATERIALS VARY BETWEEN LOTS)




CORNER LOT GROUND FLOOR

A1.1 CORNER LOT EAST ELEVATION ON 10TH ST.

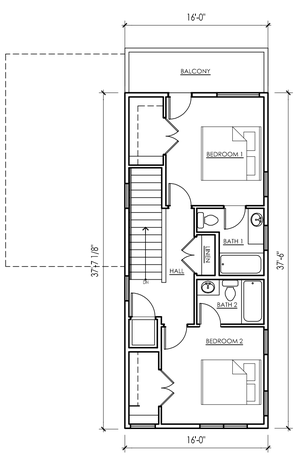
A1.1 CORNER LOT NORTH ELEVATION ON LEE HILL DR.

## NOTE:

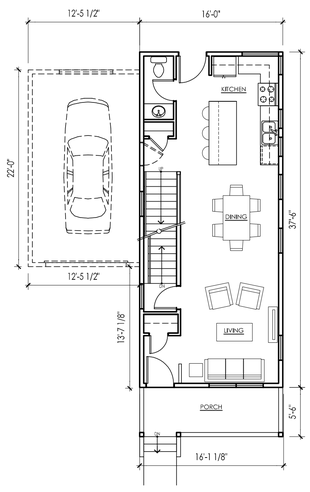
- The homes illustrated in this submittal are representative of the overall size, layouts, architectural style, and detailing of the homes throughout the project. Each home will be unique and have its own coloration, detailing and final configuration, but will be consistent with the qualities of the homes shown in this submittal package.
- Window locations illustrated on the floor plans are approximate. Final window locations subject to revision dependant upon site specific conditions.
- Porch step locations vary. See street elevations for illustration of grade specific variations in number of steps required to access front porches.

COBURN ARCHITECTURE

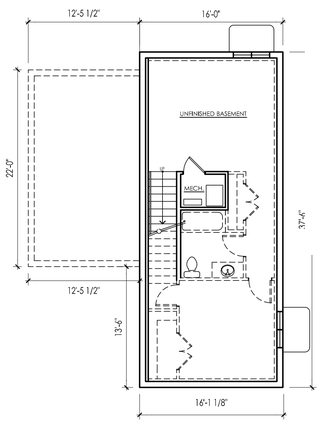
# A1.1 House



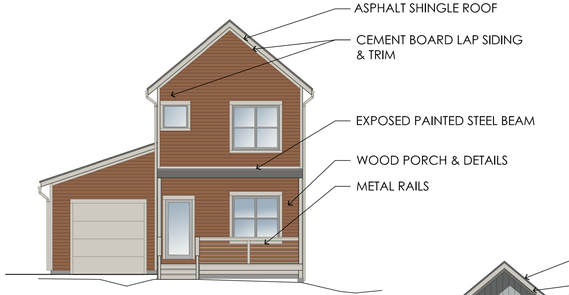

SECOND FLOOR




GROUND FLOOR

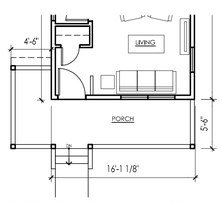



BASEMENT

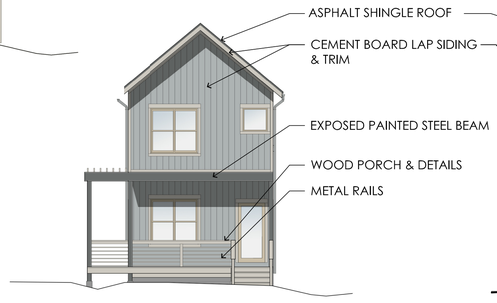



A2.1 TYPICAL STREET ELEVATION

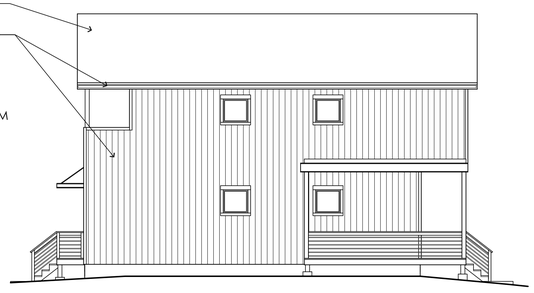
(COLORS AND MATERIALS VARY BETWEEN LOTS)




CORNER LOT GROUND FLOOR




A2.1 CORNER LOT WEST ELEVATION ON 8TH ST.



A2.1 NORTH ELEVATION ON LEE HILL DR.

# A2.1 House

SITE REVIEW CORRECTIONS

SR-4

10.01.13

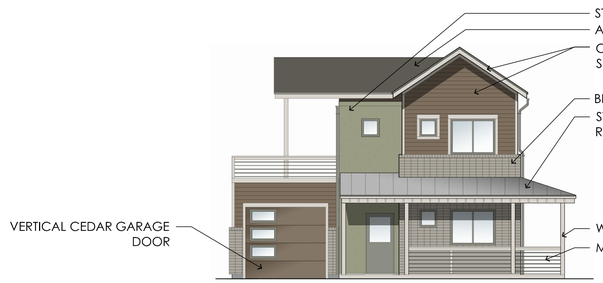
820 LEE HILL DRIVE

BOULDER, COLORADO

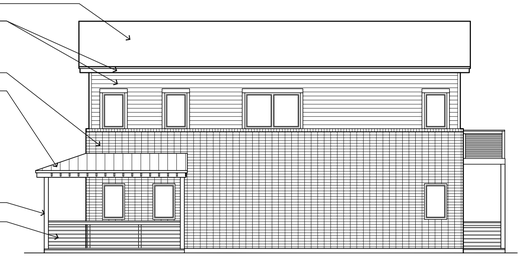
Architectural Plans

Scale: 1/8" = 1'-0"

Planners · Designers · Builders
3020 Carbon Place # 203
Boulder, CO 80301
303-442-3351
coburndev.com




B2.1 TYPICAL CORNER LOT FRONT ELEVATION

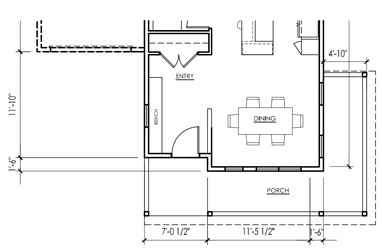


B2.1 TYPICAL CORNER LOT SIDE ELEVATION

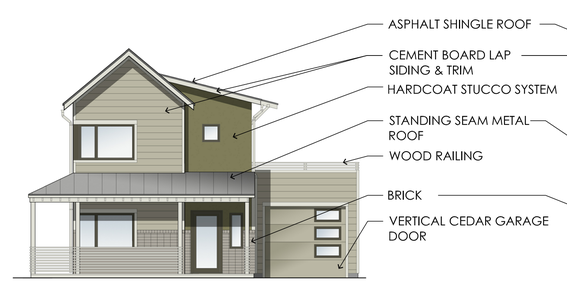
## NOTE:

- The homes illustrated in this submittal are representative of the overall size, layouts, architectural style, and detailing of the homes throughout the project. Each home will be unique and have its own coloration, detailing and final configuration, but will be consistent with the qualities of the homes shown in this submittal package.
- Window locations illustrated on the floor plans are approximate. Final window locations subject to revision dependant upon site specific conditions.
- Porch step locations vary. See street elevations for illustration of grade specific variations in number of steps required to access front porches.

COBURN ARCHITECTURE

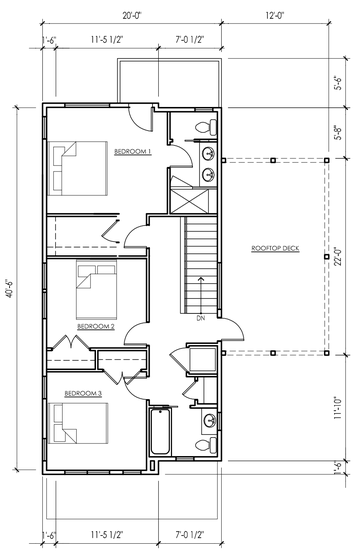



CORNER LOT GROUND FLOOR

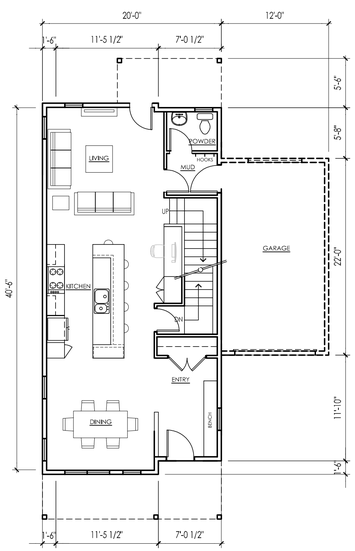



B2.2 CORNER LOT SOUTH ELEVATION ON ZAMIA AVE.

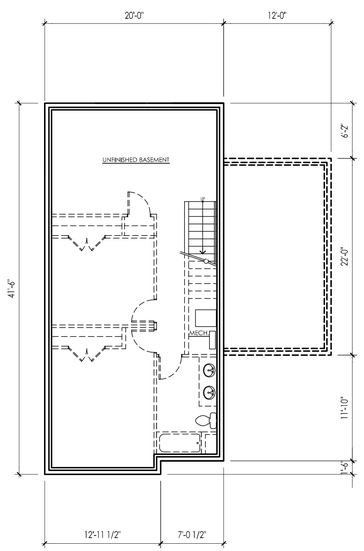
B2.2 CORNER LOT WEST ELEVATION ON 8TH ST.




SECOND FLOOR

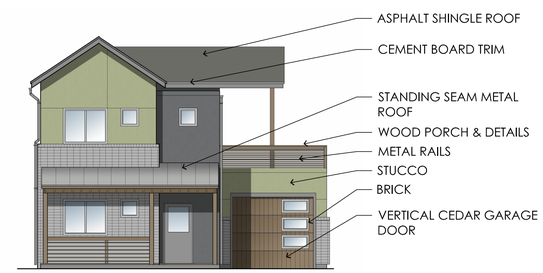



GROUND FLOOR



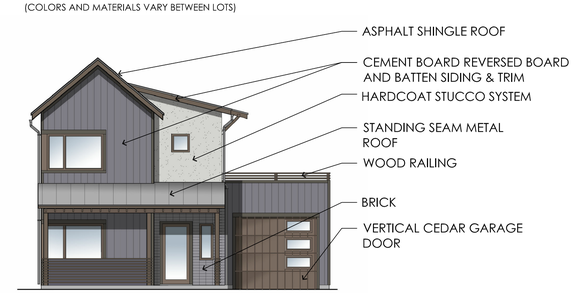

BASEMENT

B2.1 & B2.2 House Plan




B2.1 TYPICAL STREET ELEVATION

(COLORS AND MATERIALS VARY BETWEEN LOTS)




B2.2 TYPICAL STREET ELEVATION

(COLORS AND MATERIALS VARY BETWEEN LOTS)

SITE REVIEW CORRECTIONS

SR-5

10.01.13

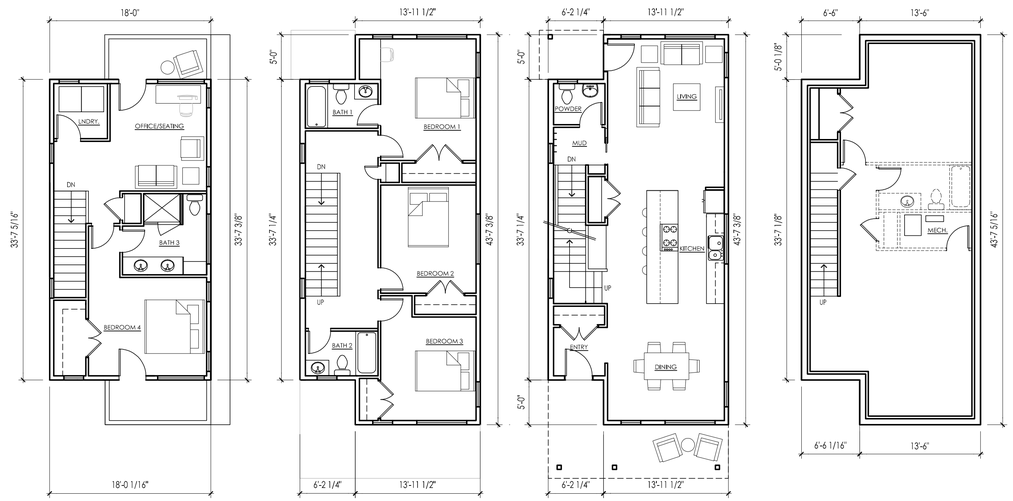
820 LEE HILL DRIVE

BOULDER, COLORADO

Architectural Plans

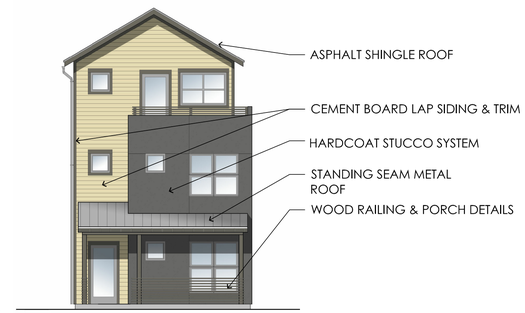
Scale: 1/8" = 1'-0"

Planners · Designers · Builders
3020 Carbon Place # 203
Boulder, CO 80301
303-442-3351
coburndev.com

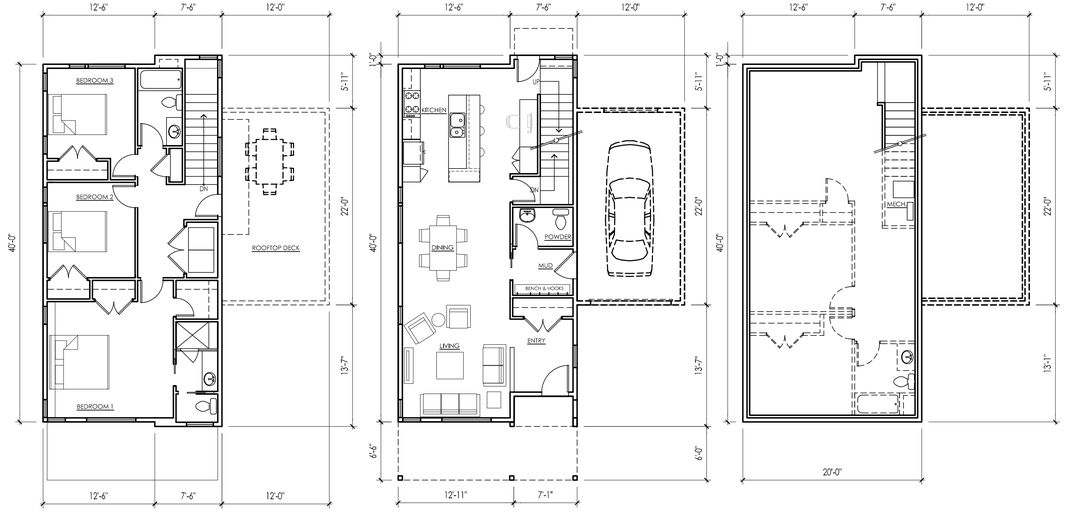



THIRD FLOOR SECOND FLOOR GROUND FLOOR BASEMENT

B3.1 House

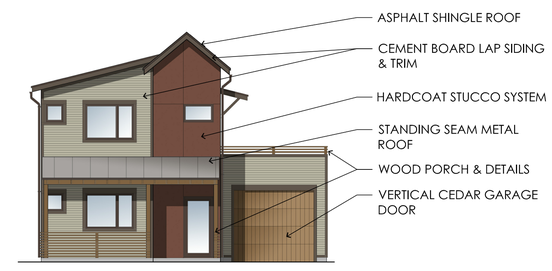



B3.1 STREET ELEVATION




SECOND FLOOR GROUND FLOOR BASEMENT

B1.1 House




B1.1 STREET ELEVATION

## NOTE:

- The homes illustrated in this submittal are representative of the overall size, layouts, architectural style, and detailing of the homes throughout the project. Each home will be unique and have its own coloration, detailing and final configuration, but will be consistent with the qualities of the homes shown in this submittal package.
- Window locations illustrated on the floor plans are approximate. Final window locations subject to revision dependant upon site specific conditions.
- Porch step locations vary. See street elevations for illustration of grade specific variations in number of steps required to access front porches.

COBURN ARCHITECTURE

SITE REVIEW CORRECTIONS

SR-6

10.01.13

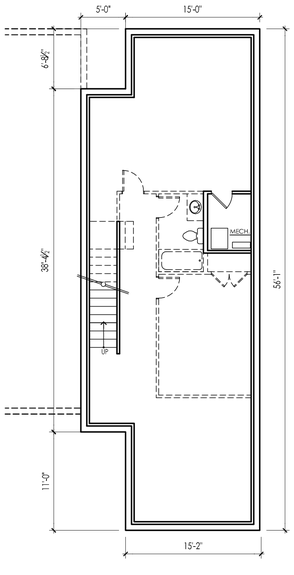
820 LEE HILL DRIVE

BOULDER, COLORADO

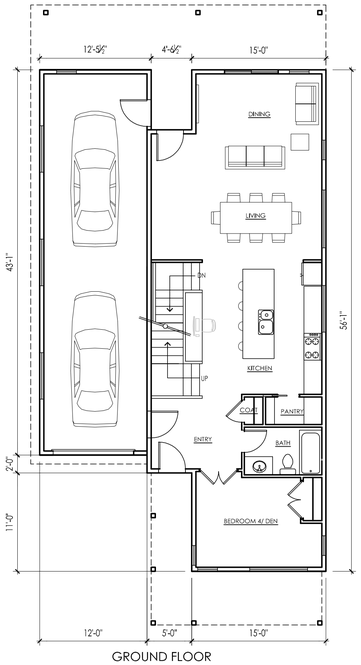
Architectural Plans

Scale: 1/8" = 1'-0"

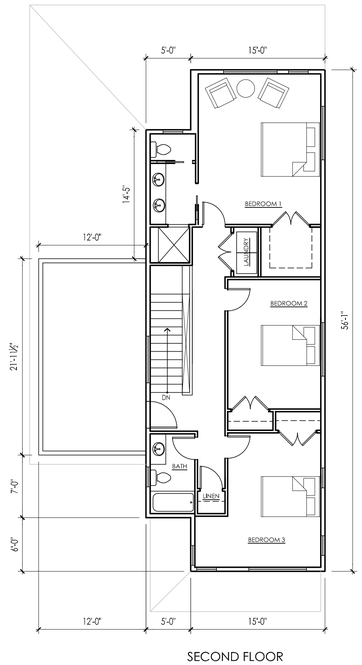
Planners · Designers · Builders
3020 Carbon Place # 203
Boulder, CO 80301
303-442-3351
coburndev.com




BASEMENT

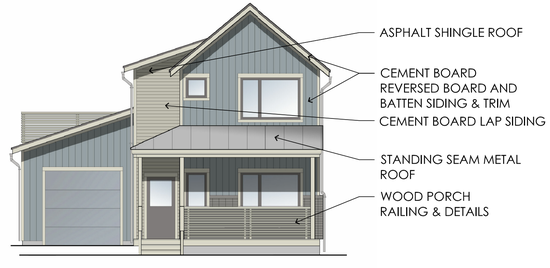



GROUND FLOOR

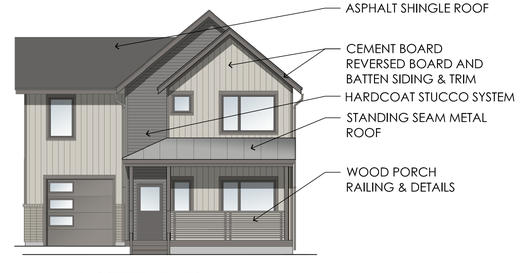



SECOND FLOOR

## C1.1 & C1.2 House




B1.1 STREET ELEVATION

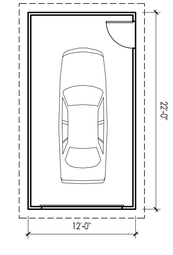



B1.2 STREET ELEVATION

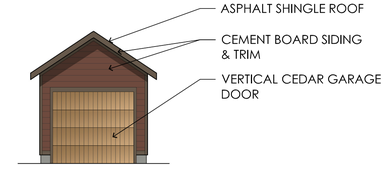
## NOTE:

- The homes illustrated in this submittal are representative of the overall size, layouts, architectural style, and detailing of the homes throughout the project. Each home will be unique and have its own coloration, detailing and final configuration, but will be consistent with the qualities of the homes shown in this submittal package.
- Window locations illustrated on the floor plans are approximate. Final window locations subject to revision dependant upon site specific conditions.
- Porch step locations vary. See street elevations for illustration of grade specific variations in number of steps required to access front porches.

COBURN ARCHITECTURE

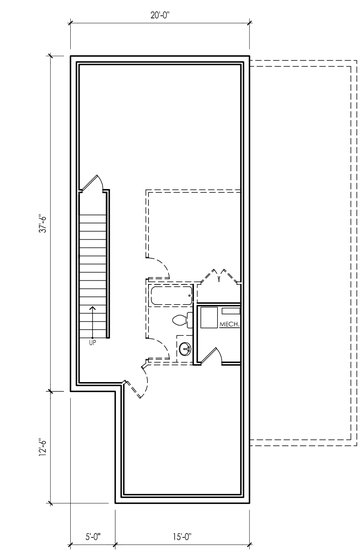



GROUND FLOOR

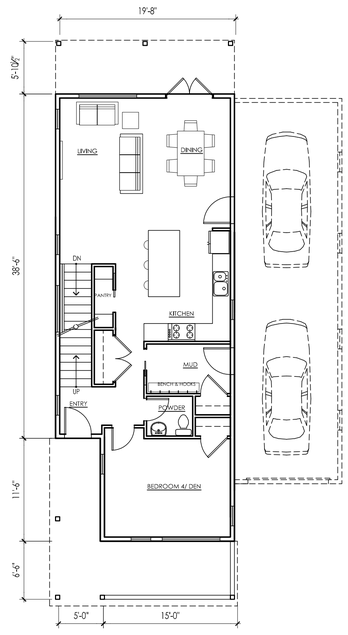



STREET ELEVATION

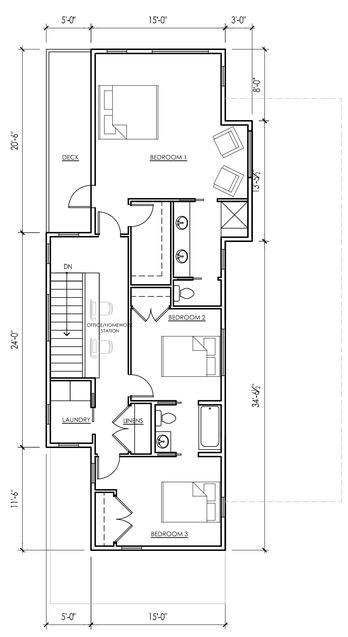
## 1 Car Garage




BASEMENT

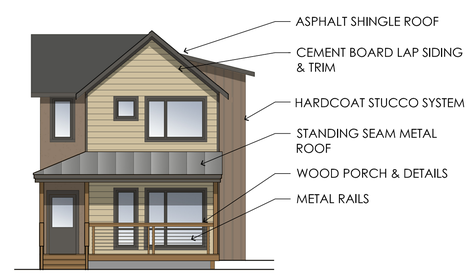



GROUND FLOOR



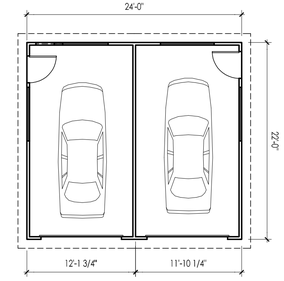

SECOND FLOOR

## C2.1 House

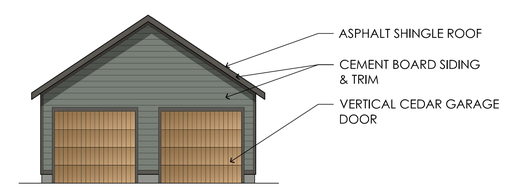



C2.1 STREET ELEVATION

C2.1 CORNER LOT SIDE ELEVATION




GROUND FLOOR




STREET ELEVATION

## 2 Car Garage

SITE REVIEW CORRECTIONS

SR-7

10.01.13

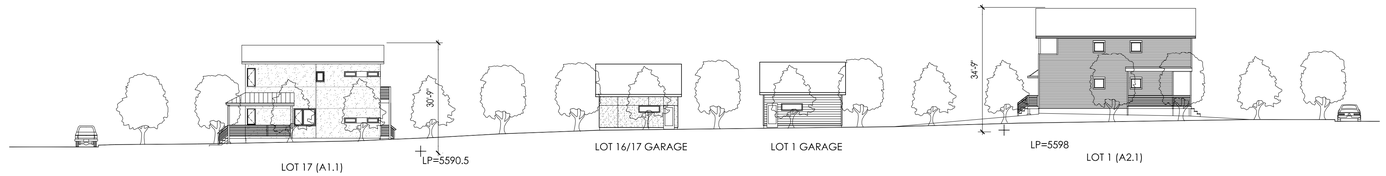
820 LEE HILL DRIVE

BOULDER, COLORADO

Architectural Plans

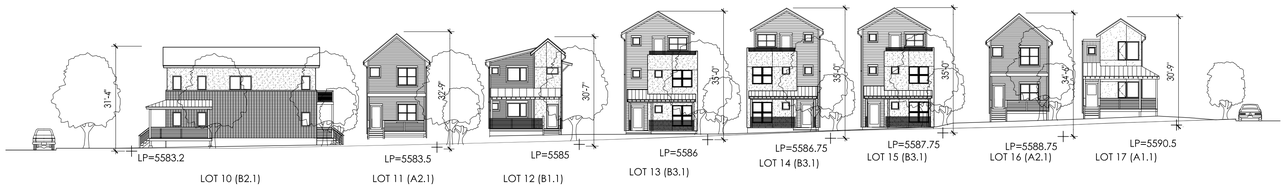
Scale: 1/8" = 1'-0"

Planners · Designers · Builders
3020 Carbon Place # 203
Boulder, CO 80301
303-442-3351
coburndev.com



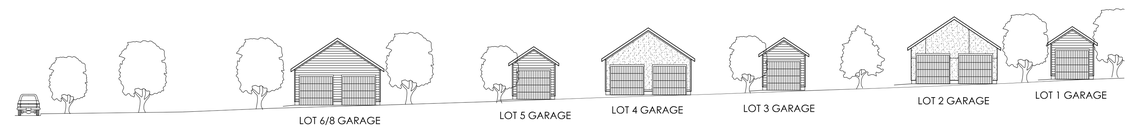

## LEE HILL DR - SOUTH

SCALE: 1":20'



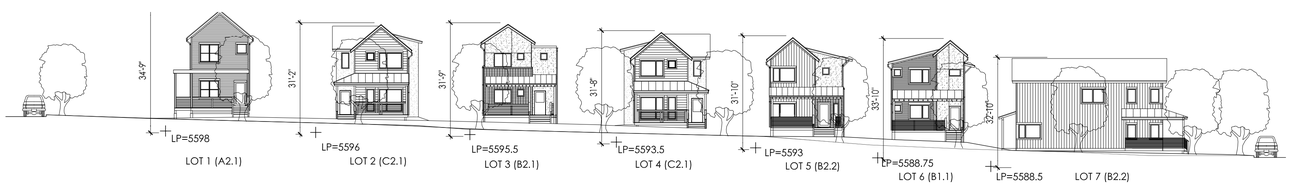

## 10TH STREET - WEST

SCALE: 1":20'




## WOONERF - WEST

SCALE: 1":20'

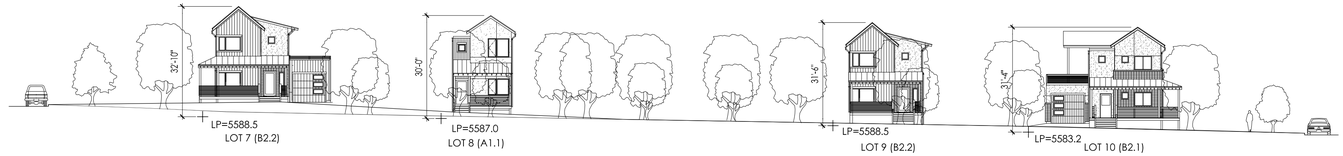



## 8TH STREET - EAST

SCALE: 1":20'

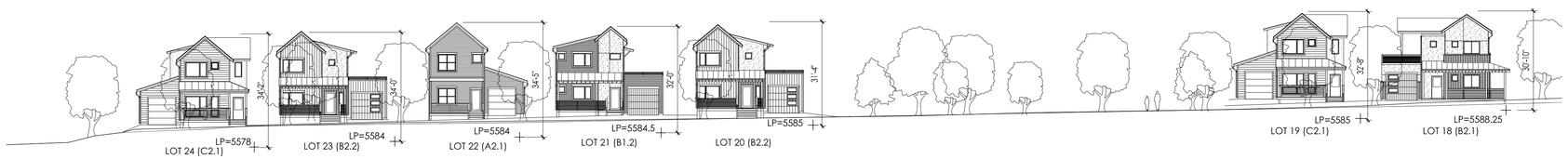
## WOONERF - EAST

SCALE: 1":20'



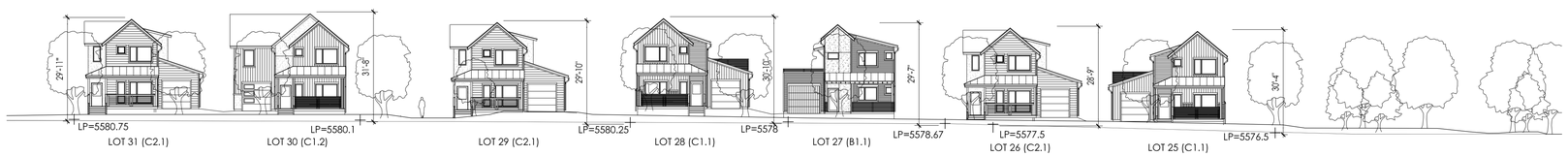

## ZAMIA - NORTH

SCALE: 1":20'




## ZAMIA - SOUTH

SCALE: 1":20'




## YELLOW PINE AVE - NORTH

SCALE: 1":20'

820 LEE HILL DRIVE

BOULDER, COLORADO

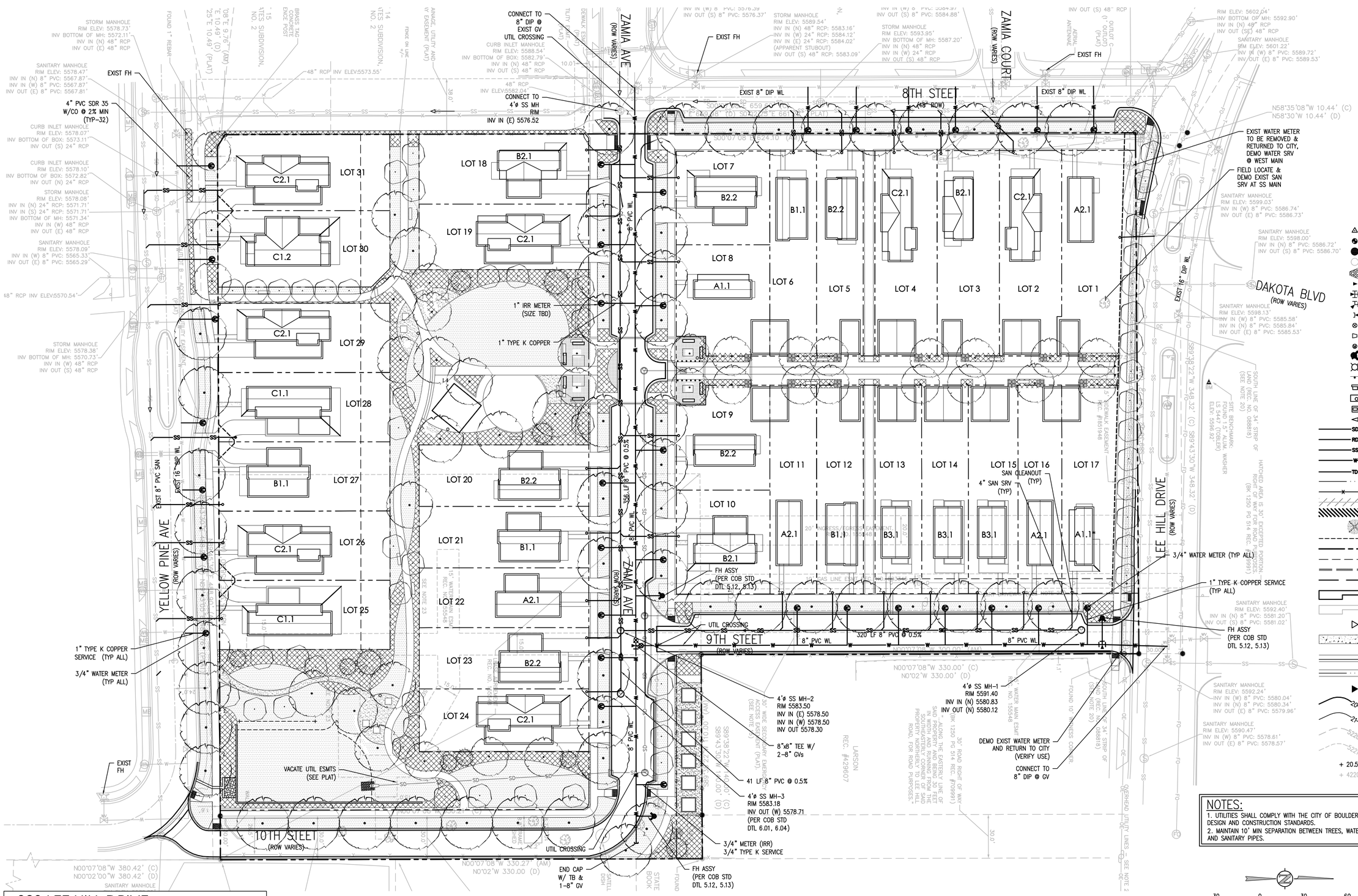
SITE REVIEW CORRECTIONS

# SR-8

STREET ELEVATIONS

10.01.13

Planners · Designers · Builders
3020 Carbon Place # 203
Boulder, CO 80301
303-442-3351
coburndev.com




# 820 LEE HILL DRIVE

BOULDER, COLORADO

COBURN
creating great places™

JVA CONSULTING ENGINEERS

JVA, Incorporated 1319 Spruce Street
Boulder, CO 80302 Phone: 303.444.1951
Fax: 303.444.1957 E-mail: info@jvajva.com

## LEGEND

- SURVEY CONTROL POINT
- BENCHMARK
- PROPOSED MANHOLE
- EXISTING MANHOLE
- RIPRAP
- THRUST BLOCK
- TEE W/ THRUST BLOCK
- BEND W/ THRUST BLOCK
- END CAP W/ THRUST BLOCK
- GATE VALVE
- REDUCER/INCREASER
- WATER METER
- FIRE HYDRANT
- LIGHT POLE
- SIGN
- COMBINATION INLET
- TYPE R INLET
- TYPE 13 FIELD INLET
- FLARED END SECTION
- SD — STORM DRAIN
- RD — ROOF DRAIN
- SS — SANITARY SEWER
- W — WATER
- TD — TRENCH DRAIN
- FLOW LINE
- FENCE
- ABANDON UTILITY
- DEMO UTILITY / STRUCTURE
- DEMO TREE
- LIMITS OF SAWCUT
- PROPERTY LINE / ROW
- EASEMENT LINE
- LIMITS OF WORK
- MATCHLINE
- PROPOSED BUILDING
- EXIST BUILDING
- BLDG ACCESS
- CONCRETE PAVING
- CURB & GUTTER
- GUTTER PAN
- SPILL/CATCH CURB TRANSITION
- 20 — PROPOSED INDEX CONTOUR
- 21 — PROPOSED INTERMEDIATE CONTOUR
- 5220 — EXIST INDEX CONTOUR
- 5221 — EXIST INTERMEDIATE CONTOUR
- + 20.50 — PROPOSED SPOT ELEVATION
- + 4220.5 — EXIST SPOT ELEVATION

SITE REVIEW

## NOTES:

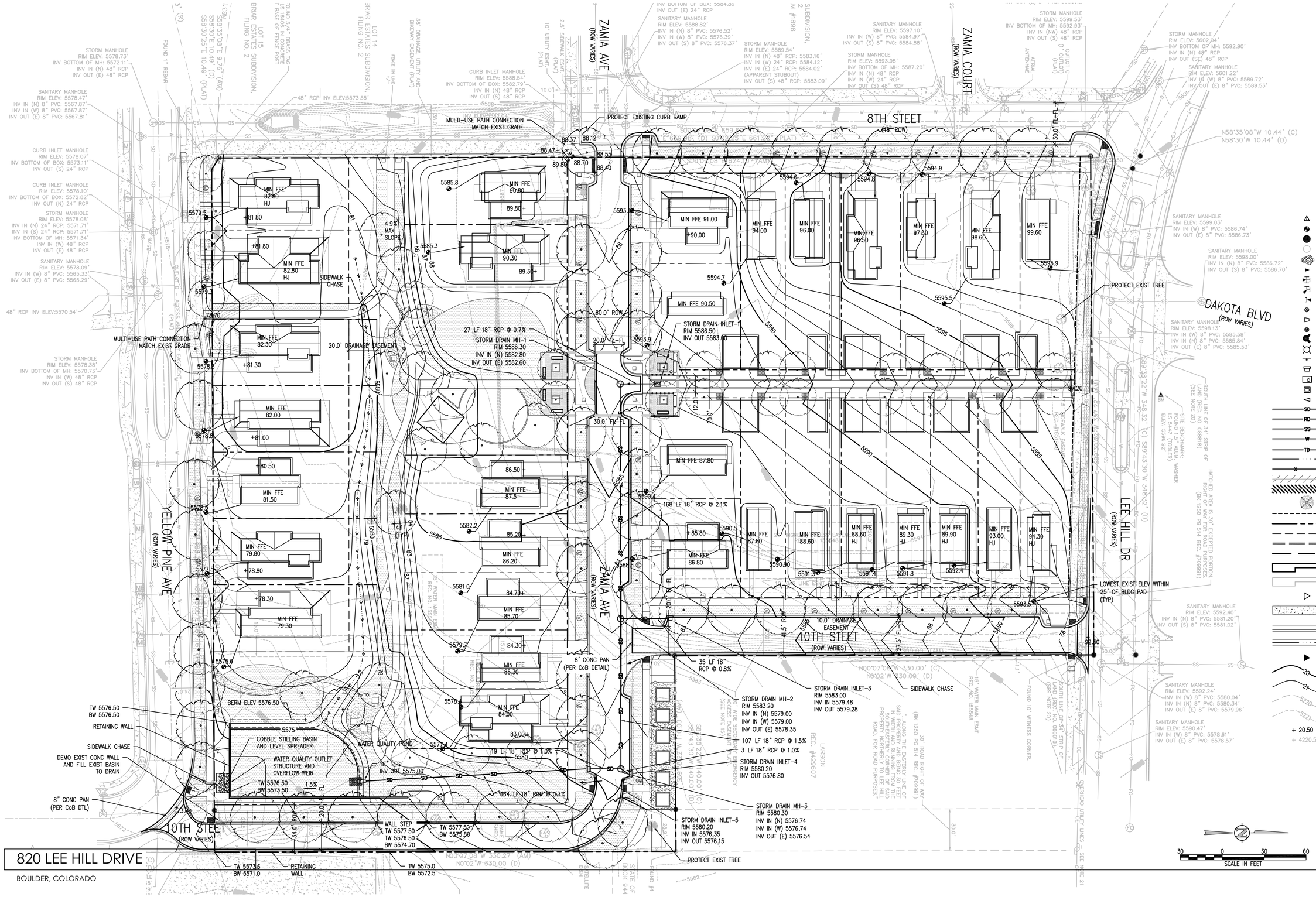
1. UTILITIES SHALL COMPLY WITH THE CITY OF BOULDER DESIGN AND CONSTRUCTION STANDARDS.
2. MAINTAIN 10' MIN SEPARATION BETWEEN TREES, WATER, AND SANITARY PIPES.

C2.0

PRELIMINARY UTILITY PLAN

09.27.13

Planners · Designers · Builders
3020 Carbon Place # 203
Boulder, CO 80301
303-442-3351
coburndev.com




# 820 LEE HILL DRIVE

BOULDER, COLORADO

COBURN
creating great places™

JVA
CONSULTING ENGINEERS


JVA, Incorporated 1319 Spruce Street
Boulder, CO 80302 Phone: 303.444.1951
Fax: 303.444.1957 E-mail: info@jvajva.com


## LEGEND

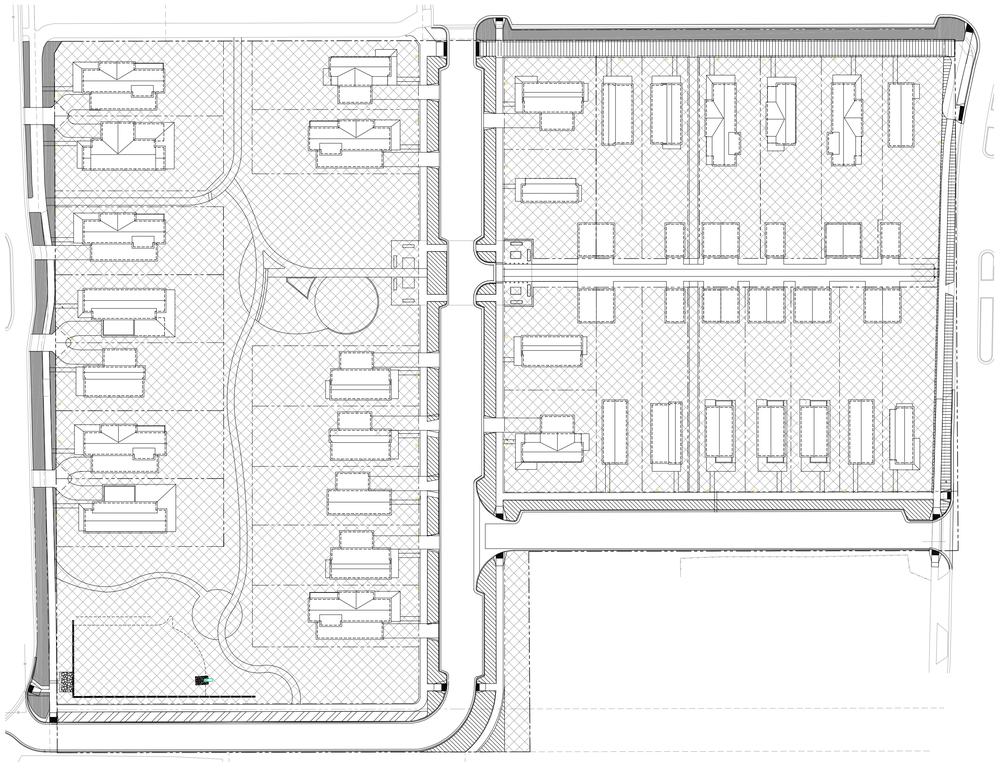
- SURVEY CONTROL POINT
- BENCHMARK
- PROPOSED MANHOLE
- EXISTING MANHOLE
- RIPRAP
- THRUST BLOCK
- TEE W/ THRUST BLOCK
- BEND W/ THRUST BLOCK
- END CAP W/ THRUST BLOCK
- GATE VALVE
- REDUCER/INCREASER
- WATER METER
- FIRE HYDRANT
- LIGHT POLE
- SIGN
- COMBINATION INLET
- TYPE R INLET
- TYPE 13 FIELD INLET
- FLARED END SECTION
- SD — STORM DRAIN
- RD — ROOF DRAIN
- SS — SANITARY SEWER
- W — WATER
- TD — TRENCH DRAIN
- FLOW LINE
- FENCE
- ABANDON UTILITY
- DEMO UTILITY / STRUCTURE
- DEMO TREE
- LIMITS OF SAWCUT
- PROPERTY LINE / ROW
- EASEMENT LINE
- LIMITS OF WORK
- MATCHLINE
- PROPOSED BUILDING
- EXIST BUILDING
- BLDG ACCESS
- CONCRETE PAVING
- CURB & GUTTER
- GUTTER PAN
- SPILL/CATCH CURB TRANSITION
- 20 — PROPOSED INDEX CONTOUR
- 21 — PROPOSED INTERMEDIATE CONTOUR
- 5220 — EXIST INDEX CONTOUR
- 5221 — EXIST INTERMEDIATE CONTOUR
- + 20.50 — PROPOSED SPOT ELEVATION
- + 4220.5 — EXIST SPOT ELEVATION

SITE REVIEW

# C1.0 PRELIMINARY GRADING & DRAINAGE PLAN

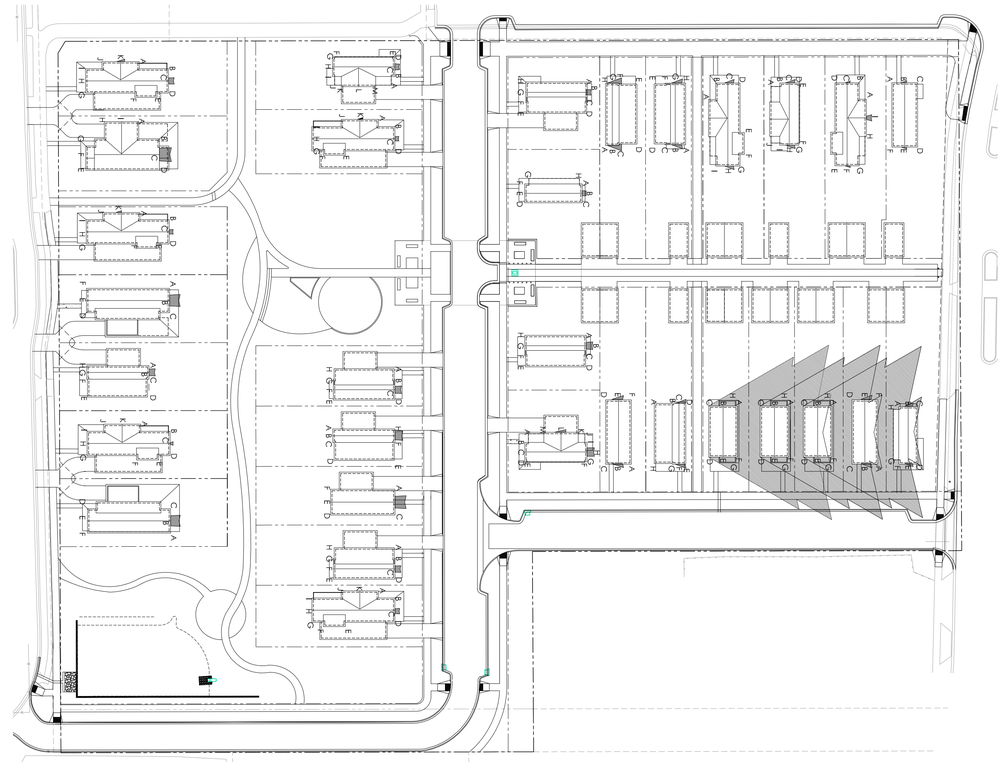
09.27.13


Planners · Designers · Builders
3020 Carbon Place # 203
Boulder, CO 80301
303-442-3351
coburndev.com



OPEN SPACE DIAGRAM

SCALE: 1" = 50'-0"



SOLAR ANALYSIS DIAGRAM

SCALE: 1" = 50'-0"

COBURN ARCHITECTURE

## OPEN SPACE SUMMARY

| TYPE | TOTAL AREA | PERCENTAGE ALLOWED TOWARDS REQUIRED OPEN SPACE | OPEN SPACE COUNTED |
|---|---|---|---|
| TOTAL LOT AREA | 271,097 SF | | |
| REQUIRED OPEN SPACE | 31 HOMES X 6,000 SF = **186,000 SF** | | |
| OPEN SPACE WITHIN ROW (ZAMIA & 10TH) | 9,552 SF | | |
| OPEN SPACE WITHIN 10TH EXTENSION PAE | 1,796 SF | | |
| OPEN SPACE IN PAE ON LEE HILL | 1,807 SF | 20,665 SF TOTAL 10% OF 186,000 SF = 18,600 SF | 18,600 SF |
| OPEN SPACE IN ROW ON YELLOW PINE | 4,407 | | |
| OPEN SPACE IN ROW ON 8TH STREET | 2,711 | | |
| OPEN SPACE IN SHARED DRIVE PAE | 392 | | |
| MULTI USE PATH PAE ON 8TH STREET | 3,844 SF | 0% | |
| *PRIVATE PORCHES / BALCONIES | 6,984 SF | 25% OF 186,000 SF = 46,500 SF | 6,984 SF |
| **TOTAL BUILDING & GARAGE FOOTPRINTS | 37,921.5 SF | | |
| OPEN SPACE OUTSIDE OF ROW & PAE | 162,143 SF | 100% | 162,143 SF |
| | | TOTAL: | 187,727 SF |

*PRIVATE BALCONIES, DECKS AND PATIOS TO BE NOT LESS THAN 36 SF AND NOT LESS THAN 48" IN ANY DIMENSION. BALCONIES, DECKS, OR PATIO AREAS CONSTRUCTED OVER AN ENCLOSED BUILDING ARE NOT TO BE COUNTED PER BRC 9-9-11(I)(B)(B). FRONT PORCHES WILL COMPLY WITH BRC 9-7-4 "SETBACKS FOR FRONT PORCHES".
**FLOOR AREA PER UNIT MAY VARY +/- 15% AND THEREFORE FOOTPRINTS MAY VARY PROPORTIONALLY AS WELL.

KEY:

- OPEN SPACE
- OPEN SPACE IN R.O.W.
- PUBLIC ACCESS EASEMENT OPEN SPACE - LEE HILL
- PUBLIC ACCESS EASEMENT OPEN SPACE - 8TH STREET
- PUBLIC ACCESS EASEMENT OPEN SPACE - 10TH STREET EXTENSION
- OPEN SPACE IN R.O.W. ON YELLOW PINE & 8TH

## SOLAR ANALYSIS WORKSHEET

**Property Zone District: RL-2**

**LOT 13** — **Solar Fence Height** 0

| Roof Element | Step 1: Elevation of Building Element (x) (relative to USGS or datum) | Step 2: Elevation of Grade at Property Line (y)* 10:00 AM | 12:00 PM | 2:00 PM | Step 3: Relative Height of Building Element (h)** 10:00 AM | 12:00 PM | 2:00 PM | Step 4: Length of Shadow (L)*** 10:00 AM | 12:00 PM | 2:00 PM |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 5615 | 5588.4 | 5588.25 | 5588.2 | 26.6 | 26.75 | 26.8 | 70.5 | 53.5 | 71 |
| B | 5621 | 5588.8 | 5588.25 | 5588.2 | 32.2 | 32.75 | 32.8 | 85.3 | 65.5 | 86.9 |
| C | 5615 | 5588.2 | 5588.25 | 5588.2 | 25.8 | 26.75 | 26.8 | 68.4 | 53.5 | 71 |
| D | 5615 | 5588.2 | 5588.05 | 5587.5 | 26.8 | 26.95 | 27.5 | 71 | 53.9 | 72.9 |
| E | 5621 | 5588.1 | 5588.05 | 5587.9 | 32.9 | 32.95 | 33.1 | 87.2 | 65.9 | 87.7 |
| F | 5615 | 5588.1 | 5588.05 | 5588 | 26.9 | 26.95 | 27 | 71.3 | 53.9 | 71.6 |
| G | 5610 | 5588.05 | 5588 | 5587.9 | 21.95 | 22 | 22.1 | 58.2 | 44 | 58.6 |
| H | 5610 | 5588.8 | 5588.5 | 5588.3 | 21.2 | 21.5 | 21.7 | 56.2 | 43. | 57.5 |

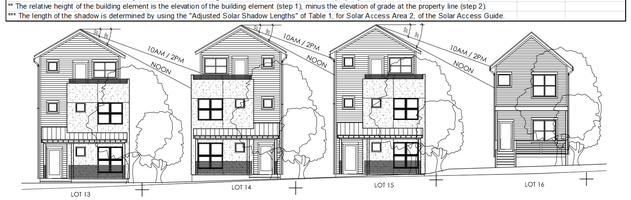
**LOT 14** — **Solar Fence Height** 0

| Roof Element | Step 1: Elevation of Building Element (x) (relative to USGS or datum) | Step 2: Elevation of Grade at Property Line (y)* 10:00 AM | 12:00 PM | 2:00 PM | Step 3: Relative Height of Building Element (h)** 10:00 AM | 12:00 PM | 2:00 PM | Step 4: Length of Shadow (L)*** 10:00 AM | 12:00 PM | 2:00 PM |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 5615.75 | 5589.1 | 5589.1 | 5589.1 | 26.65 | 26.65 | 26.65 | 70.6 | 53.3 | 70.6 |
| B | 5621.75 | 5589.6 | 5589.1 | 5589.05 | 32.15 | 32.65 | 32.7 | 85.2 | 65.3 | 86.7 |
| C | 5615.75 | 5590.1 | 5589.1 | 5589 | 25.65 | 26.65 | 26.75 | 68 | 53.3 | 70.9 |
| D | 5615.75 | 5589 | 5588.9 | 5588.58 | 26.75 | 26.85 | 27.17 | 70.9 | 53.7 | 72 |
| E | 5621.75 | 5589 | 5588.9 | 5588.9 | 32.75 | 32.85 | 32.85 | 86.8 | 65.7 | 87.1 |
| F | 5615.75 | 5588.9 | 5588.9 | 5588.9 | 26.85 | 26.85 | 26.85 | 71.2 | 53.7 | 71.2 |
| G | 5610.75 | 5588.9 | 5588.9 | 5588.9 | 21.85 | 21.85 | 21.85 | 57.9 | 43.7 | 57.9 |
| H | 5610.75 | 5589.6 | 5589.4 | 5589.1 | 21.15 | 21.35 | 21.65 | 56. | 42.7 | 57.4 |

**LOT 15** — **Solar Fence Height** 0

| Roof Element | Step 1: Elevation of Building Element (x) (relative to USGS or datum) | Step 2: Elevation of Grade at Property Line (y)* 10:00 AM | 12:00 PM | 2:00 PM | Step 3: Relative Height of Building Element (h)** 10:00 AM | 12:00 PM | 2:00 PM | Step 4: Length of Shadow (L)*** 10:00 AM | 12:00 PM | 2:00 PM |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 5616.75 | 5591.1 | 5591.1 | 5591.1 | 25.65 | 25.65 | 25.65 | 68 | 51.3 | 68. |
| B | 5622.75 | 5591.2 | 5591.1 | 5591.1 | 31.55 | 31.65 | 31.65 | 83.6 | 63.3 | 83.9 |
| C | 5616.75 | 5591.4 | 5591.1 | 5591.1 | 25.35 | 25.65 | 25.65 | 67.2 | 51.3 | 68. |
| D | 5616.75 | 5591.1 | 5591.1 | 5589.8 | 25.65 | 25.65 | 26.95 | 68 | 51.3 | 71.4 |
| E | 5622.75 | 5591.1 | 5591.1 | 5590.8 | 31.65 | 31.65 | 31.95 | 83.9 | 63.3 | 84.7 |
| F | 5616.75 | 5591.1 | 5591.1 | 5591.1 | 25.65 | 25.65 | 25.65 | 68 | 51.3 | 68. |
| G | 5611.75 | 5591.1 | 5591.1 | 5591 | 20.65 | 20.65 | 20.75 | 54.7 | 41.3 | 55. |
| H | 5611.75 | 5591.2 | 5591.1 | 5591.1 | 20.55 | 20.65 | 20.65 | 54.5 | 41.3 | 54.7 |

* Elevation in USGS or relative to survey datum where the building element's shadow would cross the property line.
** The relative height of the building element is the elevation of the building element (step 1) minus the elevation of grade at the property line (step 2).
*** The length of the shadow is determined by using the "Adjusted Solar Shadow Lengths" of Table 1, for Solar Access Area 2, of the Solar Access Guide.




DECEMBER 21ST SOLAR STUDY

SHADOW ANALYSIS TABLE: FROM TABLE 1 ACCESS AREA II

SHADOW ANALYSIS HAS BEEN DONE ONLY FOR BUILDINGS WITH ROOF ELEMENTS AT ELEVATIONS GREATER THAN 20' ABOVE GRADE. THERE IS NO ANALYSIS DONE FOR GARAGES.

| LOT NUMBER (FFE) | ROOF ELEMENT | HEIGHT ABOVE GRADE | SHADOW LENGTH 10 AM | NOON | 2 PM |
|---|---|---|---|---|---|
| LOT 1 | A | 24.9' | NA | NA | NA |
| | B | 26.1' | 2.87' | 2.2' | 2.87' |
| | C | 24.9' | NA | NA | NA |
| | D | 24.9' | NA | NA | NA |
| | E | 26.1' | 2.87' | 2.2' | 2.87' |
| | F | 24.9' | NA | NA | NA |
| LOT 2 | A | 19.13' | NA | NA | NA |
| | B | 18.95' | NA | NA | NA |
| | C | 26.04' | 2.7' | 2.1' | 2.7' |
| | D | 18.95' | NA | NA | NA |
| | E | 18.95' | NA | NA | NA |
| | F | 26.04' | 2.7' | 2.1' | 2.7' |
| | G | 18.95' | NA | NA | NA |
| | H | 19.13' | NA | NA | NA |
| | I | 25.63' | 4.3' | 3.26' | 4.3' |
| LOT 3 | A | 21.34' | NA | NA | NA |
| | B | 22.28' | NA | NA | NA |
| | C | 26.82' | 4.8' | 3.64' | 4.8' |
| | D | 22.28' | NA | NA | NA |
| | E | 21.34' | NA | NA | NA |
| | F | 21.34' | NA | NA | NA |
| | G | 22.28' | NA | NA | NA |
| | H | 26.82' | 4.8' | 3.64' | 4.8' |
| | I | 22.28' | NA | NA | NA |
| | J | 21.34' | NA | NA | NA |
| LOT 4 | A | 20.0' | NA | NA | NA |
| | B | 19.85' | NA | NA | NA |
| | C | 26.94' | 5.1' | 3.9' | 5.1' |
| | D | 19.85' | NA | NA | NA |
| | E | 22.47' | NA | NA | NA |
| | F | 22.47' | NA | NA | NA |
| | G | 19.85' | NA | NA | NA |
| | H | 26.94' | 5.1' | 3.9' | 5.1' |
| | I | 19.85' | NA | NA | NA |
| LOT 5 | A | 21.34' | NA | NA | NA |
| | B | 27.24' | 5.92' | 4.62' | 5.92' |
| | C | 21.34' | NA | NA | NA |
| | D | 21.34' | NA | NA | NA |
| | E | 21.34' | NA | NA | NA |
| | F | 21.34' | NA | NA | NA |
| | G | 27.24' | 5.92' | 4.62' | 5.92' |
| | H | 21.34' | NA | NA | NA |
| LOT 6 | A | 23.85' | NA | NA | NA |
| | B | 27.81' | 7.4' | 6.1' | 7.4' |
| | C | 23.85' | NA | NA | NA |
| | D | 21.69' | NA | NA | NA |
| | E | 21.69' | NA | NA | NA |
| | F | 23.85' | NA | NA | NA |
| | G | 27.81' | 7.4' | 6.1' | 7.4' |
| | H | 23.85' | NA | NA | NA |
| LOT 7 | A | 20.40' | NA | NA | NA |
| | B | 26.49' | 3.9' | 2.9' | 3.9' |
| | C | 20.40' | NA | NA | NA |
| | D | 20.40' | NA | NA | NA |
| | E | 20.40' | NA | NA | NA |
| | F | 20.40' | NA | NA | NA |
| | G | 26.49' | 3.9' | 2.9' | 3.9' |
| | H | 20.40' | NA | NA | NA |
| LOT 8 | A | 21.78' | NA | NA | NA |
| | B | 26.23' | 3.2' | 2.46' | 3.2' |
| | C | 21.78' | NA | NA | NA |
| | D | 21.78' | NA | NA | NA |
| | E | 26.23' | 3.2' | 2.46' | 3.2' |
| | F | 21.78' | NA | NA | NA |
| | G | 20.48' | NA | NA | NA |
| | H | 20.48' | NA | NA | NA |
| LOT 9 | A | 20.87' | NA | NA | NA |
| | B | 27' | 5.3' | 4.0' | 5.3' |
| | C | 20.87' | NA | NA | NA |
| | D | 20.87' | NA | NA | NA |
| | E | 20.87' | NA | NA | NA |
| | F | 20.87' | NA | NA | NA |
| | G | 27'-0' | 5.3' | 4.0' | 5.3' |
| | H | 20.87' | NA | NA | NA |
| LOT 10 | A | 21.54 | NA | NA | NA |
| | B | 22.49' | NA | NA | NA |
| | C | 26.96' | 5.9' | 4.6' | 5.9' |
| | D | 22.49 | NA | NA | NA |
| | E | 21.54 | NA | NA | NA |
| | F | 21.54 | NA | NA | NA |
| | G | 22.49 | NA | NA | NA |
| | H | 26.96' | 5.9' | 4.6' | 5.9' |
| | I | 22.49 | NA | NA | NA |
| | J | 21.54 | NA | NA | NA |
| | K | 22.49 | NA | NA | NA |
| | L | 26.48 | 3.9' | 3.0' | 3.9' |
| | M | 22.49 | NA | NA | NA |
| LOT 11 | A | 20.38 | NA | NA | NA |
| | B | 27.0' | 5.3' | 4.0' | 5.3' |
| | C | 20.38 | NA | NA | NA |
| | D | 20.38 | NA | NA | NA |
| | E | 27.0' | 5.3' | 4.0' | 5.3' |
| | F | 20.38 | NA | NA | NA |
| LOT 12 | A | 21.03 | NA | NA | NA |
| | B | 23.19' | NA | NA | NA |
| | C | 27.15' | 5.9' | 4.3' | 5.9' |
| | D | 23.19' | NA | NA | NA |
| | E | 23.19' | NA | NA | NA |
| | F | 27.15' | 5.9' | 4.3' | 5.9' |
| | G | 23.19' | NA | NA | NA |
| | H | 21.03 | NA | NA | NA |
| LOT 16 | A | 19.58' | NA | NA | NA |
| | B | 27.19' | 5.8' | 4.4' | 5.8' |
| | C | 19.58' | NA | NA | NA |
| | D | 19.58' | NA | NA | NA |
| | E | 27.19' | 5.8' | 4.4' | 5.8' |
| | F | 19.58' | NA | NA | NA |
| LOT 17 | A | 22.08' | NA | NA | NA |
| | B | 26.54' | 4.1' | 3.1' | 4.1' |
| | C | 22.08' | NA | NA | NA |
| | D | 22.08' | NA | NA | NA |
| | E | 26.54' | 4.1' | 3.1' | 4.1' |
| | F | 22.08' | NA | NA | NA |
| | G | 20.78' | NA | NA | NA |
| | H | 20.78' | NA | NA | NA |
| LOT 18 | A | 21.04' | NA | NA | NA |
| | B | 21.98' | NA | NA | NA |
| | C | 26.46' | 3.8' | 2.9' | 3.8' |
| | D | 21.98' | NA | NA | NA |
| | E | 21.04' | NA | NA | NA |
| | F | 21.04' | NA | NA | NA |
| | G | 21.98' | NA | NA | NA |
| | H | 26.46' | 3.8' | 2.9' | 3.8' |
| | I | 21.98' | NA | NA | NA |
| | J | 21.04' | NA | NA | NA |
| | K | 21.46' | NA | NA | NA |
| | L | 25.98' | 2.6' | 2' | 2.6' |
| | M | 21.46' | NA | NA | NA |
| LOT 19 | A | 19.32' | NA | NA | NA |
| | B | 19.15' | NA | NA | NA |
| | C | 26.23' | 3.2' | 2.5' | 3.2' |
| | D | 19.15' | NA | NA | NA |
| | E | 21.81' | NA | NA | NA |
| | F | 21.81' | NA | NA | NA |
| | G | 19.15' | NA | NA | NA |
| | H | 26.23' | 3.2' | 2.5' | 3.2' |
| | I | 19.15' | NA | NA | NA |
| | J | 19.32' | NA | NA | NA |
| | K | 25.82' | 2.6' | 2' | 2.6' |
| LOT 20 | A | 20.87' | NA | NA | NA |
| | B | 20.87' | NA | NA | NA |
| | C | 26.99' | 5.3' | 4.0' | 5.3' |
| | D | 20.87' | NA | NA | NA |
| | E | 20.87' | NA | NA | NA |
| | F | 26.99' | 5.3' | 4.0' | 5.3' |
| | G | 20.87' | NA | NA | NA |
| | H | 20.87' | NA | NA | NA |
| LOT 21 | A | 23.39' | NA | NA | NA |
| | B | 27.4' | 3.7' | 2.8' | 3.7' |
| | C | 23.39' | NA | NA | NA |
| | D | 21.22' | NA | NA | NA |
| | E | 21.22' | NA | NA | NA |
| | F | 23.39' | NA | NA | NA |
| | G | 27.4' | 3.7' | 2.8' | 3.7' |
| | H | 23.39' | NA | NA | NA |
| LOT 22 | A | 20.78 | NA | NA | NA |
| | B | 28.39' | 9.0' | 6.8' | 9.0' |
| | C | 20.78 | NA | NA | NA |
| | D | 20.78 | NA | NA | NA |
| | E | 28.39' | 9.0' | 6.8' | 9.0' |
| | F | 20.78 | NA | NA | NA |
| LOT 23 | A | 20.67 | NA | NA | NA |
| | B | 20.67 | NA | NA | NA |
| | C | 26.78 | 4.7' | 3.6' | 4.7' |
| | D | 20.67 | NA | NA | NA |
| | E | 20.67 | NA | NA | NA |
| | F | 26.78 | NA | NA | NA |
| | G | 20.67 | NA | NA | NA |
| | H | 20.67 | NA | NA | NA |
| LOT 24 | A | 19.52' | NA | NA | NA |
| | B | 19.35' | NA | NA | NA |
| | C | 26.44 | 3.8' | 2.9' | 3.8' |
| | D | 19.35' | NA | NA | NA |
| | E | 21.97' | NA | NA | NA |
| | F | 21.97' | NA | NA | NA |
| | G | 19.35' | NA | NA | NA |
| | H | 26.44 | 3.8' | 2.9' | 3.8' |
| | I | 19.35' | NA | NA | NA |
| | J | 19.52' | NA | NA | NA |
| | K | 26.02' | 2.6' | 2.0' | 2.6' |
| LOT 25 | A | 18.39' | NA | NA | NA |
| | B | 27.97' | 7.8' | 5.9' | 7.8' |
| | C | 18.39' | NA | NA | NA |
| | D | 18.39' | NA | NA | NA |
| | E | 27.97' | 7.8' | 5.9' | 7.8' |
| | F | 18.39' | NA | NA | NA |
| LOT 26 | A | 18.58' | NA | NA | NA |
| | B | 18.4' | NA | NA | NA |
| | C | 25.48 | 2.6' | 2.0' | 2.6' |
| | D | 18.4' | NA | NA | NA |
| | E | 21.07' | NA | NA | NA |
| | F | 21.07' | NA | NA | NA |
| | G | 18.4' | NA | NA | NA |
| | H | 25.48 | 2.6' | 2.0' | 2.6' |
| | I | 18.4' | NA | NA | NA |
| | J | 18.58 | NA | NA | NA |
| | K | 25.07' | NA | NA | NA |
| LOT 27 | A | 22.94' | NA | NA | NA |
| | B | 26.90' | 5.0' | 3.8' | 5.0' |
| | C | 22.94' | NA | NA | NA |
| | D | 20.77' | NA | NA | NA |
| | E | 20.77' | NA | NA | NA |
| | F | 22.84' | NA | NA | NA |
| | G | 26.90' | 5.0' | 3.8' | 5.0' |
| | H | 22.94' | NA | NA | NA |
| LOT 28 | A | 18.59' | NA | NA | NA |
| | B | 28.17' | 8.4' | 6.3' | 8.4' |
| | C | 18.59' | NA | NA | NA |
| | D | 18.59' | NA | NA | NA |
| | E | 28.17' | 8.4' | 6.3' | 8.4' |
| | F | 18.59' | NA | NA | NA |
| LOT 29 | A | 19.32' | NA | NA | NA |
| | B | 19.15' | NA | NA | NA |
| | C | 26.23' | 3.2' | 2.5' | 3.2' |
| | D | 19.15' | NA | NA | NA |
| | E | 21.77' | NA | NA | NA |
| | F | 21.77' | NA | NA | NA |
| | G | 19.15' | NA | NA | NA |
| | H | 26.23' | 3.2' | 2.5' | 3.2' |
| | I | 19.15' | NA | NA | NA |
| | J | 19.32' | NA | NA | NA |
| | K | 25.82' | 2.6' | 2.0' | 2.6' |
| LOT 30 | A | 19.27' | NA | NA | NA |
| | B | 19.09' | NA | NA | NA |
| | C | 28.67' | 9.7' | 7.3' | 9.7' |
| | D | 19.09' | NA | NA | NA |
| | E | 19.09' | NA | NA | NA |
| | F | 28.67' | 9.7' | 7.3' | 9.7' |
| | G | 19.09' | NA | NA | NA |
| | H | 19.27' | NA | NA | NA |
| LOT 31 | I | 28.22' | 8.5' | 6.4' | 8.5' |
| | A | 19.82' | NA | NA | NA |
| | B | 19.65' | NA | NA | NA |
| | C | 26.73' | 4.6' | 3.5' | 4.6' |
| | D | 19.65' | NA | NA | NA |
| | E | 22.67' | NA | NA | NA |
| | F | 22.67' | NA | NA | NA |
| | G | 19.65' | NA | NA | NA |
| | H | 26.73' | 4.6' | 3.5' | 4.6' |
| | I | 19.65' | NA | NA | NA |
| | J | 19.82' | NA | NA | NA |
| | K | 26.32' | 3.5' | 2.6' | 3.5' |

SITE REVIEW CORRECTIONS

# SR-3

10.01.13

820 LEE HILL DRIVE

BOULDER, COLORADO


Planners · Designers · Builders
3020 Carbon Place # 203
Boulder, CO 80301
303-442-3351
coburndev.com

CONTEXTUAL EXAMPLES:

ASPHALT SHINGLE ROOF
CEMENT OR FIBER BOARD LAP SIDING
HARDCOAT STUCCO
STONE

8TH STREET

ASPHALT SHINGLE ROOF
HARDCOAT STUCCO
STONE
CEMENT OR FIBER BOARD LAP SIDING

ZAMIA AVE.

CEMENT OR FIBER BOARD LAP SIDING
ASPHALT SHINGLE ROOF
STONE

YELLOW PINE AVE.

CEMENT OR FIBER BOARD LAP SIDING
ASPHALT SHINGLE ROOF

10TH (DAKOTA RIDGE)

ASPHALT SHINGLE ROOF
CEMENT OR FIBER BOARD LAP SIDING
BRICK

10TH (DAKOTA RIDGE)

ASPHALT SHINGLE ROOF
CEMENT OR FIBER BOARD LAP SIDING
BRICK

DAKOTA BLVD.

ASPHALT SHINGLE ROOFING

CEMENT BOARD LAP SIDING

COBURN ARCHITECTURE

STANDING SEAM METAL ROOFING ACCENTS

HARDCOAT STUCCO SYSTEM

BRICK

COLOR MATRIX

These colors are representative of the range of colors expected to be used on the buildings at 820 Lee Hill. It is expected that there may be multiple colors per building. Different buildings of the same unit type are expected to have unique color schemes to promote diversity and interest, as well as individual identity for each building. The colors represented may be either a trim or body color. Trim colors will be a contrasting color that compliments the colors used on the body.

SITE REVIEW CORRECTIONS

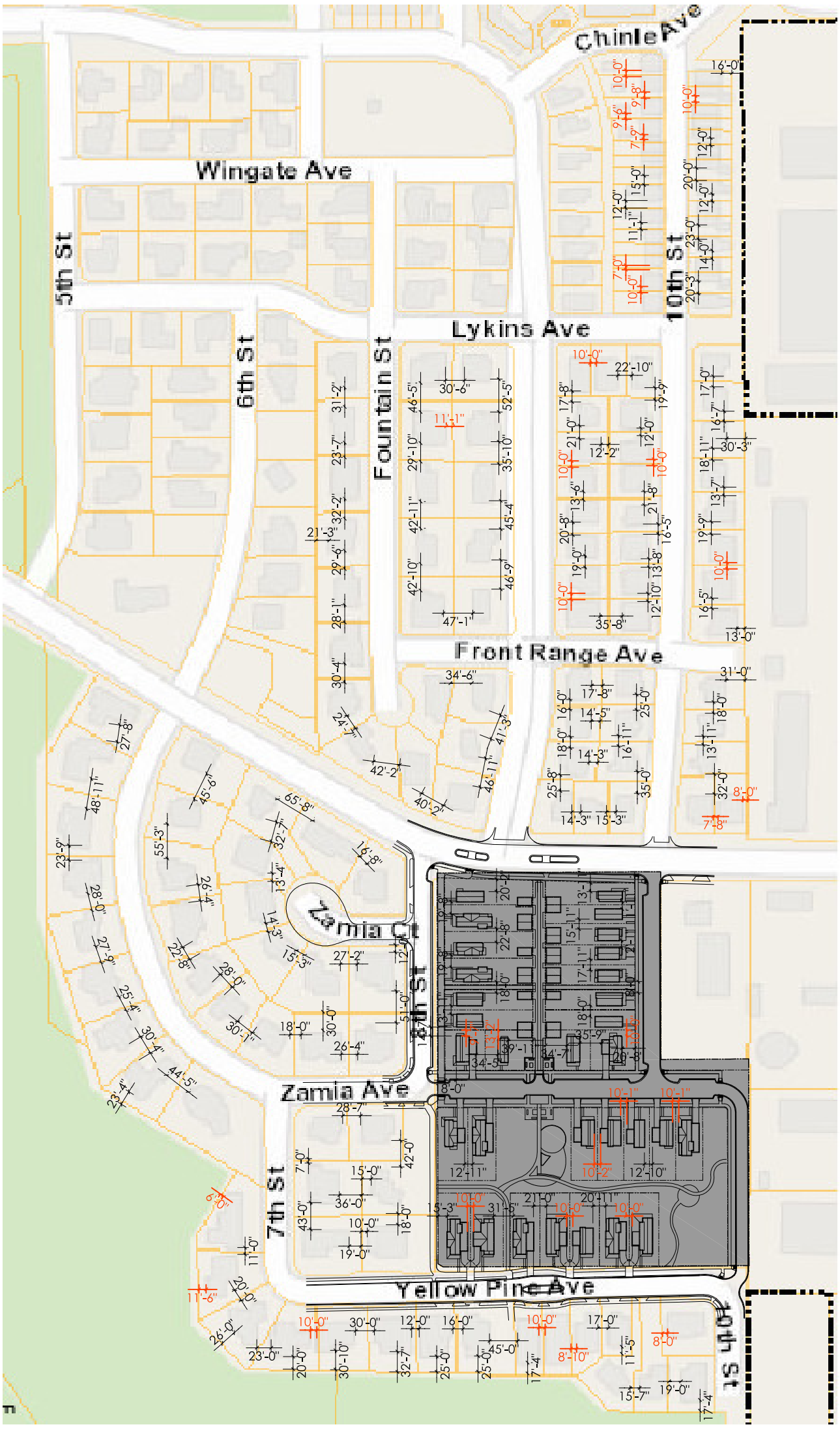
# MATERIAL BOARD

10.01.13

820 LEE HILL DRIVE

BOULDER, COLORADO

Planners - Designers - Builders
3020 Carbon Place # 205
Boulder, CO 80301
303-443-3351
coburnbuilder.com




## CONTEXT PLAN

NTS

GENERAL NOTE:
DIMENSIONS SHOWN ARE GENERATED FROM AN AERIAL VIEW OF THE SITE AND SURROUNDING AREA AND ARE DEEMED A FAIR REPRESENTATION. THEY WERE NOT FIELD MEASURED AND ARE NOT AN EXACT REFORESTATION.

DIMENSIONS IN RED ILLUSTRATE BUILDING SEPARATION LESS THAN OR EQUAL TO 10'-0" AS WELL AS REAR SETBACKS LESS THAN 13'-0".

**820 Lee Hill**
**RESPONSE TO GENERAL CRITERIA FOR SITE REVIEW APPLICATION:**

**June 3rd, 2013**

**Description of Project:**

The 820 Lee Hill Site is being proposed for redevelopment by Allison Management / Thistle Communities. This partnership is the largest homeownership affordable housing developer in Boulder County, and they are committed to providing affordable housing to families living and working in Boulder. In collaboration with Coburn Architecture, the team is proposing to create a high quality single family home neighborhood on a site within the established urban fabric of North Boulder. This development takes advantage of an underutilized, previously developed site in a location well served by existing city utilities, transit infrastructure and recreation opportunities.

The proposed development consists of 32 single family homes on an approximately 6 acre site arranged in a traditional development pattern intended to become an integral part of the North Boulder Subcommunity. The surrounding street pattern will be reflected and supported by the development, which will include both alley and street served homes, each of which will be located on its own lot and include a one-car garage. An alley will be provided to serve a significant portion of the parking and minimize garage doors facing the street on the north portion of the site, and on the south side of the parcel, street-served driveways will be provided to link this portion to the existing single family home pattern on the south side of Yellow Pine Ave. The majority of the driveways are paired to create fewer street cuts than would otherwise be necessary. All homes and lots are to be sold as fee simple properties.

The houses are oriented to provide inviting front porches toward the street and private open space at the back of each house with the goal of maximizing the opportunity for the future residents to enjoy the lifestyle found throughout the single family home neighborhoods in the surrounding community. 20% percent of the homes (6) will be permanently deed-restricted and fill an important gap in the city's affordable housing stock and assist in meeting long-term city goals. The other 26 homes will be sold to market rate buyers. It is important to note that the partnership strives to create a true mixed income community and sell some of the market homes to the Boulder workforce similar to its previous projects at Yarmouth Way and Rosewood. To meet this objective, the costs need to be controlled, as the six affordable homes cannot be increased in price, and any additional costs associated with the project would be added to the market homes to keep the project feasible. Examples of this issue are items such as undergrounding overhead utility lines and adding additional streets and public rights-of-way which would add cost without creating a corresponding benefit in this project.

Care has been given to the type and quality of the Open Space within the neighborhood. A wide variety of open space types have been provided, and this diversity and depth of amenity will enhance the livability of the community.

- A central park has been provided in the heart of the development. This will be a well programmed, more formal open space, suitable for elements such as a playground and community gardens. This park will be open to the larger community as well and inviting entrances have been designed to welcome users. The park will be maintained by the 820 Lee Hill HOA.

- The yards that surround the park extend the green space and create a larger common green around the park, especially to the south. When combined with the generously spaced east-west path that meanders through this area, this provides a larger green buffer, extends the perception of open space, and joins the parks and the more informal open space to the east by utilizing an area that is less like a path and more like a community space.
- An informal, more natural open space has been provided on the east side of the site. This serves as a more natural area for play, as well as serving as a slight depression for the purposes of water quality.
- A woonerf in the alley. A woonerf is a shared space which allows for pedestrians, bikers, and automobiles, as well as socialization and play. They work well when the vehicle becomes tertiary and people on foot have the greatest importance in the space. They have been successfully incorporated into many projects. At Yarmouth Way, a mixed income project by the same team, a very similar woonerf has been highly successful and is used by the community as an area for gathering and socializing with your neighbors, as well as by the children for riding bikes and other types of play. These areas feel like an opportunity for outside use and are less focused on the automobile, and in this way take a space that would otherwise be dedicated to cars and give it back to the people. This is supported by the fact that the car count on this alley is very low, allowing for its primary function to be open space. The areas directly in front of the garages have not been utilized as or counted as open space.
- Private yards for each home.
- Individual patios, porches and decks

The team has had many meetings with the surrounding community, and much of the design has been born of those discussions. After Concept Review, the team has again met with the immediate neighbors and has modified the design based on that input. Further meetings will be held with the neighbors to gather input on park programming.

## Statement of Ownership:

This site is currently owned and operated by Boulder County.

## Changes to standards that are requested:

This project is requesting some minor variances to the code standards. They include variances to the side yard sloping setback requirements, as well as other setback requirements including front yards and rear yards.

## Preliminary Project Schedule:

- Site Review Application 06/3/13

- Technical Document Submittal 9/07/13

- Permit Submittal 11/10/13

- Construction Start 1/24/14

- Final Certificate of Occupancy 10/25/14

**Following is a detailed description of how this application meets the criteria for approval:**

*I. Boulder Valley Comprehensive Plan:*
***(A) How is the proposed site plan consistent with the purposes and policies of the Boulder Valley Comprehensive Plan?***

The proposed plan is consistent with the purposes and policies of the Boulder Valley Comprehensive Plan. Some relevant examples are as follows:

- 2.01 Unique Community Identity: This project helps flesh out and realize the vision of the North Boulder Subcommunity Plan, providing a diversity of residential units sizes in a planned for residential location.

- 2.03 Compact Land Use Pattern: This redevelopment provides needed smaller houses on small lots in a single family context, providing a compact development pattern.

- 2.09 Neighborhoods as Building Blocks: This project supports the design intent of the North Boulder Area Plan, with interesting architecture and support for residential, as well as paying attention to the street level, alternative transportation modes, and sustainability.

- 2.13 Support for Residential Neighborhoods: The development provides all the amenities required by a residential neighborhood including narrow streets, bike paths, and human scaled structures with diversity and interest. Additionally, the neighborhood helps to break down the superblock scale of the area into a more pedestrian pattern, augmenting the livability of the residential areas which surround it.

- 2.14 Mix of Complementary Land Uses: This project supports the diversity of unit types called for in the North Boulder Area Plan

- 2.21 Commitment to a Walkable City: The open space areas in the community are carefully crafted to serve the residents well. We have designed the open spaces to provide areas for the amenities needed for day to day living by a range of resident types from children to seniors. The centralized locations of the main park and woonerf provide density relief as well as focusing the heart of the development on community open space.

- 2.30-34, 2.37 Design Quality elements: this project will preserve and complete the city's vision for North Boulder, plant the envisioned street trees and landscape elements, complete half streets at 8th and Yellow Pine, create interest at the pedestrian level, help create walkability and neighborhood with its front porches and community elements on the

street, and utilize a sensitive, modestly scaled infill development pattern. Entries are visibly from the public way, the buildings are human scaled, and are compatible with the surrounding area.

- 4.04-05 Energy-efficiency: this project places residential units in an area with readily available alternative transportation, access to bike paths, and a strong pedestrian network. Additionally, the buildings will be design to support solar panels, and will be designed to exceed the requirements of the 2012 IECC by 20%. The developer is in discussion with Namaste Solar to provide solar panels on all affordable homes.

- 4.06-07 Construction Waste and Recycling: The majority of the construction waste will be recycled, and excess construction material will be minimized as much as practical.

- 5.01-17 Economy: Bringing residential units into this developing area will help support the local business and assist in bringing the North Boulder Area Plan to fruition. The smaller homes, such as the Unit As that average approximately 1,200 sq. ft., provide a much needed market rate price point not otherwise found in the area, helping to bridge the gap between affordable and market rate options.

- 6.01-612 Transportation: The development supports alt modes by virtue of its support for bikers and walkers, including pedestrian street crossings, the woonerf, open space, a park, the bike paths, and pedestrian cut-throughs. The development team is investigating other approaches to community-based transportation sharing within this new neighborhood.

- 7 Housing: This project will add six onsite units to the affordable housing stock, and will provide housing units with easy access to alt modes and a reduced emphasis on the automobile.

-

*"(B) The proposed development shall not exceed the maximum density associated with the Boulder Valley Comprehensive Plan residential land use designation. Additionally, if the density of existing residential development within a 300 foot area surrounding the site is at or exceeds the density permitted in the Boulder Valley Comprehensive Plan, then the maximum density permitted on the site shall not exceed the lesser of:*
*(i) the density permitted in the Boulder Valley Comprehensive Plan, or,*
*(ii) the maximum number of units that could be placed on the site without waiving or varying any of the requirements of Chapter 9-3.2, "Bulk and Density*
*Standards," B.R.C. 1981.*
*How is the proposed site plan consistent with the above density criteria?"*

This proposal complies with or is below the density limitations of the Boulder Land Use Code.

*II. Site Design:*
*Projects should preserve and enhance the community's unique sense of place through creative design that respects historic character, relationship to the natural environment, and its physical setting. Projects should utilize site design techniques which enhance the quality of the project. In determining whether this subsection is met, the approving agency will consider the following factors:*

*A. <u>Open space, including without limitation, parks, recreation areas, and playgrounds:</u>*
*1. How is useable open space arranged to be accessible and functional?"*

Care has been given to the type and quality of the Open Space within the neighborhood. A wide variety of open space types have been provided, and this complexity and depth of amenity will enhance the livability of the community.

- A central park has been provided in the heart of the development. This will be a well programmed, more formal open space, suitable for elements such as a playground and community gardens. This park will be open to the larger community as well and inviting entrances have been designed to welcome users. The park will be maintained by the 820 Lee Hill HOA.
- The yards that surround the park extend the green space and create a larger common green around the park, especially to the south. When combined with the generously spaced east-west path that meanders through this area, this provides a larger green buffer, extends the perception of open space, and joins the parks and the more informal open space to the east by utilizing an area that is less like a path and more like a community space.
- An informal, more natural open space has been provided on the east side of the site. This serves as a more natural area for play, as well as serving as a slight depression for the purposes of water quality (not detention.)
- A woonerf in the alley. A woonerf is a shared space which allows for pedestrians, bikers, and automobiles, as well as socialization and play. They work well when the vehicle becomes tertiary and people on foot have the greatest importance in the space. They have been successfully incorporated into many projects. At Yarmouth Way, a mixed income project by the same team, a very similar woonerf has been highly successful and is used by the community as an area for gathering and socializing with your neighbors, as well as by the children for riding bikes and other types of play. These areas feel like an opportunity for outside use and are less focused on the automobile, and in this way take a space that would otherwise be dedicated to cars and give it back to the people. This is supported by the fact that the car count on this alley is very low, allowing for its primary function to be open space. The areas directly in front of the garages have not been utilized as or counted as open space.
- Private yards for each home.
- Individual patios, porches and decks

There is high quality private open space, utilized for each individual unit, in decks and balconies and patio spaces, off of the main living space of each unit. This private open space is protected by mostly opaque rails, which provide privacy from the street allowing the decks to feel usable, personal and defensible.

The site is designed to take advantage of view corridors and the natural surroundings. There is also highly utilized and developed open space two blocks away, and much of the site design and open space arrangement in this project is designed to tie this neighborhood into that larger open space network and opportunity.

*2. How is private open space provided for each detached residential unit?*

Each individual unit has a private yard, as well as porches and patios. Some units have potential decks. The yards are purposefully small and low-impact, and utilize the common, central park for larger format activities, in the manner of a shared, public backyard.

*3. How does the project provide for the preservation of natural features, including, without limitation, healthy long-lived trees, terrain, significant plant communities, threatened and endangered species and habitat, ground and surface water, wetlands, riparian areas, and drainage areas?"*

As this site had been mostly denuded through its previous use, there are not many natural features worth saving. There are existing trees along 8th street, and as many of those evergreens that could be saved and still allow for utility connections have been kept.

*4. How does the open space provide a relief to the density, both within the project and from surrounding development?*

The many types of open space utilize the surrounding built environment to create excellent space and charged areas. The houses that surround the central park provide eyes onto and energy for the park, allowing it to be communal and a neighborhood heart. The woonerf transforms an otherwise lost space into an urban feature. The individual yards provide privacy, and the eastern more natural open space provides a place to run and play, as well as a place to be contemplative and to relax.

*5. How does the open space provide a buffer to protect sensitive environmental features and natural areas?*

NA

*6. If possible, how is open space linked to an area- or a city-wide system?*

The open space is tied, through bike paths, crossing pedestrian paths, and natural paths, to the open space to the south, to the sidewalks both within and surrounding the neighborhood, and to the bike lanes on the street. The bike path coming into the formal park in the center of the neighborhood allows for the pedestrian and bike traffic to become part of the development. This central pedestrian spine continues north through the development through the woonerf to tie into the sidewalk system at Lee Hill. In this way, the most direct and important hierarchical circulation is reserved for bikes and pedestrians, and automobiles become tertiary.

***B. <u>Landscaping:</u>***

*1. How does the project provide for aesthetic enhancement and a variety of plant and hard surface materials, and how does the selection of materials provide for a variety of colors and contrast and how does it incorporate the preservation or use of local native vegetation where appropriate?*

The project provides an enormous variety of landscape types, including hardscape, permeable path material such as crushed fines, patterned and or colored concrete, colored walks, paths, mulched planting beds, ground cover, shrubs, flowers, trees, street trees, gates, boulders, and other elements. It is intended to be a lush and varied foreground to the homes.

*2. How does the landscape and design attempt to avoid, minimize, or mitigate impacts to important native species, plant communities of special concern, threatened and endangered species and habitat by integrating the existing natural environment into the project?*

NA

*3. How does the project provide significant amounts of plant material sized in excess of the landscaping requirements of Sections 9-3.3-2 and 9-3.3-3, "Landscaping and Screening Requirements," and "Landscape Design Standards," B.R.C. 1981*

See the Landscape Plan for placements. The site plan celebrates the entrances to the project at the bike paths, the woonerf, the pedestrian crossing and the natural open space, as well as providing interesting and varied landscape elements throughout in excess of what would be considered typical in a neighborhood of this type.

*4. How are the setbacks, yards, and useable open space along public rights-of-way landscaped to provide attractive streetscapes, to enhance architectural features, and to contribute to the development of an attractive site plan?*

The project will provide attractive streetscapes within the new development as well as highlight the pedestrian experience. In addition, the project will provide a substantial upgrade to the existing streetscape at both 8th and Yellow Pine, creating more livability, usability, and pedestrian interest.

***C. <u>Circulation, including, without limitation, the transportation system that serves the property, whether public or private and whether constructed by the developer or not:</u>***

*1. How are high speeds discouraged or a physical separation between streets and the project provided?*

The streets are narrowed to slow traffic. On-street parking is provided, and pedestrian crossings are marked and clearly have greater hierarchy than the vehicular way, both of which will also slow speeds. A detached sidewalk and tree lawn will also enhance pedestrian comfort.

*2. How are potential conflicts with vehicles minimized?*

Traffic is slowed and the woonerf, narrow streets, and well decorated pedestrian crossings clearly give the greatest importance to the pedestrian, which helps reduce conflicts. Bike paths are provided throughout the site, as are pedestrian paths and walking shortcuts. The bike path on the south part of the site has been straightened as it crosses Yellow Pine to avoid bike/car conflicts in this location and avoid a common path of travel along the street.

*3. How are safe and convenient connections accessible to the public within the project and between the project and existing and proposed transportation systems provided, including without limitation streets, bikeways, pedestrian ways and trails?*

See above answers.

*4. How are alternatives to the automobile promoted by incorporating site design techniques, land use patterns, and supporting infrastructure that supports and encourages walking, biking, and other alternatives to the single occupant vehicle?*

See above answers. Additionally, there is a limited amount of infrastructure provided for the car, including limited garage space and limited pavement. This helps refocus the neighborhood on alternative transportation.

*5. Where practical and beneficial, how is a significant shift away from single- occupant vehicle use to alternate modes promoted through the use of travel demand management techniques?*

See the TDM plan.

*6. What on-site facilities for external linkage with other modes of transportation are provided, where applicable?*

See above and the TDM plan.

*7. How is the amount of land devoted to the street system minimized?*

The streets are kept as narrow as possible, and alleys are utilized to minimize the asphalt on the site. Additionally, the streets build upon the existing street grid to avoid duplicating what is already in place with extra streets.

*8. How is the project designed for the types of traffic expected, including, without limitation, automobiles, bicycles, and pedestrians, and how does it provide safety, separation from living areas, and control of noise and exhaust?*

Vehicular traffic is tied to existing streets and the extension of those streets, providing a fairly circuitous travel route. Bicycles and pedestrians have the most direct path of travel through the site, as well as have the most options for travel direction and cut-throughs. Generally, through landscaping, setbacks, alley loaded garages, single car garages, open space areas and other means, automobiles are either physically separated forom or made subordinate to the surrounding homes and pedestrians.

*9. How will city construction standards be met, and how will emergency vehicle use be facilitated?*

The street system will meet the guidelines of the City of Boulder as well as reflect the intention of the Transportation Master Plan.

***D. <u>Parking:</u>***

*1. How does the project incorporate into the design of parking areas, measures to provide safety, convenience, and separation of pedestrian movements from vehicular movements?*

Traffic is slowed and the woonerf, narrow streets, and well decorated pedestrian crossings clearly give the greatest importance to the pedestrian, which helps reduce conflicts. Bike paths are provided throughout the site, as are pedestrian paths and walking shortcuts. The bike path on the south part of the site has been straightened as it crosses Yellow Pine to avoid bike/car conflicts in

this location and avoid a common path of travel along the street. In the north portion of the site, the alley removes traffic and parking from the front of the units.

*2. How does the design of parking areas make efficient use of the land and use the minimum amount of land necessary to meet the parking needs of the project?*

Single car garages, the use of existing streets, an alley where appropriate, and street parking greatly reduce the amount of land dedicated to parking.

*3. How are parking areas and lighting designed to reduce the visual impact on the project, adjacent properties, and adjacent streets?*

Parking areas will be lit only with building lighting.

*4. How do parking areas utilize landscaping materials to provide shade in excess of the requirements in Section 9-3.3-12, "Parking Area Design Standards," B.R.C. 1981?*

Parking is incorporated in a non centralized manner throughout the development. See the landscape plan for landscaping details.

***E. Building Design, Livability, and Relationship to the Existing or Proposed Surrounding Area:***

*1. How are the building height, mass, scale, orientation, and configuration compatible with the existing character of the area or the character established by an adopted plan for the area?*

This community is planned to be a high quality, walkable, well designed neighborhood with a focus on pedestrian interest; moderately sized, well detailed homes; site amenities; and visual interest. This focus is a perfect blend of the City of Boulder's land use goals and the existing context of the surrounding area.

*2. How is the height of buildings in general proportion to the height of existing buildings and the proposed or projected heights of approved buildings or approved plans for the immediate area?*

The buildings are under the by-right height limit, and are generally in keeping with the surrounding homes.

*3. How does the orientation of buildings minimize shadows on and blocking of views from adjacent properties?*

The larger lots on the south side are oriented to match the across-the-street homes on Yellow Pine. On the northern side of the community, where the lots are smaller, the homes are generally arranged in an east-west configuration to help avoid shadowing and allow for solar on the roofs.

*4. If the character of the area is identifiable, how is the project made compatible by the appropriate use of color, materials, landscaping, signs, and lighting?*

The project is compatible with the surrounding single family context. The colors, materials and lighting will be comparable or better than what is around the project. The landscaping will be high quality per the landscape plan.

*5. How do buildings present an attractive streetscape, incorporate architectural and site design elements appropriate to a pedestrian scale, and provide for the safety and convenience of pedestrians?*

All buildings will have front porches, pedestrian scale, and have reasonably sized elements throughout the facades. A pedestrian level of detailing, such as railings, porch detailing and other architectural elements, will be given prominence. The homes are generally held close to the street and the front porches are designed to be highly usable, helping to create a living, people-oriented street.

*6. To the extent practical, how does the project provide public amenities and planned public facilities?*

The development supports the planned sidewalks, utilities, streets, bike paths and street trees contemplated in the area's planning.

*7. For residential projects, how does the project assist the community in producing a variety of housing types, such as multifamily, townhouses, and detached single family units as well as mixed lot sizes, number of bedrooms, and sizes of units?*

The project provides smaller homes in comparison to the larger single family houses that surround it, providing a diversity of housing types, and assisting the transition between the single family neighborhood to the west and the more multifamily and commercial areas to the east. At the same time, its single family nature provides compatibility with its neighbors.

*8. For residential projects, how is noise minimized between units, between buildings, and from either on-site or off-site external sources through spacing, landscaping, and building materials?*

The units are single family homes, and the individual yards, setbacks, and landscaping provide sound buffers throughout the project.

*9. If a lighting plan is provided, how does it augment security, energy conservation, safety, and aesthetics?*

NA

*10. How does the project incorporate the natural environment into the design and avoid, minimize, or mitigate impacts to natural systems?*

As can be seen on the landscape plan, there are a host of natural features that will be central to the project design, and a variety of natural area types, ranging from urban to park to less programmed and more informal, will be provided. This will allow the residents to experience nature within their neighborhood on a day to day basis.

*11. Buildings minimize or mitigate energy use; support on-site renewable energy generation and/or managements systems; construction wastes are minimized; the project mitigates the urban heat island effects; and the project reasonably mitigates or minimizes water use and impacts on water quality.*

The project will be design to support solar panels on the roofs. The homes will be prewired and pre-engineered to support "plug and play" panels to be added later, and all homes have either significant south or east facing roofs for panels. The buildings will be designed to be 2012 IECC +20%. The majority of the construction waste will be recycled during construction. An emphasis on alt modes of transportation at the expense of the automobile will greatly assist in energy use. The developer is in discussion with Namaste Solar to provide solar panels on all affordable homes.

*12. Exteriors or buildings present a sense of permanence through the use of authentic materials such as stone, brick, word, metal or similar products and building material detailing;*

The homes will utilize materials with longetivity and permanence, and be a marked departure from the press board wood siding and other less durable materials of the surrounding single family homes.

*13. How are cut and fill minimized on the site, and how does the design of buildings conform to the natural contours of the land, and how does the site design minimize erosion, slope instability, landslide, mudflow or subsidence, and minimize the potential threat to property caused by geological hazards?*

There is little cut and fill needed for the site, and the site is designed to be generally balanced in terms of dirt movement. See civil plans for current and proposed contours.

***F. <u>Solar Siting and Construction:</u>***

*For the purpose of insuring the maximum potential for utilization of solar energy in the city, all applicants for residential site reviews shall place streets, lots, open spaces, and buildings so as to maximize the potential for the use of solar energy in accordance with the following solar siting criteria:*

*1. <u>Placement of Open Space and Streets.</u> Open space areas are located wherever practical to protect buildings from shading by other buildings within the development or from buildings on adjacent properties. Topography and other natural features and constraints may justify deviations from this criterion. How is this criterion met?*

See open space description above. Paths, open space, and general building siting will reduce the shading on adjacent buildings.

*2. <u>Lot Layout and Building Siting.</u> Lots are oriented and buildings are sited in a way which maximizes the solar potential of each principal building. Lots are designed to facilitate siting a structure which is unshaded by other nearby structures. Wherever practical, buildings are sited close to the north lot line to increase yard space to the south for better owner control of shading. How is this criterion met?*

The project will be designed to support solar panels on the roofs. The homes will be prewired and pre-engineered to support "plug and play" panels to be added later, and all homes have either significant south or east facing roofs for panels. The homes' roofs will not shade each other so there will be no loss in solar potential. The developer is in discussion with Namaste Solar to provide solar panels on all affordable homes.

*3. Building Form. The shapes of buildings are designed to maximize utilization of solar energy. Buildings shall meet the solar access protection and solar siting requirements of Chapter 9-8,"Solar Access," B.R.C. 1981. How is this criterion met?*

The project will be design to support solar panels on the roofs. The homes will be prewired and pre-engineered to support "plug and play" panels to be added later, and all homes have either significant south or east facing roofs for panels. The homes' roofs will not shade each other so there will be no loss in solar potential.

*4. Landscaping. The shading effects of proposed landscaping on adjacent buildings are minimized. How is this criterion met?*

The only shading present in this project from landscaping is from the provided trees.

***G. Additional Criteria for Poles Above the Permitted Height.***

*No site review application for a pole above the permitted height will be approved unless the approving agency finds all of the following:*

N/A

*1. The light pole is required for nighttime recreation activities, which are compatible with the surrounding neighborhood, or the light or traffic signal pole is required for safety, or the electrical utility pole is required to serve the needs of the city?; and*
*2. The pole is at the minimum height appropriate to accomplish the purposes for which the pole was erected and is designed and constructed so as to minimize light and electromagnetic pollution. If applicable, how are these criteria met?*

N/A

**ATTACHMENT B:**
**SITE REVIEW CRITERIA**

Section 9-2-14(h), B.R.C. 1981, "Site Review"
**CRITERIA FOR REVIEW**

No site review application shall be approved unless the approving agency finds that:

**(1) Boulder Valley Comprehensive Plan:**

✓ **(A)** The proposed site plan is consistent with the land use map and the service area map and, on balance, the policies of the Boulder Valley Comprehensive Plan.

*Given the intent of the Low Density Residential land use designation of the site within the BVCP, along with a number of BVCP policies, the proposed project appears to be conceptually consistent with the BVCP. The Low Density Residential designation, as described on page 59 of the BVCP is as follows:*

> *"Lower density areas in the older section of the city consist predominantly of single family detached structures. Many of the areas developed in the city and the county over the last 30 years are characterized by a mixture of housing types ranging from single family detached to cluster and patio homes, townhouses and apartments. A variety of housing types will continue to be encouraged in developing areas during the planning period of the Comprehensive Plan."*

Applicable BVCP policies are listed below:

- 1.21 Jobs:Housing Balance.
- 2.04 Compact Land Use Pattern.
- 2.12 Neighborhoods as Building Blocks.
- 2.13 Support for Residential Neighborhoods.
- 2.15 Compatibility of Adjacent Land Uses.
- 2.21 Commitment to a Walkable City.
- 2.30 Sensitive Infill and Redevelopment.
- 2.31 Design of Newly-Developing Areas.
- 2.40 Physical Design for People.
- 2.42 Enhanced Design for the Built Environment.
- 6.02 Reduction of Single Occupancy Auto Trips.
- 6.12 Neighborhood Integration.
- 6.13 Neighborhood Streets Connectivity.
- 7.01 Local Solutions to Affordable Housing.
- 7.03 Permanently Affordable Housing.
- 7.06 Mixture of Housing Types.
- 7.10 Balancing Housing Supply with Employment Base.
- 7.14 Integration of Permanently Affordable Housing.
- 6.12 Neighborhood Streets Connectivity.

✓ **(B)** The proposed development shall not exceed the maximum density associated with the Boulder Valley Comprehensive Plan residential land use designation. Additionally, if the density of existing residential development within a three-hundred-foot area surrounding the site is at or exceeds the density permitted in the Boulder Valley Comprehensive Plan, then the maximum density permitted on the site shall not exceed the lesser of:

✓ **(i)** The density permitted in the Boulder Valley Comprehensive Plan, or,

*The BVCP defines the density of the Low Density Residential designation as two to six units per acre. The density of the proposed development is 5 units per acre (gross, including right-of-way to be dedicated) and 6 units per acre (net, excluding right-of-way).*

✓ **(ii)** The maximum number of units that could be placed on the site without waiving or varying any of the requirements of chapter 9-8, "Intensity Standards," B.R.C. 1981.

*The allowable intensity of development in the RL-2 zone district is controlled by the minimum open space per dwelling unit of 6,000 square feet per dwelling unit. There are no restrictions on minimum lot size, floor area ratio, lot area per dwelling unit, or dwelling units per acre in this zoning district. With a total of 31 dwelling units proposed on the site, a minimum of 186,000 square feet of useable open space is required. The proposal exceeds this requirement with 187,727 square feet of usable open space provided on the site.*

✓ **(C)** The proposed development's success in meeting the broad range of BVCP policies considers the economic feasibility of implementation techniques require to meet other site review criteria.

*The development would not be rendered infeasible in meeting the BVCP policies or the site review criteria based upon the requirements and recommendations made within these comments.*

**(2) Site Design:** Projects should preserve and enhance the community's unique sense of place through creative design that respects historic character, relationship to the natural environment, multi-modal transportation connectivity and its physical setting. Projects should utilize site design techniques which are consistent with the purpose of site review in subsection (a) of this section and enhance the quality of the project. In determining whether this subsection is met, the approving agency will consider the following factors:

✓ **(A) Open Space:** Open space, including, without limitation, parks, recreation areas, and playgrounds:

*The proposal includes the provision of a variety of usable open space, including a formal neighborhood park, informal natural area, back yards, and front porches.*

✓ **(i)** Useable open space is arranged to be accessible and functional and incorporates quality landscaping, a mixture of sun and shade and places to gather;

*The usable open space for the proposed development consists of both private open space (backyards, front porches, decks, and patios) and public open space (formal park, informal natural area, trail connections). The formal park is centrally located and is easily accessed by the community at large by various sidewalk connections and the woonerf. The informal open space is connected to the formal park by a path that meanders along the south side of the site and by the new 10th Street and Zamia Avenue connections. Street trees will be provided along all street connections and the woonerf alley. All public formal and informal open space areas will include high quality landscaping.*

✓ **(ii)** Private open space is provided for each detached residential unit;

*Each single family residential lot contains appropriate private open space as back yards, porches, decks, and patios.*

✓ **(iii)** The project provides for the preservation of or mitigation of adverse impacts to natural features, including, without limitation, healthy long-lived trees, significant plant communities, ground and surface water, wetlands, riparian areas, drainage areas and species on the federal Endangered Species List, "Species of Special Concern in Boulder County" designated by Boulder County, or prairie dogs (Cynomys ludiovicianus), which is a species of local concern, and their habitat;

*Per the submitted tree inventory, there are 27 existing trees on the property, 15 of which are in good condition. Two of the trees in good condition will be preserved on the site. The remaining trees in good condition must be removed due to the proximity to future site improvement. Five invasive Russian Olives will be removed. The existing mature pine and juniper street trees must be removed to accommodate a multi-use path and on-street parking along 8th Street. These trees will be replaced with varieties better suited as urban street trees.*

✓ **(iv)** The open space provides a relief to the density, both within the project and from surrounding development;

*All lots have private green spaces as front and back yards, which will provide a relief in density within the development. The formal park and the green space surrounding the east-west meandering path connection also provide a relief to the density. Several back yards face the path and low fences will be used to extend the perception of open space. In buffering from surrounding development, the site design utilizes the informal open space to create an interface with the existing neighborhood and provide a relief to the density. Street tree plantings along the perimeter of the development help provide relief to the site's density from the surrounding developments.*

✓ **(v)** Open space designed for active recreational purposes is of a size that it will be functionally useable and located in a safe and convenient proximity to the uses to which it is meant to serve;

*The formal park is easily accessed by the development and the neighborhood at large and a number of lots face the park directly. The park is large enough to accommodate all programmed activities.*

✓ **(vi)** The open space provides a buffer to protect sensitive environmental features and natural areas; and

*There are no sensitive environmental features or natural areas on the developed site.*

✓ **(vii)** If possible, open space is linked to an area- or city-wide system.

*The subject property has easy access to open space located to the west and south, along Fourmile Canyon Creek. The Fourmile Canyon Creek multi-use path runs alongside the western side of the site and provides direct access to the open space. Convenient sidewalk connections connect the formal and informal open space to the City of Boulder open space to the south and west and Foothills Community Park to the southwest.*

N/A (B) *Open Space in Mixed Use Developments (Developments that contain a mix of residential and non-residential uses)*

✓ **(C)** ***Landscaping***

✓ **(i)** The project provides for aesthetic enhancement and a variety of plant and hard surface materials, and the selection of materials provides for a variety of colors and contrasts and the preservation or use of local native vegetation where appropriate;

*Landscaping is planned to be installed according to the Landscape Plan (see sheets LP-2, LP-3, and LP-4 in* ***Attachment A****). The project includes a variety of planting areas including but not limited to, required plantings along rights-of-ways and alleys, along the pedestrian pathways, and within the formal park, informal natural area, and park link to the woonerf. The project provides a variety of landscape types, including hardscape, permeable path material such as crushed fines, patterned and or colored concrete, colored walks, paths, mulched planting beds, ground cover, shrubs, flowers, trees, street trees, gates, boulders, and other elements. The selection of plants and their relationship to the surrounding greenspaces and buildings are aesthetically attractive and provide a relief to the proposed density.*

✓ **(ii)** Landscape design attempts to avoid, minimize or mitigate impacts on and off site to important native species, healthy, long lived trees, plant communities of special concern, threatened and endangered species and habitat by integrating the existing natural environment into the project;

*25 mature trees are proposed for removal due to the proximity to future site improvements, health of the tree, and invasive or non-native trees. Two mature trees deemed of higher quality will be retained on the project. No important native species plant communities of special concern threatened and endangered species and habitat would be impacted on this project.*

✓ **(iii)** The project provides significant amounts of plant material sized in excess of the landscaping requirements of sections 9-9-12, "Landscaping and Screening Standards," and 9-9-13, "Streetscape Design Standards," B.R.C. 1981; and

*The project contains extensive landscaping along internal pathways and the woonerf, at the pedestrian crossing to the park, and within the formal park and informal open space. The project will include a tree lawn with street trees along 8th St., Zamia Ave., 10th St., and Yellow Pine Ave. The proposed landscaping provides interesting and varied landscape elements throughout the site in excess of what would be considered typical in a neighborhood of this type.*

✓ **(iv)** The setbacks, yards and useable open space along public rights of way are landscaped to provide attractive streetscapes, to enhance architectural features and to contribute to the development of an attractive site plan.

*The project includes attractive streetscapes within the new development that highlight the pedestrian experience. In addition, the project will update the existing streetscape along both 8th Street and Yellow Pine Ave to meet landscaping standards. Given the traditional design of the homes with front porches facing the street, the detached sidewalk and tree lawn create an attractive and inviting streetscape.*

✓ **(D)** ***Circulation:*** Circulation, including, without limitation, the transportation system that serves the property, whether public or private and whether constructed by the developer or not:

✓ **(i)** High speeds are discouraged or a physical separation between streets and the project is provided;

*High traffic speeds are discouraged by narrow streets and the presence of on-street parking. The proposed street network on the site is not conducive to through traffic or high speeds.*

✓ **(ii)** Potential conflicts with vehicles are minimized;

*Vehicular conflicts are minimized by the use narrow streets within the development and an emphasis on alley loaded homes on the north side of the site. Vehicular conflicts are minimized on the south side of the site through minimal curb cuts along the streetscape. Curb extensions on 10th Street and Zamia Avenue serve to slow motorists. In addition, the multi-use path has been brought through the south end of the site to avoid bicycle/car conflicts where the path crosses Yellow Pine Ave. The site design is such that automobiles are physically separated from and made subordinate to bicyclists and pedestrians.*

✓ **(iii)** Safe and convenient connections are provided that support multi-modal mobility through and between properties, accessible to the public within the project and between the project and the existing and proposed transportation systems, including, without limitation, streets, bikeways, pedestrianways and trails;

*The site design includes frequent pedestrian connections for use by pedestrians and bicyclists, which connect to the existing multi-model network. The following connections are planned:*

- *Walkable "woonerf" style alley serves as a north-south connection between the formal park and Lee Hill Drive;*
- *Multi-use path is continued along the west side of the site;*
- *East-west pedestrian connection on the north end of the site to connect woonerf to 8th Street and 10th Street;*
- *Path on south side of the site connecting the multi-use path to the park and open space to the south;*
- *Meandering path running east-west to connect formal park to informal open space and 10th Street.*

*The planned connections provide easy accessibility to the Four Mile Canyon Creek path to the south, Foothills Community Park to the southwest, and restaurants, retail, services located along Broadway. The planned connections, coupled with the detached sidewalks within the development, support multi-model mobility on the site.*

✓ **(iv)** Alternatives to the automobile are promoted by incorporating site design techniques, land use patterns, and supporting infrastructure that supports and encourages walking, biking, and other alternatives to the single-occupant vehicle;

*The project contains a number of elements that support and encourage walking and biking. The design includes frequent and convenient connections for pedestrians and bicyclists (see above). Bicyclists and pedestrians have the most direct route of travel through the site. In addition, a 10-foot wide multi-use path is provided on the east side of the site, which connects to several bicycle routes to the north and*

*the Four Mile Canyon Creek path to the south. This connection promotes walking and biking from the site with convenient accessibility to the transit routes and commercial and retail services on the Broadway corridor.*

✓ **(v)** Where practical and beneficial, a significant shift away from single-occupant vehicle use to alternate modes is promoted through the use of travel demand management techniques;

*The applicant has submitted a Transportation Demand Management (TDM) plan, which has been reviewed and approved. While a significant shift away from single-occupant vehicles for a single family dwelling development may not be entirely practical or realistic, the applicant is committing to providing Neighborhood EcoPasses to residents of the development and providing information on available transit to encourage residents to benefit from the frequent bus service that exists within walking and biking distance.*

✓ **(vi)** On-site facilities for external linkage are provided with other modes of transportation, where applicable;

*See (iv) above.*

✓ **(vii)** The amount of land devoted to the street system is minimized; and

*The amount of land devoted to the street system is the minimum necessary to accommodate two new required public rights-of-way and the woonerf alley to pull garages to the rear.*

✓ **(viii)** The project is designed for the types of traffic expected, including, without limitation, automobiles, bicycles, and pedestrians, and provides safety, separation from living areas, and control of noise and exhaust.

*The project is designed and scaled to accommodate all modes of travel. Low vehicular traffic is expected and the project will emulate a typical neighborhood feel with front porches and units oriented to streets. The number of curb cuts has been minimized to reduce vehicular conflicts. A detached sidewalk with tree lawn and on-street parking provide separation for the pedestrian. Due to frequent path connections bicyclists and pedestrians have the most direct route of travel through the site.*

✓ **(E)** ***Parking***

✓ **(i)** The project incorporates into the design of parking areas measures to provide safety, convenience, and separation of pedestrian movements from vehicular movements;

*One- and two-car garages on the north side of the site will be primarily accessed from the woonerf alley. Alley access on this portion of the site reduces curb cuts, enhancing the pedestrian experience on 8th Street and 10th Street. Attached garages on the southern portion of the site are accessed from driveways. Shared access drives have been used along Yellow Pine Avenue to reduce curb cuts and maximize available on-street parking. Pedestrians are protected from on-street parking areas by a tree lawn. Parking is generally shifted away from sidewalks and the frontages of lots in a manner that creates separation of pedestrian movements.*

✓ **(ii)** The design of parking areas makes efficient use of the land and uses the minimum amount of land necessary to meet the parking needs of the project;

*No parking lots are proposed. Most parking is confined to garages and confined to areas not visible from the streetscape. On the southern portion of the site some parking may be provided on driveways. This does not present a superfluous amount of parking and enables the project to accommodate parking without increasing congestion on the streets.*

✓ **(iii)** Parking areas and lighting are designed to reduce the visual impact on the project, adjacent properties, and adjacent streets; and

*As stated above, parking has been designed to reduce visual impact by confining most parking areas away from the streetscapes. The attached garages that face the street are setback from the front facade of the home. No lighting is expected to create adverse visual impacts. Any lighting installations on single family dwellings will be subject to the Outdoor Lighting requirements of section 9-9-16, B.R.C.*

✓ **(iv)** Parking areas utilize landscaping materials to provide shade in excess of the requirements in subsection 9-9-6(d), and section 9-9-14, "Parking Lot Landscaping Standards," B.R.C. 1981.

*The landscape plan includes the provision of trees in the alley to enhance the visual appearance of the alley and to soften the visibility of service and parking related areas.*

✓ **(F)** ***Building Design, Livability, and Relationship to the Existing or Proposed Surrounding Area***

✓ **(i)** The building height, mass, scale, orientation, architecture and configuration are compatible with the existing character of the area or the character established by adopted design guidelines or plans for the area;

*The proposed project represents a modestly-scaled infill development that is compatible with the surrounding area. The majority of the homes are proposed as human-scaled two story structures. The single family homes are modestly sized and will range from approximately 1,200 square feet to 2,900 square feet in above-grade floor area. The building orientation follows a traditional pattern, which is dictated by the required dedication of two new public rights of-way within the development (10th Street and Zamia Avenue). The architecture of the homes is neo-traditional with gable roofs with a contemporary touch and is compatible with the emerging character of North Boulder. Houses and porches face the street. As discussed in the key issues section, the proposed homes meet the design guidelines of the North Boulder Subcommunity Plan. The houses are positioned so that front doors and front yards face the street, garage doors are setback and do not dominate the front façade, and there is a variety of building designs that include human scale features.*

✓ **(ii)** The height of buildings is in general proportion to the height of existing buildings and the proposed or projected heights of approved buildings or approved plans or design guidelines for the immediate area;

*Heights for the homes will range from under 29 feet to 35 feet. Building heights are limited to the 35-feet in height per the regulations in the RL-2 zoning district. The majority of the homes are proposed to be 2-stories in height, which is consistent and harmonious with the adjacent neighborhoods. Basements above 2 feet above grade could potentially qualify buildings as three-story, but would otherwise appear as two-story in design. Three of the homes are proposed to be 3-stories in height,*

*excluding a basement, and require modifications to the solar access standards. These homes are proposed to be located on the interior of the site and allow the applicant to provide a variety of building forms.*

✓ **(iii)** The orientation of buildings minimizes shadows on and blocking of views from adjacent properties;

*The larger lots on the south side are oriented north-south to match the homes located across Yellow Pine Avenue. On the northern side of the site, where the lots are smaller, the homes are generally arranged in an east-west configuration to help avoid shadowing and allow for solar on the roofs. Homes on 28 of the 31 lots within the project would be compliant with the solar access regulations and as stated above, and would include limited building heights on smaller lots as to avoid shadowing impacts and blocked views. The applicant is requesting modifications to the solar access standards on three lots to allow shading by proposed homes to a greater degree than the adjacent lot would be shaded by a solar fence twenty-five feet in height. However, there are no shadows projected in the deepest part of the winter that would encroach on the rooftop, the area protected under Solar Access Area II.*

✓ **(iv)** If the character of the area is identifiable, the project is made compatible by the appropriate use of color, materials, landscaping, signs, and lighting;

*As stated above, buildings are neo-traditional in design with front porches, gable roofs, and principal orientation to the street with garages either setback from the front façade or accessed from the woonerf alley. The architecture of immediate surrounding neighborhoods consists of large traditional style single family homes most representative of construction in the 1990s and early 2000s. The proposed architectural character utilizes varied roof pitches and layout features consistent with that of the surrounding neighborhoods. While the proposed development is more contemporary in nature, the project is compatible with the area in terms of colors, materials, and building orientation. The design is consistent with the developing character of new residential areas of North Boulder. The project has detached tree lawns which also compliment this character.*

✓ **(v)** Projects are designed to a human scale and promote a safe and vibrant pedestrian experience through the location of building frontages along public streets, plazas, sidewalks and paths, and through the use of building elements, design details and landscape materials that include, without limitation, the location of entrances and windows, and the creation of transparency and activity at the pedestrian level;

*As stated above, the project will promote a safe and vibrant pedestrian experience with detached sidewalks and buffering tree lawns along the public rights-of-way associated with the development. Homes would front directly to these spaces with attractive front porches and entries, as required by the design guidelines, making the development inviting and attractive. A pedestrian level of detailing, such as railings, porch detailing and other architectural elements, will be given prominence. Various secondary pedestrian pathways cross through the development and the internal woonerf design creates a human scaled public thoroughfare.*

✓ **(vi)** To the extent practical, the project provides public amenities and planned public facilities;

*The project includes the dedication of two public rights-of-way and the construction of a multi-use path connection on the north side of the site. The 10th Street connection from Lee Hill Drive to Yellow Pine*

*Avenue significantly benefits the local street network. The development supports the planned sidewalks, utilities, streets, bike paths and street trees contemplated in the area's planning.*

✓ **(vii)** For residential projects, the project assists the community in producing a variety of housing types, such as multifamily, townhouses and detached single family units, as well as mixed lot sizes, number of bedrooms and sizes of units;

*One of the primary goals of the North Boulder Plan is that the subcommunity contains a diversity of housing types, sizes, and costs. The Lee Hill Road Area section states, "It is imperative that the project contain a mix of residential densities with a diversity of housing types" (page 11). While the project does not include a variety of housing types, the project provides smaller homes in comparison to the larger single family houses that surround it, providing a diversity of housing types. In this case compatibility with the surrounding neighborhood's scale and intensity is at odds with the provision of duplex or tri-plex units. There are a variety of housing and lot sizes that contribute to providing homeowners a variety of choice.*

✓ **(viii)** For residential projects, noise is minimized between units, between buildings, and from either on-site or off-site external sources through spacing, landscaping, and building materials;

*The units are single family homes, and individual yards, setbacks, and landscaping provide sound buffers throughout the project. As a relatively dense project, units would be located closer than a typical single family development. However, with a minimum of 10 feet between units, noise would be minimized.*

✓ **(ix)** A lighting plan is provided which augments security, energy conservation, safety, and aesthetics;

*Final lighting will be evaluated at the Technical Documents review process. Each single family home building permit will include a requirement to include lighting fixtures that comply with the Outdoor Lighting Ordinance.*

✓ **(x)** The project incorporates the natural environment into the design and avoids, minimizes, or mitigates impacts to natural systems;

*Due to past industrial uses, the site does not contain natural systems that could be disturbed by redevelopment. As can be seen on the landscape plan, the design incorporates a host of natural features and a variety of natural area types, ranging from programmed to informal. This will allow the residents to connect with nature within the development on a day to day basis. Grading is required for site preparation, drainage diversion, and road construction, but otherwise, would be minimal. No negative impacts to the environment would occur or hazards created as a result of the grading.*

✓ **(xi)** Buildings minimize or mitigate energy use; support on-site renewable energy generation and/or energy management systems; construction wastes are minimized; the project mitigates urban heat island effects; and the project reasonably mitigates or minimizes water use and impacts on water quality.

*In general, buildings are oriented to take advantage of renewable energy systems and will be required at the building permit stage to demonstrate compliance with the city's green points program. All homes have either significant south or east facing roofs and the project is designed to support solar panels on the roofs. The homes will be prewired and pre-engineered to support "plug and play" panels to be*

*added later. The buildings will be designed to meet 2012 IECC standards and to exceed the standard set by 20%. The majority of the construction waste will be recycled during construction. An emphasis on alternate modes of transportation and less emphasis on the automobile will greatly assist in reduced energy use.*

✓ **(xii)** Exteriors or buildings present a sense of permanence through the use of authentic materials such as stone, brick, wood, metal or similar products and building material detailing;

*The design includes the use of cement board lap siding and hardcoat stucco as the primary siding materials with the use of accent materials like standing seam metal roofing accents, brick, wood porches, and metal railings. A pedestrian level of detailing, such as railings, porch detailing and other architectural elements, will be given prominence. The proposed building architecture, while more contemporary in nature, draws from a similar building material palette as the surrounding development, where cement or fiber board lap siding, brick and stucco are prevalent.*

✓ **(xiii)** Cut and fill are minimized on the site, the design of buildings conforms to the natural contours of the land, and the site design minimizes erosion, slope instability, landslide, mudflow or subsidence, and minimizes the potential threat to property caused by geological hazards;

*The subject property contains a gradual downward slope from Lee Hill Drive to Yellow Pine Ave. The overall slope will be maintained and little cut and fill is needed. The design of the homes conforms to the slope and takes advantage of solar access with significant south or east facing roofs. See civil plans for current and proposed contours*

N/A **(xiv)** In the urbanizing areas along the Boulder Valley Comprehensive Plan boundaries between Area II and Area III, the building and site design provide for a well-defined urban edge; and

N/A **(xv)** In the urbanizing areas located on the major streets shown on the map in Appendix A of this title near the Boulder Valley Comprehensive Plan boundaries between Area II and Area III, the buildings and site design establish a sense of entry and arrival to the City by creating a defined urban edge and a transition between rural and urban areas.

✓ **(G)** ***Solar Siting and Construction:*** For the purpose of ensuring the maximum potential for utilization of solar energy in the City, all applicants for residential site reviews shall place streets, lots, open spaces, and buildings so as to maximize the potential for the use of solar energy in accordance with the following solar siting criteria:

✓ **(i)** *Placement of Open Space and Streets:* Open space areas are located wherever practical to protect buildings from shading by other buildings within the development or from buildings on adjacent properties. Topography and other natural features and constraints may justify deviations from this criterion.

*The proposed street pattern is an extension of the existing grid into the site. Lots, too, match the development pattern of the area. Buildings are oriented to take advantage of solar energy systems and have either significant south or east facing roofs. Setbacks between homes and reduced building heights allow for optimal solar access on the majority of homes. As discussed in the key issues section, the applicant is requesting modifications to the solar access standards for three lots to allow shading to a greater degree than the solar access regulations would allow.*

✓ **(ii)** *Layout and Building Siting:* Lots are oriented and buildings are sited in a way which maximizes the solar potential of each principal building. Lots are designed to facilitate siting a structure which is unshaded by other nearby structures. Wherever practical, buildings are sited close to the north lot line to increase yard space to the south for better owner control of shading.

*See above. The setbacks and positioning of buildings on the site is conducive to solar access for the majority of buildings on the site. The project is designed for all homes to have either significant south or east facing roofs for panels. See key issues section for more information regarding requested modifications to the solar access standards.*

✓ **(iii)** *Building Form:* The shapes of buildings are designed to maximize utilization of solar energy. Buildings shall meet the solar access protection and solar siting requirements of section 9-9-17, "Solar Access," B.R.C. 1981.

*As stated above, building forms are conducive to solar panel installation. The homes will be prewired and pre-engineered to support "plug and play" panels and all homes have either significant south or east facing roofs for panels. As indicated in the memo and in the solar analysis provided by the applicant, the shading of the adjacent lots is contained to the side yard setback and a portion of the building wall faces. There are no shadows projected in the deepest part of the winter that would encroach on the rooftop, the area protected under Solar Access Area II. Solar panels could effectively be installed on the rooftops.*

✓ **(iv)** *Landscaping:* The shading effects of proposed landscaping on adjacent buildings are minimized.

*There are no identified conditions where proposed plantings could negatively affect solar access of buildings in the future.*

N/A **(H)** ***Additional Criteria for Poles Above the Permitted Height:*** No site review application for a pole above the permitted height will be approved unless the approving agency finds all of the following:

N/A **(i)** The light pole is required for nighttime recreation activities, which are compatible with the surrounding neighborhood, or the light or traffic signal pole is required for safety, or the electrical utility pole is required to serve the needs of the city; and

N/A **(ii)** The pole is at the minimum height appropriate to accomplish the purposes for which the pole was erected and is designed and constructed so as to minimize light and electromagnetic pollution.

N/A **(I)** ***Land Use Intensity Modifications***

N/A **(i)** *Potential Land Use Intensity Modifications:*

**(a)** The density of a project may be increased in the BR-1 district through a reduction of the lot area requirement or in the Downtown (DT), BR-2, or MU-3 districts through a reduction in the open space requirements.

**(b)** The open space requirements in all Downtown (DT) districts may be reduced by up to one hundred percent.

**(c)** The open space per lot requirements for the total amount of open space required on the lot in the BR-2 district may be reduced by up to fifty percent.

**(d)** Land use intensity may be increased up to 25 percent in the BR-1 district through a reduction of the lot area requirement.

**N/A (ii)** *Additional Criteria for Land Use Intensity Modifications:* A land use intensity increase will be permitted up to the maximum amount set forth below if the approving agency finds that the criteria in paragraph (h)(1) through subparagraph (h)(2)(H) of this section and following criteria have been met:

**N/A (J)** ***Additional Criteria for Floor Area Ratio Increase for Buildings in the BR-1 District***

**N/A (K)** ***Additional Criteria for Parking Reductions:*** The off-street parking requirements of section 9-7-1, “Schedule of Form and Bulk Standards,” B.R.C. 1981, may be modified as follows:

**N/A (L)** ***Additional Criteria for Off-Site Parking:*** The parking required under section 9-9-6, "Parking Standards," B.R.C. 1981, may be located on a separate lot if the following conditions are met:

---

From: Bruce Goldstein [mailto:brugomail@yahoo.com]
Sent: Monday, June 03, 2013 1:14 PM
To: Walbert, Sloane
Subject: RE: meeting

Hi Sloane,

Just wanted to check in on the roads issue in North Briar in relation to the Thistle/Coburn proposal – are there any new conversations/developments that you can share? HOA folks here have asked me to follow-up, since they are very concerned about the short and long-term implications of restricted access to/from/through the new development, traffic impacts on existing roads (esp. Yellow Pine, in the absence of Zamia and 10th St. through connections), and evacuation/emergency vehicle access concerns.

Bruce

BRUCE GOLDSTEIN
Associate Professor
Environmental Design and Environmental Studies
Faculty Research Associate, Institute for Behavioral Science
University of Colorado Boulder
720-346-4957 (c)
Academic Website: http://goo.gl/M07L0
brugo@colorado.edu

---

From: Kathy Dessau
To: Denise Maslanka; Walbert, Sloane
Subject: Re: 820 Lee Hill
Date: Friday, June 07, 2013 3:41:27 PM

Dear Sloane,

I wanted to voice our opinion at 748 Yellow Pine Ave. regarding the project at 820 Lee Hill. While the developers have nicely addressed the fewer curb cuts on Yellow Pine and also adding the bike path, and removing one house on Yellow Pine, the development still adds a fair amount of traffic going through the rather circuitous routes in the neighborhood. Emergency vehicles, moving vans, etc, have a difficult time going around the islands, making the turns etc...

Living close to the Yellow Pine and 7th corner, we have seen our share of close calls at the turn and even our neighbors mail box taken out when it was icy and a vehicle missed the 7th and Yellow Pine turn. With kids there, etc. and the increased traffic, it is a tragic accident waiting to happen by adding eight more homes and no other access.

Please if we can add the 10th street access or an alleyway (probably less desirable to the developer), this would greatly alleviate the turning on icy roads, near misses with cyclists, kids and other cars that we see all too often and with fewer cars.

Thanks,

Kathy Dessau
748 Yellow Pine Ave.

---

From: Bruce Goldstein
To: Walbert, Sloane
Subject: RE: meeting
Date: Sunday, June 09, 2013 5:02:01 PM

Hi Sloane,

Thanks for the response, that's really helpful.

We just had an HOA meeting, and I was appointed HOA board representative to the city on planning matters. My receiving this position might have had something to do with not being able to attend the first hour of the meeting – not being there is a sure fire means to be volunteered for things ;-).

So the neighborhood has a few questions, particularly about the road network, and would like to see if we can get some answers this week, so we can have participate effectively in reviewing the site review application by the June 21 deadline. Do you think it might be possible to talk by phone early this week? If you are too busy this week I can also send along questions via email, although the issues people might be quicker to address in an phone exchange.

Bruce

BRUCE GOLDSTEIN
Associate Professor
Environmental Design and Environmental Studies
Faculty Research Associate, Institute for Behavioral Science
University of Colorado Boulder
720-346-4957 (c)
Academic Website: http://goo.gl/M07L0
brugo@colorado.edu

---

NORTH BOULDER ALLIANCE
P.O. Box 2063, Boulder, CO 80306
Tel: (303) 444-5757
Preserving the integrity of our community as it grows

June 10, 2012

Members of the Boulder Planning Board and Staff:

The North Boulder Alliance is writing to express our opinion about the site plan submitted for the 820 Lee Hill development in North Boulder. The North Boulder Alliance is a community organization focused on issues of importance

to our residents, workers, and businesses. By providing a collective voice, we are working to ensure that our families are safe and that our community continues to thrive.

Our principal concern about the proposed development is that there are insufficient roadways provided for in the site plan. Specifically, we request that you consider adding a connection between the proposed 10th and Zamia intersection and Yellow Pine.

Inadequate connectivity with the existing street system will exacerbate existing problems with circuitous access to homes on Yellow Pine, increase demand for the current inadequate on-street parking, and add to the existing difficulty of the single emergency access and evacuation route.

Extending 10th Street to connect with Yellow Pine and running an alley behind the new Yellow Pine homes would provide easier, safer, and more direct access to both existing and new homes. It would also fulfill the North Boulder Subcommunity Plan's emphasis on connectivity as a means of dispersing vehicle traffic, and provide for access for the new homes on Yellow Pine, as well as additional on-street parking options. In addition, this connection would reduce through traffic on 8th Street, and provide faster access for emergency vehicles and an additional evacuation route in the event of wildfire in this high-hazard zone.

More generally, while we support the contribution that this high-density, small-home development will make to the city's goal of providing more workforce housing, we ask the Planning Board to be willing to require modifications that benefit both existing and new residents, even if they add to the developer's cost. Historically, the city has imposed a disproportionate share of burdens on the North Boulder community in its efforts to meet city-wide goals, most notably in the areas of affordable and homeless housing and other social service delivery. At the same time, the city has provided few benefits to North Boulder, in the form of parks, libraries, and other amenities. While we support the city's goal of creating more workforce housing, we believe that the developer of this site should not be exempted from the requirement to comply with all of the principles of the North Boulder Subcommunity Plan, including compatibility with existing development, street connectivity, and alley access.

Thank you for your consideration.

The North Boulder Alliance
http://www.northboulderalliance.com/

---

From: Bob Burnham & Gail Promboin
To: Walbert, Sloane
Subject: 820 Lee Hill Site Plan Comments
Date: Monday, June 10, 2013 8:55:39 AM
Attachments: Comments on Site Plan Submission.docx

Hi, Sloane:

Please see our comments on the site plan package submitted for 820 Lee Hill. I noticed it's not yet posted on the planning department web site and hope that will happen soon so that people can access it and comment by June 21.

If there's anything we can clarify or you have questions, please feel free to call us at 303-442-0467.

Gail Promboin and Bob Burnham

944 Yellow Pine

June 10, 2012

Members of the Boulder Planning Board and Staff:

We have lived at 944 Yellow Pine Avenue since 1999. We write in response to the site plan submission for the proposed development at 820 Lee Hill.

We note a few positive changes from the original concept plan:

- There is one less house.
- The home size range has moved somewhat upward, thereby increasing the revenue potential for the developer and reducing the contrast with the surrounding residential areas.
- The multi-use path is now aligned with its continuation on the south side of Yellow Pine, addressing a safety concern. (However, without signage on both the multi-use path and the street to warn bicyclists and drivers of crossing traffic, the hazard will increase.)
- There are fewer curb cuts on Yellow Pine. (However, the shared driveways result in less off-street parking capacity in the driveways.)

But the most serious deficiencies in the original plan remain unaddressed – inadequate connectivity with the existing street system and exacerbation of existing problems with circuitous access to homes on Yellow Pine, increased demand for the current inadequate on-street parking, and difficult emergency access and evacuation routes.

To access existing and new homes on Yellow Pine, drivers must turn from Lee Hill to 8th Street, take a right on Zamia Avenue, take a left on 7th Street, take a left on Yellow Pine and navigate around two traffic islands. Each turn is frequently rendered blind by parked vehicles or made dangerous by oncoming drivers who cut the corner, and the islands are often at least partially obstructed by parked vehicles, making it necessary to drive on the wrong side of the street. The developer makes a big deal about matching the existing driveway pattern on the south side of Yellow Pine, which is already problematic, especially due to mailbox placement. Instead of repeating the design mistakes of North Briar, wouldn't it be better to learn from them and do a better job with the new development? The existing configuration adds about 0.2 unnecessary miles to every trip in or out for 8-10 existing homes and eight proposed homes, resulting in higher than necessary vehicle emissions.

Extending 10th Street to connect with Yellow Pine and running an alley behind the new Yellow Pine homes would have the following benefits:

1. Easier, safer, and more direct access to both existing and new homes.
2. Fulfillment of the North Boulder Subcommunity Plan's emphasis on connectivity as a means of dispersing vehicle traffic. Yes, it means more pavement, but surely the City recognized that when it made connectivity a priority and understood that the trade-off was worth the safety and quality of life benefits.
3. Compliance with the North Boulder Subcommunity Plan goal of using alley access for homes where possible in order to avoid garages facing the street. The developer clearly recognizes the benefit as alley access is proposed in the northern part of the site. Like that alley, an alley behind the Yellow Pine homes could be woonerf, thus minimizing the pavement.
4. Avoiding the necessity for two new homes on Yellow Pine to back their cars out into the narrow space in front of the traffic island.

5. Reducing emissions from vehicles residing at existing and new homes on Yellow Pine.
6. Providing faster access for emergency vehicles and an additional evacuation route in the event of wildfire in this high-hazard zone. (Note that the 2002 fire required middle-of-the-night evacuations with 10 minutes' notice to homes near Wonderland Lake. We shudder to think what would happen in a similar situation here.)
7. Eliminating the need for shared driveways, which can be awkward and would most certainly reduce the potential for off-street parking.
8. Avoid reduction in the already limited on-street parking available on Yellow Pine.
9. Reducing traffic on 8th Street, making it more feasible for the developer to provide on-street parking on the east side. Currently on-street parking is only permitted on the west side, which already makes two-way traffic difficult and often makes the turn onto Zamia Avenue a blind one. Without action to reduce traffic on 8th Street, the City would really need to ban on-street parking entirely.

Please don't allow the developer to make a bad situation worse. By proposing somewhat larger homes than in the initial concept plan, the developer will be able to generate more revenue from home sales than originally planned. Therefore, the Planning Board should not be reluctant to require modifications that benefit both existing and new residents, even if they add to the developer's cost. The developer should be required to step up to comply with <u>all</u> of the principles of the North Boulder Subcommunity plan, including street connectivity and alley access.

Thank you for your consideration.

Robert Burnham and Gail Promboin
944 Yellow Pine Avenue

---

Jun 13, 2013
820 Lee Hill Drive Site Review
Zoning Residential Low (RL-2)
Subject Area 820 Lee Hill Dr.

I have concern about the density and the access to Lee Hill from Broadway. Also the access to Lee Hill Dr. (820) from the new Low Housing development. – (Low RL-2)

Thanks,

Patricia Palaich
4869 10th St.
Boulder, Colorado
80304

RECEIVED
JUN 17 2013

From: JUDY WAHLBERG
To: Walbert, Sloane
Cc: andy@allisonmgmt.com; nbehoa@hotmail.com
Subject: 820 Lee Hill Project
Date: Friday, June 14, 2013 11:46:01 AM

June 14, 2013

Dear Planning Board,

I have just purchased the home at 789 Zamia Ave. We are very pleased with everything and are finding the neighborhood extraordinary. This is a very quiet and caring neighborhood.

I would like to address three issues that I am very, very worried about.
(1) The first is the traffic flow from Yellow Pine to 8th street.
(2) The second is the parking on 8th street.
(3) And the last one is the general rather unattractive homes that will be built.

(1) During the time I have lived here (two months) I am very cognizant of the danger from some of the cars as they come around the corner from Zamia onto 8th. This corner has the potential with more traffic to become a dangerous corner. Many people from the other side of Lee Hill walk down 8th street to the path leading to Yellow Pine and onto Open Space. There are many children both walking and biking. I am afraid of the increase in traffic and what it will do to the quality and safety of this neighborhood. Right now it is relatively safe although there are inherent dangers in the corner I have mentioned. There is a blind spot as one drives around Zamia onto 8th. This problem could be alleviated by extending 10th Street to Yellow Pine. I urge the board to extend 10th Street to Yellow Pine. I think this is very fair and would increase neighborhood safety.

(2) The second concern is the parking on 8th street. I do not want to lose my ability to park next to my driveway - an ability I now have. I think bringing more traffic and parking devalues my home. I believe seeing cars lined up on 8th street would bring a whole new feeling to the neighborhood. And even though the alley or back garages and places for the second car will be there, in reality, I doubt they will be used that much. It is just too easy to park on the street. There will be seven homes facing our three homes on 8th street. I urge the planning board to keep the integrity of this neighborhood. It would be heart breaking for me to feel the proposed high density of the project encroach on our special neighborhood.

(3) And lastly, I truly believe the proposed new houses are very unattractive. I do not have an expertise in the knowledge of the quality of materials, but it seems the houses are on par with the lower end Holiday project rather than some of the more solid upper end homes by Thistle. My home is going to look over at the long side of one of the homes. It really looks awful to me.

I urge the planning board to be sensitive to our needs. I am not against the project. I deeply wish that the three concerns I have mentioned be acted upon as I have mentioned them.

Sincerely,
Dr. Bill Wahlberg and Judy Wahlberg

From: Dohrmann, Russell and Gail
To: Walbert, Sloane
Subject: Comments on 820 Lee Hill Dr Site Review Documents
Date: Saturday, June 15, 2013 2:42:24 PM
Ref: 820 Lee Hill Dr. Site Review

Dear Sloane,

After reading the 820 Lee Hill Dr developer's "Response to General Criteria for Site Review" application dated June 3rd, 2013 I offer several comments.

Integral Part of Neighborhood: The developer asserts that the 820 Lee Hill Dr development is designed to be an integral part of the neighborhood. The site plan presented shows that this development will remain an 'enclave' without street connectivity to the rest of the surrounding neighborhood.

Generalities: The assertions presented by the developer are very 'sales pitch' oriented. The developer's assertions need to be backed up by data to be properly and fully evaluated.

Underground utilities: What are the additional costs associated with under grounding the utilities along Lee Hill between 10th and 8th? (Will the utilities within the development be above or below ground?) What is the impact on home cost for the market rate homes. Is it significant (greater than 2%)? Under grounding of the utilities along Lee Hill Dr is not just an aesthetic concern, but a safety concern. Three years ago the utility pole at the corner of 8th and Lee Hill Dr. was knocked to the ground by high winds. Other poles were damaged, power lines were on the ground, the fence along Lee Hill Dr. was damaged, and one lane of Lee Hill was closed for up to 24 hours while repairs were made. Some utility poles along Lee Hill Dr. still lean to the south. Utility poles present a hazard to automobile and pedestrian traffic due to the potential for accidents and falling ice and snow. The development is stated to be pedestrian friendly and to discourage auto use, Yet the developer has apparently not considered the safety impacts on pedestrians of keeping the utilities above ground.

Traffic: The developer has stated that the site plan integrates well with the existing street grid. In fact it does not. This development places an undue burden on existing city streets (8th St., Zamia Ave, 7th St., and Yellow Pine) from both traffic and safety standpoints. No data on these impacts is provided by the developer except to assert that the site plan will discourage the use of automobiles. Does the city have data, or traffic studies, that estimate the impact of this development? Is there data from other similar developments to show that developments of this type actually reduce dependence on the automobile? Requiring the developer of 820 Lee Hill Dr. to put 10th St. through to Yellow Pine not only lessens this burden, but provides for multiple access/egress points for fire, police, ambulance, and emergency evacuations. It would provide an alternate route for people living along Yellow Pine. It would also be more consistent with the City of Boulder's North Boulder Sub-community plan.

Thank you for your consideration of these concerns. You may forward these to the Planning Board as appropriate.

Submitted by,
Russell Dohrmann
7 year resident of 781 Zamia Ct. (SW corner of 8th St, and Lee Hill Dr.)

---

From: Neal Zaun
To: Walbert, Sloane
Subject: Comments Concerning the 820 Lee Hill Site Development

Date: Sunday, June 16, 2013 8:19:15 PM

June 16, 2013

Dear Members of the Boulder Planning Board and Staff:

These comments are based on our review of the documents “820 Lee Hill-Site Review Drawing Set_20130603” & “820 Lee Hill Response to General Criteria for Site Review Application” (Both - 6/3/2013). They were submitted by Allison Management / Thistle Communities and Coburn Architecture.

We have lived at 755 Zamia Ave. for over seventeen years and are the original owners of the property.

A few of the item that we like with the planned development are the use of undergrounding overhead utility lines and the units having front porches. Also, compared to some previous plans a few houses have been added with a little larger size that will better fit in with the existing neighborhood.

Our main concerns involve transportation and parking issues. For example they plan to address parking issues with “Single car garages, the use of existing streets, an alley where appropriate, and street parking greatly reduce the amount of land dedicated to parking.” Looking at the plans on page SR-2 it shows indentations along 8th St. for parking. If they are planning to use the existing pines (See LP-2) along 8th there is only about 3 ft from the cement to the trees at present. This is not enough room unless they extend the protrusions out into the present street. If they did this there would not be enough room in the street if there is a vehicle parked on the other side. Besides at present there is no parking on the east side of 8th. With all the vehicles from Yellow Pine, 7th St and Zamia Ave the congestion would be large.

To alleviate this problem there are a couple of things that can be done.

1. To reduce the traffic on 8th St. the planned 10th St. should be connected to Yellow Pine. I find this would be a big improvement for both alleviating traffic on 8th and will make for a shorter and more efficient route out for the people on Yellow Pine.

2. Another option or additional option is for each unit to have a parking pad. To be realistic almost ever house will have two cars whether they use public transportation or not. In addition the builder says that the project is made compatible using “The colors, materials and lighting will be comparable or better than what is around the project.” Yet the drawings (Page SR-4) show the use of Cement Board Siding & Trim which certainly not comparable or better. More than this each unit has multiple siding materials rather than one or two as used on most neighbor units.

Thank you for considering our comments. We would appreciate being put on a email contact list to be kept informed on the project, nzaun120@gmail.com .

Sharron & Neal Zaun
755 Zamia Ave.

---

From: Bob Burnham & Gail Promboin
To: Walbert, Sloane
Subject: 820 Lee Hill
Date: Sunday, June 16, 2013 1:07:23 PM

Hi Sloane:

I'm going to send you some photos I have taken that illustrate the existing traffic and circulation challenges in North Briar, which will be exacerbated by the proposed new homes, street layout, and curb cuts. There aren't a lot of them, but I will send them in two or three batches, so that you don't have to guess which one illustrates what.

Gail Promboin
944 Yellow Pine

---

From: Bob Burnham & Gail Promboin
To: Walbert, Sloane
Subject: 820 Lee Hill: Parking problems on Yellow Pine
Date: Sunday, June 16, 2013 1:35:26 PM
Hi, Sloane:

Here are some photos that illustrate on-street parking problems on Yellow Pine, with the existing number and placement of driveways and the rural mailboxes. They were all taken last week during the day. Most of the vehicles belong to people who do not live in the neighborhood and the line-up is pretty typical. The vehicles belong to people like painters, plumbers, carpenters, baby sitters, landscape maintenance people, house cleaners, and pick-up or delivery vehicles. At night, the situation is similar, but it's guests and residents whose garages are too full of other stuff to park their cars inside.

The first photo shows 5 vehicles parked on the north side of Yellow Pine (there were actually 6, but my skills as a photographer are limited) exactly where the developer of 820 Lee Hill would like to place 6 curb cuts and the relocated multi-use path.

The second photo shows the same line-up but also shows the painter's van on the south side of the street which is blocking a mailbox and partially blocking a driveway.

The third photo is what greeted me when I tried to leave to do an errand: a big UHaul blocking the side of my driveway where I back out of the garage and also blocking our neighbor's mailbox. It also shows the line-up of parked cars on the north side of the street that severely constrained any possibility of swinging wide beyond the truck. It was also impossible to see if people from any of the 4 houses that live further down Yellow Pine might be on their way out as well. Fortunately, I was able to find the driver of the truck and she moved it.

Didn't my poppies look great?

Gail Promboin
944 Yelllow Pine Ave.

---

From: Bob Burnham & Gail Promboin
To: Walbert, Sloane
Subject: 820 Lee Hill: Traffic and parking problems on 8th Street
Date: Sunday, June 16, 2013 1:18:14 PM

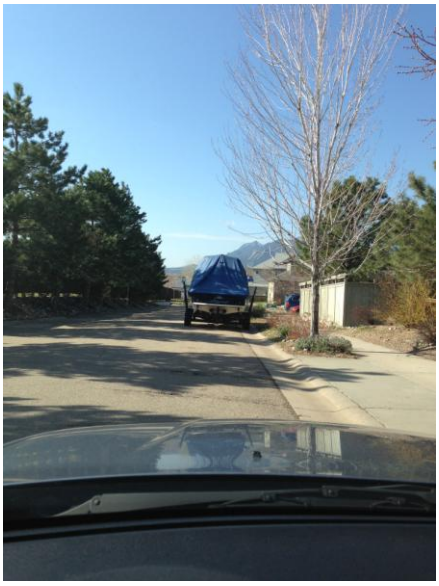
Sloane:

This photo was taken recently as I turned from Lee Hill onto 8th Street. As you see, there's a boat parked on the west side of 8th. Try to imagine two-way traffic on 8th Street with that (or the RV that used to park there, or even just a big van or pickup truck) obstruction. Now try to imagine it with cars parked chock-a-block on the east side of 8th. Consider, too, that when you swing out to go around the boat, it has made the corner with Zamia a blind one and you have no way of knowing if someone is about to turn from Zamia onto 8th and hit you head-on.

Currently, this short stretch of 8th Street is the primary point of access to the neighborhood for 32 homes, except for the tiny number of trips that come from or go to the west on Lee Hill. Add the traffic generated by the 8 proposed homes on Yellow Pine, some proportion of the 10 proposed homes on Zamia, and an unknown number of visitors headed for the park.

In other words, we already have a hazardous situation and, without another street connection from Lee Hill to Yellow Pine, it will get much worse.

Gail Promboin
944 Yellow Pine Ave



---

From: Bob Burnham & Gail Promboin
To: Walbert, Sloane
Subject: 820 Lee Hill: impact on circulation near traffic islands on Yellow Pine
Date: Sunday, June 16, 2013 1:36:09 PM

Hi, Sloane:

This is the last one, but it illustrates how parked vehicles often constrict the space available for vehicles driving around the traffic islands. Add the vehicles residing at or visiting the 8 additional homes on Yellow Pine and remove most of the parking on the north side and this will only get worse and more dangerous.

Thank you for your consideration.

Gail Promboin
944 Yellow Pine Ave

From: Bob Burnham & Gail Promboin
To: Walbert, Sloane
Subject: 820 Lee Hill: one more photo
Date: Monday, June 17, 2013 8:37:10 AM
Attachments: ATT00001.c

This morning the Western Disposal touch had to retract its mirrors and make several attempts before it cleared the narrow space between a parked truck and the traffic island.

Gail Promboin
944 Yellow Pine

From: Dohrmann, Russell and Gail
To: Walbert, Sloane
Subject: Utility Pole Potential Conflicts with 820 Lee Hill Plans
Date: Monday, June 17, 2013 5:17:19 PM

Dear Sloane,

Walking down Lee Hill Dr from 8th St. toward Broadway it suddenly struck me that if the utilities along Lee Hill Dr. are not put underground as part of the 820 Lee Hill Dr. development that there appears to be conflicts with the current location of 3 utility poles. Three photos are included to show this potential conflict.

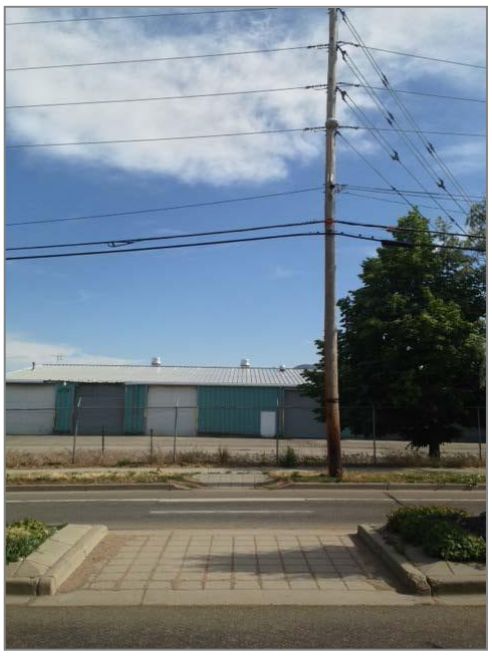
1. The utility pole at 8th and Lee Hill could potentially block access to the multi-use path proposed as part of the site plan.

2. The utility pole(s) as seen from the corner of 10th and Lee Hill Dr. looking due south shows a utility pole directly in the middle of the developer's proposed 10th St.

3. There is a utility pole that is approximately 1/2 way between the eastern and western border of the 820 Lee Hill Dr. development. This would be approximately where the woonerf would intersect with Lee Hill Dr.

Photos of each of these locations are attached. Thank you for your consideration.

Russell Dohrmann



---

From: Jan Nance
To: Walbert, Sloane
Subject: 820 Lee Hill site review
Date: Tuesday, June 18, 2013 9:59:41 AM

Dear Ms. Walbert:

We are most concerned about the very tiny houses that are planned for 8th Street. We believe that they will definitely have a great impact on our property values as they look like something out of a cartoon. Houses that are 12 feet wide with very little property surrounding them, no garages and an alley in the rear for parking are detrimental to the area. They certainly don't enhance the current neighborhood where houses routinely sell for close to (and above) one million dollars.

We feel that 10th street should also go through so that traffic on 8th street will be reduced.

Another very big concern is parking. Just because cars are discouraged does not mean they won't be there and I see parking on 8th Street (and Zamia Court) to be a huge problem. There are a lot of children playing in the cul-de-sac and with cars parked all over they will be a great risk of being injured.

I do hope the city planning council will think seriously about these issues.

Thank you for your consideration of our neighborhood.

Janet and Robert Nance
720 Zamia Court
Boulder, Colorado 80304

---

From: Bob Burnham & Gail Promboin
To: Walbert, Sloane

Subject: 820 Lee Hill
Date: Thursday, June 20, 2013 12:40:47 PM

You have received any number of cogent, well reasoned concerns regarding the developer's present site plan. Please add my emotional, unneighborly screed.

How can you in good conscience let any developer compromise the city's master plan and the safety and livability of an entire subdivision to squeeze in a few extra houses onto what should obviously be a street (10th), and alley (behind the houses facing Yellow Pine Ave.) and additional off street parking? The developer is intending to create a neighborhood nightmare for the profits from the sale of a couple additional houses. Our new neighbors deserve better and so do we.

I hope you will put the neighborhood ahead of the developer's profits when finalizing this site plan.

Thank you,

Robert J. Burnham
944 Yellow Pine Ave.

---

From: Tom Miller
To: Walbert, Sloane
Subject: comment on fire training center site off Lee Hill
Date: Thursday, June 20, 2013 12:09:59 PM

Please consider making the access from 10th street off Lee Hill into the new development able to accommodate autos instead of just as a multiuse trail. I believe that access would reduce traffic internal to the current neighborhood as new residents would not need to travel along 8th street to reach their homes.

Thank you for your consideration.

Tom Miller
4775 6th street
Boulder, CO 80304

---

From: Bruce Goldstein
To: Walbert, Sloane
Subject: Comments on 820 Lee Hill Site
Date: Thursday, June 20, 2013 12:06:43 PM
Attachments: Comments provided to Sloane Walbert on 820 Lee Hill Site Plan.docx

Hi Sloane,

I attach my letter on the site plan – thanks! Please confirm receipt.

Bruce

BRUCE GOLDSTEIN

Associate Professor
Environmental Design and Environmental Studies
Faculty Research Associate, Institute for Behavioral Science
Outreach and Education Coordinator for Sustainability Initiatives
University of Colorado Boulder
720-346-4957 (c)
Academic Website: http://goo.gl/M07L0
brugo@colorado.edu

Dear Sloane,

This letter is a response to the proposed site plan for 820 Lee Hill Rd. I am a homeowner in the North Briar community adjacent to the proposed development, and also a member of the HOA Board. The North Briar HOA members have asked me to take particular responsibility for informing the neighborhood about important planning issues, and interfacing with planning staff and decision makers in order to provide an effective neighborhood. I also am a faculty member in the CU Denver Planning Program and CU Boulder Environmental Design Program.

Our HOA has engaged with this proposed development since we heard about the proposed county sale of the 820 Lee Hill site to the Allison/Thistle/Coburn development partnership. A group of us were asked to take the lead on representing our interests with the developers and city. Given that Thistle is principally a developer of affordable and "workforce" housing – a goal we support in principle - and that this is a market-rate development, we have sought to ensure that these objectives are not achieved by imposing adverse impacts on North Briar. We set out to see if we could engage the developers in a productive dialogue, while also preparing to convey neighborhood concerns to the city's planning staff and planning board through the avenues available for community participation.

Over the past six months we have met with the development team three times, and presented our concerns to the planning board during preliminary site review. While the developers have been unwilling to engage in a participatory design process and their dense and somewhat insular site design has not substantially changed over that time, they have been willing to engage in conversation, and we feel that our engagement has had some beneficial impact on the development proposal. Yet many of the issues that we raised during preliminary site review (appended below) still remain substantially unaddressed, including on-street parking, access to homes on Yellow Pine, scale and neighborhood compatibility, neighborhood integration, and brownfield remediation.

The single most important issue that remains unresolved is improving connectivity with the existing street system. Specifically, the key issue is whether to build a road connection between Yellow Pine and Zamia/10th St., along the northeast edge of the site The developer has proposed a kind of meandering vegetated path along that thin section of the property, and the options open to the city include asking the developer to put a road connection there, dedicating the property for road construction when the adjacent eastern property develops, or allowing the developer to develop the vegetated path as requested, precluding a road connection.

After discussions with neighborhs, planning experts, and city staff, I have concluded that building this 10th St. connection would be a real and substantial improvement on the developer's proposed plan in terms of reducing impact on the existing neighborhood, especially if it has enough width to accommodate on-street parking. The virtues of a 10th street connection include:

a. By creating connectivity through the new development from both 8th (through Zamia) and 10th (from Lee Hill), a 10th street connection would enable homeowners along Yellow Pine to access Lee Hill more directly, increasing neighborhood street safety, reducing the traffic burden on the existing neighborhood, balancing the traffic flow

through both existing and new portions of the neighborhood, and reducing vehicle use (by a small amount). These are all goals of the existing subcommunity plan.
b. A 10th street connection would provide us an alternative emergency entry/exit point for fire/emergencies.
c. A 10th street connection would reduce the prospects that a future 10th St. connection along the edge of the open space to the north – which is included in the subcommunity plan and may be required by planning staff when the eastern properties are redeveloped– would be routed solely into Yellow Pine, which could pass significant traffic past many of our homes.
d. If it is wide enough, a 10th street connection could include on-street parking as well as direct access for two of the new homes, which will reduce congestion along Yellow Pine.

I urge you to require the developer to build this connecting road from Yellow Pine to Lee Hill, and make it wide enough to accommodate on-street parking.

Thank you for the opportunity to participate in the planning process – our neighborhood appreciates your willingness to communicate with us and provide us with information that we have needed.

Regards,

Bruce Goldstein
4669 7th St. Boulder CO 80304
720-346-4957

---

From: Denise Maslanka
To: Walbert, Sloane
Subject: 820 Lee Hill project
Date: Thursday, June 20, 2013 3:04:17 PM
Attachments: 820LeeHillMaslanka.docx

Hey Sloane… here are my comments… please confirm receipt! Thanks!

Denise M. Maslanka, ABR, CDPE, SFR
Broker Associate
Accredited Buyer Representative
Certified Distressed Property Expert
Short Sale and Foreclosure Resource
RE/MAX Hall of Fame
RE/MAX of Boulder, Inc.
2425 Canyon Blvd, Suite 110
Boulder, CO 80302
303.478.4299 Cell
303.441.5676 Office
303.449.8554 Fax
http://www.denisem.com

June 16, 2013

820 Lee Hill Drive Project

To Whom It May Concern:
Boulder Planning Department:
Boulder City Council:

I am glad there is a future beyond the Boulder County Road Maintenance Department and the Fire Training Center. This proposed project should be more cohesive and sustainable with the existing Northbriar Estates neighborhood based on the site plan dated 06.03.13. According to what I see on the site plan, the proposed project appears to be its own island. My main concerns are the proposed project does not provide within the project for additional traffic it will generate, but instead sends it to the already burdened Yellow Pine and 8th Streets. I think it is important to add the 10th Street connection to Yellow Pine. The project also lacks off-street and on-street parking to accommodate residents' and visitors' vehicles.

Traffic concerns and relating issues:
1. By not connecting 10th Street to Yellow Pine, all homeowners on Yellow Pine will be forced to use Yellow Pine and 8th Street to enter and exit the proposed project. From the locations of Lee Hill Road and approximately where 10th Street would join and Yellow Pine Ave and 10th Street, the distance is approximately one half mile. There are 8 proposed homes along Yellow Pine and approximately 12 homes in Northbriar that all snake around ½ mile just to get out and back into the neighborhood. That is 20 homes with approximately 2 vehicles or more (mopeds & motorcycles included) driving this route 4-5 times a day. That is approximately 160 trips in and out of the neighborhood from this location. That is approximately 160 miles per day of added mileage, emissions, etc., which is not stainable in my opinion. That calculates to 58,000 miles per year of fuel, emissions, etc!

2. There are 9 added homes on 8th Street including the three homes on the corner of 8th and Zamia. These homes will also use 8th Street to enter and exit the neighborhood. With this amount of trips in and out of the neighborhood, there will be an overload of traffic at the intersection of 8th and Lee Hill Road. I can imagine a line of cars at this corner waiting for the downhill Lee Hill traffic to get out in the morning for all to go to work. This already happens!

3. Delivery trucks, trash trucks, contractors' vehicles, etc. through Northbriar will also add to congestion on these streets.

4. The proposed project only has one new street to enter the development although there appears to be two. One is only for outbound traffic to turn east. This again will put a burden on 8th Street and even 6th Street.

5. The new development should have garages in the back of all the homes and a way for them to exit with an alleyway or the addition of 10th Street if garage driveways remain on Yellow Pine Avenue.

6. The entry into the proposed project at 8th Street and Zamia is narrowed down at the corner from the normal street width to half the width, detouring entry into the new development. This is another example of the island effect as to make entry into the neighborhood difficult and keep all traffic on 8th Street.

7. People currently speed downhill on Yellow Pine to get east near 10th. With additional traffic and the pedestrian walkway crossing Yellow Pine will become a very dangerous street.

These reasons are why 10th Street should be connected to Yellow Pine.

Parking

1. There are approximately 6 on-street parking spaces on the south /Northbriar side of Yellow Pine Avenue. There will be approximately 7 on-street parking spaces on the north side /proposed project side of Yellow Pine. There will be 20 homes in this vicinity. Where will all the cars park?

2. Where will the new homes on 8th Street park? In Northbriar Estates, along 8th Street?

The developer and his design team have mentioned that this proposed project is sustainable and they have open space requirements to adhere to in order for this development to proceed in the fashion they see fit. In my opinion it might be sustainable within its own boundaries but it is not sustainable once the new owner's cars leave their driveway. The open space requirement is based on the purchase price of the raw land and density of the proposed project. The land owner, Boulder County, has put a very high price on a small piece of land which forces the number of dwellings and density to make this a viable and profitable project for the developer. The developer and Boulder County need to renegotiate the price to make this project work for all involved including the neighboring subdivision, Northbriar Estates. Northbriar Estates should not bear all the impact of the proposed project because the County has set such a high price for the land, thus motivating the developer to resist providing street connectivity.

Denise Maslanka
770 Yellow Pine Ave
Boulder, Co 80304

---

From: John Moore
To: Walbert, Sloane
Subject: Concerns about the development at 820 Lee Hill
Date: Friday, June 21, 2013 11:26:15 AM

Dear Sloan (and Boulder Planning department)

I am pleased to see a development underway at the fire-training center and county lots on Lee Hill and will support a sensible development of this area - there are some concerns I have after reviewing the plans that I would like to echo concerns some of my neighbors who have sent some thoroughly researched comments to as well.

**Neighborhood Access:** the current plans seem to direct all traffic through the existing will cause more traffic on what is already a convoluted route (90' turn from Yellow Pine to 7th, 90' turn onto Zamia, 90' turn onto 8th, 90' turn onto lee hill. With many young children in the neighborhood - including mine - this is a concern both for drivers and parents

**Neighborhood Parking**: I frequently walk, and occasionally drive, over to Boulder Uptown for coffee or dinner and see the impassible streets created by the parking situation there. It is unrealistic to plan for single car parking in a family neighborhood, which would force much of the overflow back into the existing North Briar neighborhood. Remember that we are a very active community and most people will have multiple bikes/skis/kayaks that will crowd even one car out into the street.
Please ensure that this neighborhood has adequate, independent access to Lee Hill, and sufficient parking to accommodate a busy family neighborhood.

Regards,
- John Moore
4647 7th St
Boulder, CO 80304

---

From: John Moore
To: Walbert, Sloane
Subject: Re: Concerns about the development at 820 Lee Hill
Date: Friday, June 21, 2013 4:08:54 PM

Thank you Sloan - I had one more idea while i was driving this afternoon.

This would be in the category of 'making people happy with something that needs to be done anyways'

Could we request an expedited demolition of the existing fire training tower / building? Even taking the top story or two off would eliminate the eyesore of a charred building as the tallest structure in North Boulder. From almost anywhere in North Briar, looking east (say at one of our beautiful sunrises) we have smokestained ruin that looks more like it belongs in Beirut or Damascus.

Perhaps the fire crews could have one last training exercise there on how to safely tear down a ruined building? Maybe a film crew would like to destroy something?

Regards,
-John

---

From: Louie McKee
To: Walbert, Sloane
Subject: 820 Yellow Pine
Date: Friday, June 21, 2013 3:10:49 PM
Attachments: 820 Yellow Pine.doc

Hi Sloane,

Please find my comments regarding 820 Yellow Pine.

Regards,
Louie McKee, Resident 836 Yellow Pine

June 21, 2012

To: Boulder Planning Board and Staff

Our family, my wife Lucy and our 2 children, Lilly and Bridget, have lived at 836 Yellow Pine since 2001. We are the second owners of our home and, while we were generally aware of future plans to develop 820 Lee Hill, we could not have imagined that a prospective development would have such a profound impact on our neighborhood, especially those living on Yellow Pine Avenue. While I'm not aware of any generally accepted ethos or creed in the construction industry, "do no harm" to existing neighborhoods would seem to be a fair and minimal standard. In my opinion, the developer has failed to abide by any reasonable standard or code of conduct.

While the developer touts the benefits and accommodations they have created for the residents of 820 Lee Hill, no where in their written statement did I see the word or a consideration for efforts that should be made to ***mitigate*** the deleterious impacts the development will have for those long standing residents living on the south side of Yellow Pine. For example, while the developer highlights the fact the each unit/home will have a one-car garage, it is not realistic to assume that the occupants will be one-car families. Thus, up to eight or more additional cars will likely use Yellow Pine as their de facto parking space. Given the fact that Yellow Pine already has width and, in general, "flow' deficiencies, the additional on street parking is not "neighborly" or well thought out.

Perhaps more upsetting and pernicious is the over 30% increase in traffic that residents of Yellow Pine and most of our neighborhood will experience by having Yellow Pine become the circuitous southerly ingress and egress of the development. For a sundry of (I would have thought) obvious reasons, I am not sure why the city or the developer would allow or find attractive such an unnecessary, dangerous, inconvenient and ill-conceived plan. The solution is to require the developer to create an alley/woonerf that allows for internal access to the newly extended 10th street. In consideration for this requirement, let the developer build larger market rate homes and the city can then serve ***all*** of their constituents-including the existing residents of North Briar Estates.

As a result of the development as planned, the combination of increased traffic and on-street parking will combine to make the windy connection of streets within North Briar a very dangerous pathway for the more than 20 kids who live and play on 8th Street, Zamia, 7th Street and Yellow Pine. While I don't encourage my children to " play in traffic", that's exactly what they will be doing if Yellow Pine becomes the southerly entrance to the project.

In conclusion, while the developer's plan may be in accord with the letter of the zoning regulations, I would argue that the city planners have a responsibility to strike a balance between the developer's profit and the impact the project will have on our 20 year old neighborhood. If nothing else, reasonable attempts should be made to ***mitigate*** the negative impacts of the development that are not frivolous but that will have significant repercussions on our neighborhood and in our standard of living.

Respectfully,
Louie McKee

---

From: Noel Culberson
To: Walbert, Sloane
Subject: Comments on 820 Lee Hill
Date: Friday, June 21, 2013 2:45:59 PM

I would like to voice my support for two aspects of the 820 Lee Hill site plan.

1. Connecting the bike path from Yellow Pine directly north to the park is a good addition. This will help integrate the neighborhoods and is a safer and more natural flow for bikes on the path.

2. I do not think that 10th Street should connect all the way south to Yellow Pine. Open-space, parks, bike paths and pedestrian paths are much more pleasant and beneficial to a neighborhood than another asphalt street. Keeping a park at that location will also provide a natural buffer between a residential neighborhood and the eventual redevelopment of the industrial space to the east. The park could be landscaped so that emergency vehicles could drive through it. That would help alleviate concerns about emergency vehicle access to Yellow Pine.

My concerns include the lack of parking spaces for that many additional homes. Also, the entry and exit of cars into and out of the neighborhood onto Lee Hill will be congested and dangerous. There needs to be a dedicated turn lane from Lee Hill into the neighborhood.

Thank you for organizing neighborhood comments on the site plan.

Noel Culberson
810 Yellow Pine

---

From: Holly Harding
To: Walbert, Sloane
Subject: 820 Lee Hill site
Date: Friday, June 21, 2013 5:00:57 PM

Dear Sloane,

I live at 721 Yellow Pine Avenue, next to where the CDOT and Fire training sites are to be developed. My husband and I welcome a new development in the location, yet have a few concerns regarding the current site plan dated June 3, ,2013. It seems to make sense that 10th St. be a through street to ease the flow of traffic from Lee Hill. Traffic from new neighbors, garbage trucks, delivery trucks, and additional visitors. There are many children who reside on Yellow Pine Avenue at this time and their safety is of great concern to us. Also, the bike path connects through Yellow Pine Ave. and by adding 10th St as a through street to the new neighborhood to be developed, it would continue to provide a safe route for the many who cycle through this section of our neighborhood. For the amount of homes that currently exist on Yellow Pine Ave, having only 1 entrance/exit seems to be fine. However, with more drivers, potentially more children playing in the neighborhood, it seems that making 10th ST a through street should be a of high consideration.

Thank you for your time,
Holly Harding
721 Yellow Pine Ave
Boulder, CO 80304

---

From: Bob Burnham & Gail Promboin
To: Walbert, Sloane
Cc: Bruce Goldstein; Louie McKee; Neil Lubar; nzaun120@gmail.com; Noel Culberson; John Moore; denise@boulderco.com; Russ Dohrmann; Kathy Dessau; hollytharding@gmail.com
Subject: Parking, Trash, and Recycling at 820 Lee Hill
Date: Sunday, June 23, 2013 7:12:22 PM

Hi, Sloane:

I know this comes after the review package you sent the developer on Friday, but would you please include these thoughts in the next go-around? My Sunday walk alerted me to some questions that I don't believe have been addressed yet.

I was walking today in a few neighborhoods where the homes have one-car garages. I would note that on a quiet Sunday morning nearly all the on-street spaces at the Foothills development just south of us were occupied. This development serves a similar "workforce" population as that targeted by the developers of 820 Lee Hill. In another neighborhood where

the homes are also small and have one-car garages, many of the front yards had been converted to paved angled parking spaces. I also noticed that nearly all the trash, recycling, and compost carts were stored outside -- mostly in front of the homes, which is a violation of city ordinance.

That got me thinking about how trash, recycling, and composting will be handled at 820 Lee Hill. I know from personal experience that, unless it is a pretty roomy one-car garage, there isn't room for a car **and** the three required carts. I know this because I have to park my car a little over the middle of our two-car garage in order to accommodate the carts and still be able to walk from the car into the house. Fortunately, the only other vehicles in our garage are two-wheeled and can accommodate my "poaching." But where will the residents of 820 Lee Hill store their three carts per household, where will they put them out on collection day, and how will the trash hauler pick them up? I guess the "woonerf" could function as an alley for the homes on 8th and 10th Streets, where residents could store their carts and the hauler could collect them, as I notice in the city trash ordinance that "officially recognized" alleys can be used for that purpose. (It's hard, however, to see how that same area could count toward "open space" if it's officially recognized as an alley.) If it's not an "officially recognized" alley, how will residents wheel their bins from their rear garages to the street in front on collection day? And what about the homes on Zamia and Yellow Pine? Will they be forced to violate city ordinance and store their carts in full view of the street or will the one-car garages be impossible to use as garages? If the latter, how can the garages count as "off-street parking?" Does Boulder code even specify the minimum size of a garage to be large enough to accommodate an average-size vehicle **and** the three required carts? (At the risk of beating a dead horse, running an alley behind the homes on Yellow Pine would enable residents and the trash hauler to comply with the trash ordinance without making it impossible to put a car in their garages.)

While the city ordinance appears to permit outdoor storage of trash, recycling, and composting carts as long as they are not clearly visible from the street, it's quite unwise to do so at the urban-wildlife interface where we live. Mountain lions, coyotes, deer, raccoons, skunks, and even a stray bear have been known to frequent the neighborhood and outdoor storage of these carts makes it even more appealing for them. Not a great idea.

Can you please make sure that the next review of the developers plans addresses these questions? Both our future neighbors and the existing residents have an interest in making sure that the site plan provides adequately for space for residents to properly store their trash, recycling, and composting bins.

Thanks for your consideration.

Gail Promboin
944 Yellow Pine Avenue

---

From: Kathy Dessau
To: Walbert, Sloane
Cc: Holly Harding; John Moore; Bruce Goldstein; Bob Burnham & Gail Promboin; Dohrmann, Russell and Gail; Louie McKee; Noel Culberson; Denise Maslanka; Tom Miller; Jan Nance; Neal Zaun; JUDY WAHLBERG; Neil Lubar
Subject: Re: Review Comments - 820 Lee Hill Drive
Date: Saturday, June 22, 2013 1:37:54 PM

Hi Sloane,
Thanks for the PDF. I was talking with a neighbor and was reminded of two more issues that we've noticed since living in NBE since 2000.

1) As Gail has mentioned 8th by Lee Hill is very crowded and in the summers has had water trucks loading up from the hydrants. The turn from 8th to Zamia is often tricky with these trucks.

2) I have heard from the residents of Dakota Ridge that they have to be careful of the traffic turning out of 8th on to Lee Hill. Personally I have experienced "near misses" when someone pulling out from Fountain has almost hit us once we are on Lee Hill (and this has happened more than once). It would seem that adding 10th Street would ease this traffic issue. In addition, I have also experienced where I have almost hit a pedestrian or been a pedestrian and almost been hit on 8th by Lee Hill. For some reason the visibility, the weird angle etc, make this road tricky for safety. By adding even more cars that would go in and out of this tricky intersection, it increase the likelihood that an accident might occur.

Thanks again for your attention to our concerns.

Kathy Dessau
748 Yellow Pine Ave.

---

From: Bob Groneberg
To: Walbert, Sloane
Subject: 820 Lee Hill Dr. Site Review Comment
Date: Friday, June 21, 2013 11:07:06 PM

Dear Sloane-

We appreciate the opportunity to comment on the plans submitted for development at 820 Lee Hill Dr.

Our position is to keep the proposed greenway on the eastern boundary of the development and not to extend 10th Street to Yellow Pine.

We have lived in this neighborhood on Yellow Pine for 12 years and do not see traffic as a major problem. For example, we have never had to wait at 8th Street to turn on to Lee Hill. The addition of 8 households on Yellow Pine will increase traffic, but that will be inevitable. Traveling west or potentially east to a new 10th will require new and existing households on Yellow Pine to get out of the neighborhood one way or another. The distance will be about the same either way.

On street parking is a concern. We expect that garages may often be used for storage rather than car parking. The shared driveway should be made so that each household can park at least one car in front of their garage to limit the amount of on street parking.

Thank you-
Bob and Elizabeth Groneberg
958 Yellow Pine Ave

---

From: Bruce Goldstein
To: Walbert, Sloane
Subject: RE: 820 Lee Hill
Date: Saturday, August 24, 2013 7:59:10 AM

Thanks for the filing, Sloane,

Looking at the revised plan, what immediately strikes me is the bizarreness of having two tiny parks - each about 8000 square feet - separated by a couple houses. It seems to render both inviable for many of the functions desirable in a residential park. By comparison, the pocket parks in Dakota (see attached photo labeled "Dakota") are sizable, and permit a variety of uses - by residents account, these Dakota Ridge parks are the soul of the community.

The park adjacent to 10th street seems poorly sited, since it abuts 10th street and a commercial space/parking lot. See second attached photo labeled "proposed park". Spatially, it's inconvenient and away from the neighborhood center. Also, it seems inconsistent with Andy and his development team's earlier assertion that the neighborhood park should be at the center of their new community.

I understand the development must meet an open space requirement (they are now just above it) and think a consolidated park would serve the neighborhood better. Is this something that we could examine - does it fall within the scope of your next round of comments?

Apropos, my son is conducting a neighborhood survey of desired uses for the park, which we'll forward to you in about a week. Planning is a family gene!

Bruce

BRUCE GOLDSTEIN
Associate Professor
Environmental Design and Environmental Studies
Faculty Research Associate, Institute for Behavioral Science
Outreach and Education Coordinator for Sustainability Initiatives
University of Colorado Boulder
720-346-4957 (c)
brugo@colorado.edu

---

From: Bruce Goldstein
To: Walbert, Sloane
Cc: Bob Burnham & Gail Promboin

Subject: RE: 820 Lee Hill
Date: Monday, August 26, 2013 8:48:01 PM

Thanks Sloane,

If the engineer suggests that a drainage feature is necessary in that spot (as opposed to being possible at the other park site), I wonder whether you could ask them how much space is necessary to meet the minimum requirements. I ask because in the previous site plan, the amount of space set aside at that location was about 1/3 as large as what it is now. I'm thinking, if a smaller space is possible to accommodate drainage, the park space further west might be enlarged.

Thanks!

Bruce

BRUCE GOLDSTEIN
Associate Professor
Environmental Design and Environmental Studies
Faculty Research Associate, Institute for Behavioral Science
Outreach and Education Coordinator for Sustainability Initiatives
University of Colorado Boulder
720-346-4957 (c)
brugo@colorado.edu

---

From: Bruce Goldstein
To: Walbert, Sloane
Cc: Bob Burnham & Gail Promboin
Subject: RE: 820 Lee Hill
Date: Wednesday, August 28, 2013 4:10:09 PM

Hi Sloane,

A number of neighbors have expressed their concern about the open space plan to me - both in terms of park functionality and the risk of creating a homeless hangout in the neighborhood, given the location of that southeast parcel. We are curious about how to appropriately respond. Part of our hesitation is over the issue of the drainage requirements that you raised, which may constrain our options. Is there any way you could provide some initial feedback in time for us to get our opinion (and possibly professional support for an alternative) to you before you return comments to the developer?

Also, can you advise on the next stage of the process? Is planning board review optional, or mandatory? I've heard different things over time. Will we have an opportunity to speak then - and, under these circumstances, does the board often request additional modifications?

Also, under what circumstances does the development move forward for full council review?

Thanks!

Bruce

BRUCE GOLDSTEIN
Associate Professor
Environmental Design and Environmental Studies
Faculty Research Associate, Institute for Behavioral Science
Outreach and Education Coordinator for Sustainability Initiatives
University of Colorado Boulder
720-346-4957 (c)
brugo@colorado.edu

---

From: Bob Burnham & Gail Promboin
To: Walbert, Sloane; boulderplanningboard
Cc: Bruce Goldstein; Elizabeth Groneberg; John Moore; Julene Thom; Kathy Dessau; Louie McKee; denise@boulderco.com; Neil Lubar; Noel Culberson; nzaun120@aol.com; bsaless@earthnet.net; chesley.mccoll@gmail.com; Nicolett Miller; Russ Dohrmann; Nancy Hunt; Julie Byrt; North Briar HOA
Subject: 820 Lee Hill August Site Plan Submission
Date: Friday, August 30, 2013 4:52:17 PM
Attachments: Comments on August site plan.docx

Dear Sloane:

We have attached our comments on the Thistle/Allison/Coburn August 19 site plan for 820 Lee Hill Drive. We note for the benefit of the neighbors we copied that your deadline for including comments in the Planning Board package is Friday, September 6 at noon. Thank you for your help in this process to date; we hope you and your colleagues and the board are still listening. The invitation to walk you around the neighborhood still stands.

Sincerely,
Gail Promboin and Bob Burnham

August 30, 2013

Dear Planning and Development Department team and Planning Board members:

We have reviewed the August 19 version of the site plan for 820 Lee Hill. Thanks in large measure to your actions, it is a marked improvement over the previous site plan.

First and foremost, connecting 10th Street to Yellow Pine will improve access and safety for existing and new residents. Thank you for listening.

Secondly, adding two-car garages to some of the homes will relieve some of the pressure on the very limited on-street parking. However, it is fantasy to expect that the in-line two-car garages in six of the Yellow Pine homes will actually be used for two cars, like the side-by-side garages in several homes on 8th and 10th Streets, but they at least increase the odds of one car being garaged and not parked on the street. It is worth noting that if you required alley access to the rear of the homes on Yellow Pine, such as that provided to homes on 8th and 10th Streets, it would be more possible to provide side-by-side two car garages.

As with many changes, the site plan revisions addressed some problems, but created a new one. The large open area at the southeast corner of the site is likely to become a hangout and camping area for vagrants. Anyone who lives in this area can tell you that any unpatrolled open space is used by vagrants to drink, get high, camp out, litter, and engage in other offensive behavior. Take a walk or ride near dusk along the Four Mile Canyon Creek multi-use path south of Yellow Pine and you will see the likely future for this corner of the development. Proximity to the Shelter's morning services is already blighting the surrounding neighborhoods; please don't provide an inviting new spot to make it worse. Unlike the park in the center of the new neighborhood, there are few or no windows that face it and it is screened by a berm and trees. We understand the site must provide for drainage detention, but must it all be in one spot that is so large? Can it be made uninviting to vagrants by planting uncomfortable vegetation? Can you require that it be posted "no trespassing?" Can you require the developers to make it less isolated from the homes?

The new site plan included new information on architectural design and we have some reactions. First, the color scheme stands in sharp contrast to the muted earth tones of North Briar to the south and west and Dakota Ridge to the north. If the color palette is going to be similar to that on Rosewood, currently being built by the same development team, we find it quite muddy and unattractive. Second, the homes are so narrow and close together that, like the ones at Rosewood, some of them look like two story Tuff Sheds. It is not clear if the developers are still seeking side yard setback variances, but you should deny them as there ought to be some limit on how tightly the homes can be crammed together.

Again, thank you for your help so far in requiring changes that have improved the site plan. Please continue to hold the developers' feet to the fire to result in a development that both new and existing residents can enjoy living with. The developers can do better, but it is clear they won't without you pushing them.

Sincerely,

Gail Promboin and Bob Burnham
944 Yellow Pine Avenue

---

From: Bruce Goldstein
To: Walbert, Sloane
Cc: "Bob Burnham & Gail Promboin"
Subject: RE: 820 Lee Hill Review Process
Date: Friday, August 30, 2013 10:24:20 AM

Thanks Sloane, I appreciate it.

Folks here in North Briar have been discussing the possibility of hiring an open space designer to advise us on the neighborhood parks spaces, after hearing back from Andy Allison that he and his development team are uninterested in discussing this issue with us. We'll wait to hear from you on the engineering analysis before proceeding with this.

Bruce

BRUCE GOLDSTEIN
Associate Professor
Environmental Design and Environmental Studies
Faculty Research Associate, Institute for Behavioral Science
Outreach and Education Coordinator for Sustainability Initiatives

University of Colorado Boulder
720-346-4957 (c)
brugo@colorado.edu

---

From: Neal Zaun
To: Walbert, Sloane
Subject: Comments Concerning the 820 Lee Hill Site Plan
Date: Tuesday, September 03, 2013 3:40:53 PM
Attachments: Comments Concerning 820 Lee Hill - 9-2-13.docx

Dear Sloane:

We have attached our comments concerning 820 Lee Hill Project submitted by Thistle and appreciate the staff reviewing them.

Sincerely,
Neal & Sharron Zaun
755 Zamia Ave.

Sept. 2, 2013

Dear Boulder Planning Board and Staff:

These are my comments concerning the site plan for 820 Lee Hill, dated Aug 19, 2013.

A big improvement from previous plans is connecting 10th Street to Yellow Pine. This will make for a more efficient flow of traffic, with a shorter distance traveled and less congestion. I also see that some of the homes have two car garages, which should help with street parking. Maybe all the homes should have two car garages.

The biggest problem I find is that the transition from both North Briar Estates (NBE) and Dakota Ridge to 820 Lee Hill is large. While I do not expect the builder to build homes the size of the NBE or Dakota Ridge I think the building materials and colors should be similar. Also think that if the builder is asking for a side yard variance, it should be denied. The homes are already too close together.

I appreciate your considering my comments for the next review cycle.

Sincerely,

Neal & Sharron Zaun
755 Zamia Avenue

---

From: Bruce Goldstein
To: Walbert, Sloane
Cc: "Bob Burnham & Gail Promboin"
Subject: RE: Update

Date: Tuesday, September 03, 2013 12:57:02 PM

Hi Sloane,

Yes, this “informal space” has become an issue, both for positive (desire for more programmed rather than “informal” space in a neighborhood that doesn’t have any gathering spaces) and negative reasons (isolation of this space from the existing community, high probability that this isolated eastern space will attract homeless, since it will be the closest park site to the 160-bed shelter and 10th street will provide a new point of access to the open space.

We’d like to explore other design options – especially one that would unite the new and old part of the community, to counteract the current design, which creates strong divisions between the two parts of the neighborhood. We are in touch with an open space design consultant, but would prefer to work with city staff – is it possible to arrange a meeting with your parks or open space – oriented staff?

Bruce

BRUCE GOLDSTEIN
Associate Professor
Environmental Design and Environmental Studies
Faculty Research Associate, Institute for Behavioral Science
Outreach and Education Coordinator for Sustainability Initiatives
University of Colorado Boulder
720-346-4957 (c)
brugo@colorado.edu

---

From: Bob Burnham & Gail Promboin
To: Bruce Goldstein
Cc: Walbert, Sloane
Subject: Re: Update
Date: Tuesday, September 03, 2013 1:51:54 PM

I second Bruce's comment about the risk of this space becoming a magnet for the homeless. A retaining wall makes it even worse. Take a look at what the Shell station at Broadway and Rosewood had to do to the wall around its planting box to get rid of the guys who sat on it all day -- install a picket fence on top!

Gail Promboin

---

From: Bob Burnham & Gail Promboin
To: Walbert, Sloane; Bruce Goldstein
Subject: She"ll station
Date: Wednesday, September 04, 2013 11:32:23 AM
Attachments: ATT00001.c

Here's what I described in my previous email. Before the fence, there were vagrants sitting there all day.

Gail

---

From: Bruce Goldstein
To: "Bob Burnham & Gail Promboin"
Cc: Walbert, Sloane
Subject: RE: Update
Date: Wednesday, September 04, 2013 8:20:12 AM

Hi Sloane,

You mentioned below the absence of concern about the eastern "informal space" during our first meeting - please see the two attached images, which contrasts the original site plan to the revised. In the original, the eastern edge was 1/2 of the size, and just designed to accommodate the water retention pond. In the revised, it is doubled in size, and expanded substantially. Hence our new concern about this site - it's a new issue, raised by the requirement to have more open space on the property.

Our neighborhood is eager to see more open space in this design – the feeling is that the site plan is already too dense, with spillover impacts such as the inadequate garage space that Gail has raised. However, we feel that the addition of park space on the east is not appropriate, for the reasons we've sited, principally that (1) it does nothing to unite the new development with the existing neighborhood, in a development plan that creates an enclave rather than an integrated community, 2) these two little park spaces are not functional as community meeting and recreation spaces - they are two small and divided, and (3) the isolated and unusable eastern park space may attract homeless people into the community.

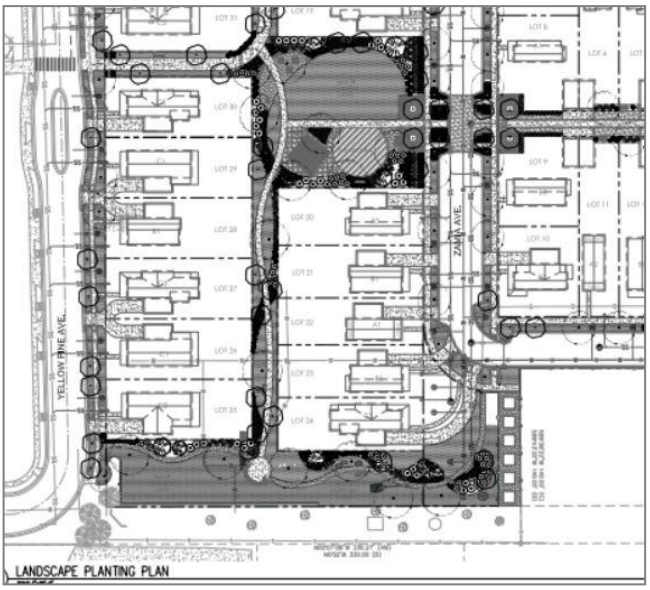
We'd like to revisit this issue, but have been rebuffed by the development team, which overall has shown little willingness to address our concerns collaboratively.

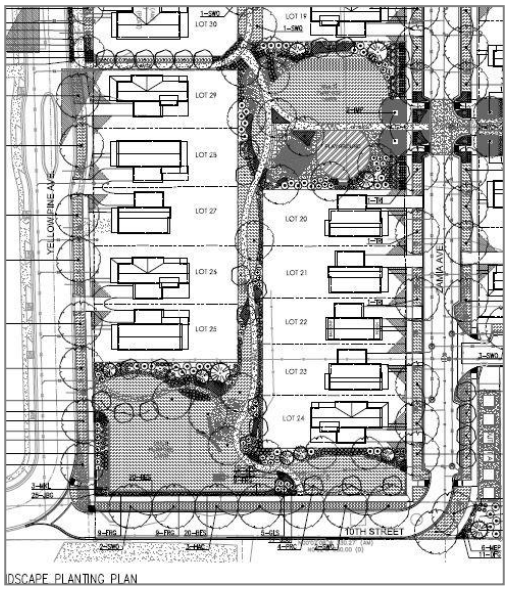
We are in touch with a park designer from the well-known design group Root House Studio, who is willing to partner with us on considering alternative designs that may yield a greater community benefit - we are especially interested in breaking up the solid and dense row of houses along Yellow Pine with a park that spans Yellow Pine to Zamia, and thus unites the community and is more functional overall.

Given that you are sending comments back on Friday, can we explore ways to keep this option alive? Are there colleagues on your staff who we could consult with on this issue?

Bruce

BRUCE GOLDSTEIN
Associate Professor
Environmental Design and Environmental Studies
Faculty Research Associate, Institute for Behavioral Science
Outreach and Education Coordinator for Sustainability Initiatives
University of Colorado Boulder
720-346-4957 (c)
brugo@colorado.edu




---

From: Bruce Goldstein
To: Walbert, Sloane
Subject: RE: Review Comments - Revised Plans for 820 Lee Hill Drive
Date: Friday, September 06, 2013 7:35:36 PM

Sloane,

Just read the comments. Thanks for responding to our concerns.

Just to add some food for thought, in addition to Jane Jacobs “eyes on” observation about streets, she also said that parks do not act on neighborhoods, but neighborhoods do act on parks – and so a park will succeed if it is in the area of significant foot traffic. The location of that eastern park element is in the area of least foot traffic in the whole development. I think Jane is on the neighborhood’s side on this one ;-)

Bruce

BRUCE GOLDSTEIN

Associate Professor
Environmental Design and Environmental Studies
Faculty Research Associate, Institute for Behavioral Science
Outreach and Education Coordinator for Sustainability Initiatives
University of Colorado Boulder
720-346-4957 (c)
brugo@colorado.edu

---

From: Goldstein, Bruce
To: Walbert, Sloane
Cc: "Bob Burnham & Gail Promboin (burnboin@msn.com)"
Subject: 820 Lee Hill
Date: Tuesday, September 10, 2013 11:52:09 AM

Hi Sloane,

Gail and I and perhaps a few other folks are meeting informally with our parks design advisor this Thursday, and thought you might like to join us – we are meeting at 6PM at my house, in North Briar.

Also, we thought we might take a walk down to the site with you and look at the site lines to that eastern park parcel – we feel that perhaps you and your colleagues don't appreciate how isolated that site is, and how little "eyes-on" it potentially has, given the ways the homes and windows are configured in that area.

Finally, it would be great to talk with you about the variances issue. We feel that the extraordinary number of variances requested may constitute, in effect, a re-zoning of the property, and would like to hear the staff perspective on this request.

Thanks!

Bruce

BRUCE GOLDSTEIN
Associate Professor
Environmental Design and Environmental Studies
Faculty Research Associate, Institute for Behavioral Science
Outreach and Education Coordinator for Sustainability Initiatives
University of Colorado Boulder
720-346-4957 (c)
brugo@colorado.edu

---

From: Bob Burnham & Gail Promboin
To: Walbert, Sloane
Cc: Bruce Goldstein
Subject: 820 Lee Hill
Date: Monday, September 16, 2013 8:27:32 PM

Sloane:

You might want to have your engineers take a closer look at the drainage plan. The topography up here has been altered, maybe permanently, by the flood. Very few homes in North Briar are dry. I am fortunate to live in one of them; Bruce is not. I hope you came through OK. The offer to walk you around the neighborhood, so that you can see for yourself how utterly inaccurate the analysis of sight lines is, still stands.

I have additional comments on the staff analysis but am not sure when would be the appropriate time to submit them. Can you please advise?

Gail Promboin

---

From: Goldstein, Bruce
To: Walbert, Sloane
Subject: Update
Date: Wednesday, September 25, 2013 3:35:48 PM

Hi Sloane,

The Northbriar neighborhood suffered disproportionally from the flood – about 1/3 of the houses suffered major damage, including mine. So we've been a bit out of touch on 820 Lee Hill! Just wanted to get in touch with you for an update – anything new? Any response from the developer? Any deadlines to keep an eye on? We're meeting next week with our landscape consultant to discuss the park design, and our offer to show you the area still holds.

Given the amount of damage in the neighborhood, I wonder whether special attention might be given to their drainage/flood elements. Despite being above the 100 year flood plain, we were extensively flooded.

Bruce

BRUCE GOLDSTEIN
Associate Professor
Environmental Design and Environmental Studies
Faculty Research Associate, Institute for Behavioral Science
Outreach and Education Coordinator for Sustainability Initiatives
University of Colorado Boulder
720-346-4957 (c)
brugo@colorado.edu

---

From: Bob Burnham & Gail Promboin
To: Walbert, Sloane
Cc: "Goldstein, Bruce"
Subject: Re: Corrected Plans - 820 Lee Hill Drive
Date: Wednesday, October 02, 2013 9:04:22 AM

Thanks, Sloane. The offer still stands to walk the neighborhood and, among other things, show you how completely inaccurate the staff analysis of lines of sight and "eyes on the street" is.

Gail

---

From: Bob Burnham & Gail Promboin
To: Walbert, Sloane
Cc: Bruce Goldstein
Subject: 820 Lee Hill
Date: Thursday, October 03, 2013 7:32:00 PM

Hi, Sloane:

I just wanted to give you a heads-up about two issues at which you and your colleagues should take a much closer and more critical look before you send the site plan to the Planning Board:

1. Recent "live" stormwater studies (the flood) indicate that, at a minimum, lots 18 and 31 would have been flooded last month. Lots 19 and 30 might have also been in the path of the flood waters. We can show you the path of the flood waters through the area if you would like to visit. Four Mile Canyon Creek now flows in a different channel than it did before and poses a different kind of risk. The drainage through North Briar poses a risk to the 820 Lee Hill development as well as a continuing risk to North Briar.

2. The drawing labeled "Context Plan" is at best misleading and at worst outright deceptive. We have checked some of the measurements and they are incorrect. Even where they are correct, they are misleading. For example, 990 Yellow Pine is marked as having an 8' side yard setback on its west side. It's actually a little more, but what is significant is that the nearest house to the west (mine) is 63' away. That's a good example of where a setback variance is reasonable, but such is not the case for the variances requested by the developer. Why bother having a code if every single lot in a proposed development gets one or more setback variances?

I thought you would appreciate being aware that the information you have been given and the information on which previous analyses have been based is incorrect, misleading, and/or not reflective of current reality.

Gail Promboin
303-442-0467

---

From: Goldstein, Bruce
To: Walbert, Sloane; "Bob Burnham & Gail Promboin"
Subject: RE: 820 Lee Hill
Date: Friday, October 04, 2013 5:04:53 PM

Sloane,

Thanks for your latest response, to Gail's note. I have a few observations:

1. You note that our neighborhood is in an area where higher density is called for in two planning documents. I wonder whether you could point out the relevant sections of these two documents? To me, the logic your advancing is that the subcommunity plan and comp plan mandate greater density in our single family neighborhood than is permissible by right, so that the planning staff only have a choice to either allow the requested variances or promote multi-family dwellings. This

seems odd to me – especially since this area is all single family homes, and the developers themselves have shown little interest in multifamily housing. Isn't another alternative to simply eliminate a few houses in order to abide by the existing zoning?

2. I've taken my tape measure out and measured the distance between some of the setbacks distances in the context plan document. I've found gross inaccuracies – up to 50% underestimates. Any sense of why this may be? Did the development team provide any methodology on that submission? If its meant to measure actual distances between homes, its full of mistakes whether deliberate or unintentional I cannot say. If the developer submitted material that represents permissible distances – and the actual distances are wider – isn't this distinction important for your analysis for comparability? What's your read on this, and how can we resolve this issue before staff makes a recommendation?

3. There is no question that the open space is an important amenity – we are in agreement on that. What we disagree on is the location of the park space - we believe the park should be relocated, to reduce flood risk, enhance community integration, and reduce the risk of uses that are incompatible with the neighborhood. We'd appreciate it if you took the flooding risk on the west side of the property seriously now – not at some later date. The western edge was completely inundated during the flood by overland flow – resulting in major home damage, the largest impact on any house in the entire neighborhood. We believe that this risk – which we were unaware of earlier – makes a much stronger case for putting the park on the western edge (between the Eighth and Zamia intersection and Yellow Pine). If this issue is left for later consideration – during building permitting – the opportunity to make this change may be lost.

Again, I really appreciate your responsiveness on these issues.

Bruce

BRUCE GOLDSTEIN
Associate Professor
Environmental Design and Environmental Studies
Faculty Research Associate, Institute for Behavioral Science
Outreach and Education Coordinator for Sustainability Initiatives
University of Colorado Boulder
720-346-4957 (c)
brugo@colorado.edu

---

From: Bob Burnham & Gail Promboin
To: Walbert, Sloane
Cc: Bruce Goldstein
Subject: Setback Variances
Date: Saturday, October 05, 2013 1:52:21 PM

Sloane:

I'm having a little difficulty interpreting the table on SR-2 where requested variances are listed. Front and rear variance requests are listed separately. For the list of lots where side lot variances are requested, it is not clear whether they are requested for BOTH sides or just one. Can you help me interpret this correctly?

Thank you.
Gail Promboin

From: Bob Burnham & Gail Promboin
To: Walbert, Sloane; boulderplanningboard
Cc: Bruce Goldstein
Subject: North Briar Comments on 820 Lee Hill Drive Site Plan
Date: Thursday, October 10, 2013 9:00:52 AM
Attachments: October comments on 820 Lee Hill final.docx

To: Planning Board Members and Planning and Development Staff
Please see the attached letter and exhibits regarding the last two site plan submittals by the developers of 820 Lee Hill. You will note that the letter is signed by 75 owners and residents of 38 homes in North Briar, which abuts the property to the west and south.

Thank you for your consideration,
Gail Promboin on behalf of 75 North Briar neighbors

October 10, 2013

Dear Planning Board Members:

We the residents of the North Briar neighborhood, which borders the 820 Lee Hill property on the west and south, continue to have serious concerns about the compatibility of the proposed 820 Lee Hill development with our neighborhood. We welcome the replacement of industrial use by homes and neighbors, but want to be sure that we, the developer, and the City do the best we can to integrate the new neighborhood with the old and enhance North Briar as a desirable place for us all to live. While we acknowledge that the August and September site plan submissions contain some improvements from previous versions, we believe that the following three critical issues remain to be addressed before the city approves this development:

**1. Requested modifications to land use regulations**

At least one setback (distance from lot line to structure) variance is requested for all 31 proposed lots, as well as variances regarding solar access requirements and counting land within public rights of way toward the open space required for the RL-2 medium density zoning. To grant all of these variances would challenge the legitimacy of Boulder's land use code and ignore the reasons this zoning was adopted in the first place. Side yard setbacks help to reduce the risk of fire spreading from one home to another; reducing them in this high hazard zone is reckless. Planning staff has referred to the Comprehensive Plan and North Boulder Subcommunity Plan as promoting higher density in this area; yet this goal was achieved years ago by changing the zoning on this site from "Residential-Estate" to "RL-2," which is less dense than the areas to its immediate south and north. Neither plan justifies granting one or more setback variances to every lot, which would result in a visible density that contrasts uncomfortably with the surroundings, and compound the problems with parking congestion that this development may introduce.

Planning staff has already indicated that these variance requests require further justification, and in response, the 10/1 "Context Plan" submitted by the developer purports to show that similar narrow spacing between homes exists in North Briar. However, we have found that this submission is both inaccurate and misleading. Please see Appendix 1, which shows that ALL of the existing side setbacks that the developer claims are at or below the 10 foot variance they are requesting are under-estimated, from 50% to an astounding 800% less than the actual distance between our houses. In addition, these comparisons are also misleading because the zoning on the 820 Lee Hill site requires lower density than

the areas to the north and south where they allege there to be smaller setbacks. There is simply no good rationale for ignoring the applicable provisions of the land use code through what amounts to a rezoning of the entire site. We recommend that the requested variances be denied to enhance safety and preserve compatibility with the existing neighborhood.

**2. Location and configuration of park and other open spaces**

From our first encounter with this development plan, we have been concerned with its insularity -- the way that it creates a neighborhood within a neighborhood, with all public spaces and paths effectively closed off to our families. We feel that this will enhance a division between our community and the new residents, which serves no one's interest. In earlier communications, North Briar residents expressed particular disappointment in the developer's insistence that the park space be located so as to be closed off to the surrounding neighborhood, rather than serving as a transitional feature and integrating the new development into the existing residential fabric. The developer rebuffed our suggestions, citing the need for the park to have high visibility from surrounding homes as a safety feature. Yet the August/September revisions created an even larger but unprogrammed site to the SE that is even less likely to be used intensively by residents. This area has almost no visibility from surrounding homes and has a high likelihood of exacerbating the problem that the community has faced with disorderly conduct and littering by the 200+ homeless people who are housed in the Shelter and the new chronically homeless housing facility that the city approved for placement next to our neighborhood. Please see Appendix 2 for a detailed rebuttal of staff's inaccurate visibility analysis. We have sent repeated invitations to planning staff to ground truth their visibility analysis, but have received no response.

In light of these concerns and the recent flood, which would have severely damaged homes on lots 18 and 31 on the southwest side of the property (and perhaps lots 19 and 30 as well), we propose that staff and Planning Board revisit this issue and consider an alternative to the developer's configuration. Relocating the park and much of the large open area from the southeast corner to the southwest part of the site adjacent to the existing multi-use path would offer the following advantages:

- A larger, more coherent open space resource for the new neighborhood that could accommodate a wider range of uses than the two smaller spaces.
- A smoother transition from the existing neighborhood to the new one.
- A valuable flood control/mitigation/storm water management benefit located much closer to real-world storm runoff.
- The addition of visibility by numerous pedestrian and bicycle users of the multi-use path to increase safety and discourage loitering.
- Extend the "greenway" feeling of the segment of the multi-use path to the south, thus benefiting all users of the path.

These modifications could, we believe, be accommodated in a way that offers substantial benefits to the entire neighborhood while posing no financial downside to the developers or our future neighbors.

**3. Proposed home designs and materials**

As noted in previous communications from various residents, as well as public hearing testimony, the proposed home designs and materials stand in marked contrast to the surrounding areas to the north, west, and south. The new details on materials and color palette submitted by the developer do nothing to persuade us that compatibility with the surrounding area was considered at all.

Thank you for continuing to consider the views of neighbors. We were encouraged that most of you who attended the last Planning Board meeting where you discussed this project both understood our concerns and were sympathetic to our

goal of achieving a unified neighborhood that encompasses both existing and proposed development in a harmonious fashion.

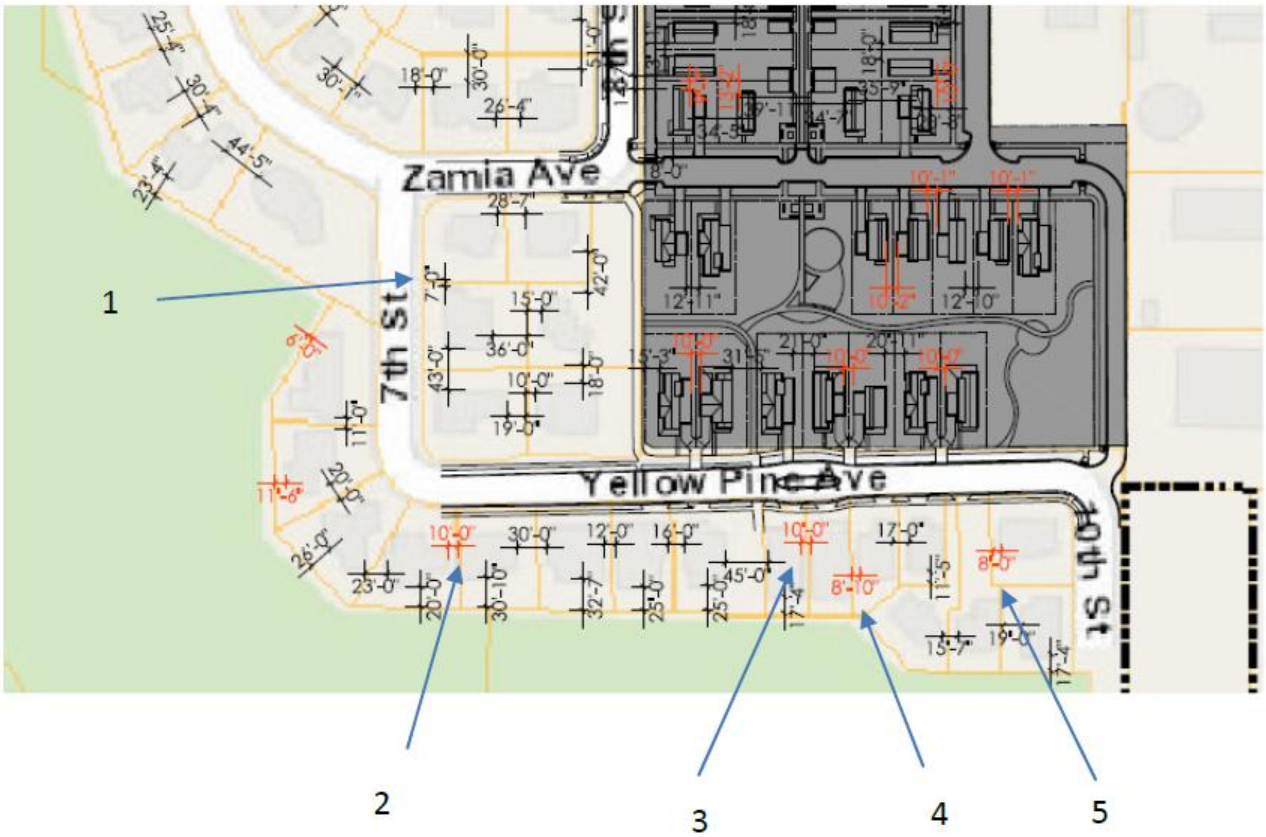
Sincerely,

Vicki Nichols Goldstein and Bruce, Ari, and Melina Goldstein, 4669 7th St.
Gail Promboin and Bob Burnham, 944 Yellow Pine Ave.
F. Joseph and Kerry O. Glynn, 4787 6th St.
Eric and Carolina Shannon, 700 Yellow Pine Ave.
Jon and Jennifer Krigsman, 4817 6th St.

Sharron and Neal Zaun, 755 Zamia Ave.
Noel and Shina Culberson, 810 Yellow Pine Ave.
Holly and Nick Cerretani, 4753 6th St.
Russell and Gail Dohrmann, 781 Zamia Ct.
John, Valeria, Dylan, and Michael Moore, 4647 7th St.
Kathy and Dan Dessau, 748 Yellow Pine Ave.
Susan Eastman Walton and Hugh Walton, 4805 6th St.
Denise Maslanka, 770 Yellow Pine Ave.
Bob and Elizabeth Groneberg, 958 Yellow Pine Ave.
Louie and Lucy McKee, 836 Yellow Pine Ave.
Holly and Joe Harding, 721 Yellow Pine Ave.
Julie Byrt, 4825 6th St.
Carl and Nancy Hunt, 950 Yellow Pine Ave.
Karie Koplar, 4818 6th St.
July and Bill Wahlberg, 789 Zamia Ave.
Chris and Erin Ratay, 4810 6th St.
Semay Nelson, 4772 6th St.
Brian, Julene, Caelan, and Bryce Thom, 990 Yellow Pine Ave.
Maggi Friend, 715 Zamia Ct.
Nadia Prescher and Jeremy Stein, 702 Zamia Ct.
Riki and Harry Jones, 771 Yellow Pine Ave.
Ellen and Eric Blockhus, 4758 6th St.
Gigi Keracik (owner), 754 Zamia Ct.
Kaitlin Ko, 754 Zamia Ct.
Jeannine Goode-Allen, 800 Zamia Ave.
Edith Li, 824 Yellow Pine Ave.
Javier, Ines, and Sofia Marti and Pilar Devolx, 4796 6th St.
Linn Wilder and Robert Muir, 4655 7th St.
Neil Lubar and Paola Jacks, 745 Zamia Ct.
Patrice and John Lynch, 4750 6th St.
Don and Rebecca Maschka, 792 Yellow Pine Ave.
Steve and Pamela Sparough, 780 Zamia Ave.
William and Dorothy Watson, 4791 6th St.
Bruce and Anne Walker, 4784 6th St.

**Appendix 1: Ground Truth of Context Setback Study Prepared by Coburn Associates**

Closest distance between houses were manually measured, for houses in North Briar that Coburn is asserting are at or below the setback distance in their variance request (10 feet).




1. 28 feet (Coburn estimate is 7 feet)
2. 15 feet (Coburn estimate is 10 feet)
3. 15 feet (Coburn estimate is 10 feet)
4. 15 feet (Coburn estimate is 8 feet 10 inches)
5. 65 feet (Coburn estimate is 8 feet)

Conclusion:

- Existing side setbacks at or below requested 10 foot variance are systematically under-estimated, over a range of 50-800%.

**Appendix 2: Analysis of Sight Lines to**
**Open Area in SE Corner of 820 Lee Hill Site Plan**

Our concern about this open area becoming a gathering spot for the homeless[1] is real and based on experience in living here. Staff has provided a sight line analysis (page five of the September 6 staff memo) to support their assertion that this site will meet the standard set by planning theorist Jane Jacobs, that "eyes on the street" can make it safe. However, this analysis - apparently conducted without visiting the neighborhood - - is wholly inaccurate. None of the five North Briar homes that staff has identified as having "eyes on" this open space have windows from rooms people inhabit while awake facing the area and the few windows that exist are screened by trees or other homes. In detail, moving from east to west:

- 990 Yellow Pine: Has few windows facing north, all of which are obscured by mature trees.
- 958 Yellow Pine: This is a rear lot. One of the two first floor north-facing windows always has a shade pulled for privacy; the other is in the garage. The only north-facing windows on the second floor are at least partially screened by mature trees and are children's bedrooms; three of the four are clerestory windows and can only be looked through by very tall people.
- 950 Yellow Pine: This rear-lot home cannot see the street from any windows because its view is obscured by 944 Yellow Pine and a mature tree.
- 944 Yellow Pine: The only north facing windows are in a seldom-used guest room and a clerestory window that can only be used by very tall people. While it appears there might be good visibility of the open area from side windows, most of them are not functionally usable for observing the new hangout for vagrants because they always have shades drawn to protect an art collection from sun damage (2) or provide privacy in a toilet (1), would require climbing the kitchen counter and standing in the sink (1), or have furniture in front of it that makes it impossible to see out at the pertinent angle (1). Two windows from dining room provide visibility only if one stands directly at window and stretches to look.
- 848 Yellow Pine: The only north facing window is from a child's bedroom and is at least partially obscured by a mature tree.
-

As for the five homes in the new development that staff identifies as having visibility, they could only potentially view the highest part of the site, which will slope down and away from them, and the landscape plan indicates that trees will screen their view. Thus, we conclude that there will be no "eyes on the street" that might deter the homeless from occupying this space.

More broadly, we urge planning staff to consider Jane Jacobs' writing on city parks. Jacobs suggested that successful, functional parks are those under intense use, and that these parks usually possess four common characteristics: a variety of uses, a central location, sunlight, and enclosure. The SE site –located at the edge of the development next to a fence, alley, and industrial space -- will contain few of the features. We urge planning staff to consider instead the possibility of creating a centrally located park that will integrate the neighborhood and be large enough to provide a wide range of potential uses.

---

[1] This park area will be the nearest accessible open space for the largest concentration of homeless people in the region: the residents at the existing 160 bed homeless shelter at Lee Hill and Broadway, as well as the 31 residents of the chronically homeless facility under construction next door.

---

From: Bob Burnham & Gail Promboin
To: Walbert, Sloane; boulderplanningboard

Cc: Bruce Goldstein
Subject: Photos that illustrate points in letter regarding 820 Lee Hill
Date: Thursday, October 10, 2013 9:08:20 AM

Sloane:

Here are three photos of the homes in North Briar that face the proposed informal open space in the southeast corner of the 820 Lee Hill site. These photos illustrate that the staff analysis of visibility to the site is inaccurate by a lot.

Gail Promboin

---

From: Goldstein, Bruce
To: Walbert, Sloane
Subject: RE: 820 Lee Hill
Date: Thursday, October 10, 2013 2:07:21 PM

Thanks Sloane,

You've probably seen the neighborhood letter by now. I think its remarkable that nearly everyone in North Briar has actively signed onto this letter – we are united as a community on these concerns about the insularity and incompatibility of 820 Lee Hill with both our homes and the sense of connection and neighborhood that has allowed us to respond effectively to enormous impact of the flood.

I met with Andy Allison the other day, and discussed the park issue – my son conducted a community survey of desired uses of the park, which confirmed our interest in one large space that would be accessible to the entire neighborhood. While Andy didn't yet seem ready to reconsider the spatial configuration of the park, we did share an interest in trying to get the developer and neighborhood together on our remaining issues, rather than bring the controversy to the Planning Board.

If you or your staff could do anything to facilitate further dialogue, it would be appreciated. Not precluding the relocation of the additional park space that the developer placed in the SE corner in the their revision of the site plan – additional space that has added no additional flood control capacity to the site, but was just done to meet minimal open space requirements – would be an excellent way to encourage further dialogue. Its not "either-or", we can retain the space for flood protection in the SE, and also have a larger central community park that is open to all, as the North Briar community endorsed in our letter.

Bruce

p.s. Are you aware the section you cite from the subcommunity plan, as far as I can tell, does not refer to this property – it talks about the "Mann property", to the north?

BRUCE GOLDSTEIN
Associate Professor
Environmental Design and Environmental Studies
Faculty Research Associate, Institute for Behavioral Science
Outreach and Education Coordinator for Sustainability Initiatives
University of Colorado Boulder
720-346-4957 (c)
brugo@colorado.edu

---

From: Noel Culberson
To: Walbert, Sloane
Subject: 820 Lee Hill comments
Date: Thursday, October 10, 2013 3:08:01 PM

My family and I support and signed the neighborhood letter that addresses some of our concerns about the recent development plans and I wanted to emphasize a couple of points.

I think it is critical to integrate the bike path with the new community park. This will increase the safety of both the bike path and the park as well as better link the new development with the existing nearby neighborhoods. It does not make sense to detour the bike path at 90 degree angles around the outside of the development when a safer and more natural flow would have the path lead to and through the park. Easier access to the park will also lead to more visibility and higher use.

I would also like to emphasize my opposition to allowing setback variances to the majority (if not all) of the properties. Cookie cutter houses packed tightly together are not attractive when compared to the existing homes and are not attractive to potential home buyers. Keeping the homes spaced out as much as possible and as is currently zoned would be a much better fit for this location.

Thanks for your attention to this feedback.

Noel and Shina Culberson
810 Yellow Pine Ave.

---

## ATTACHMENT D:
## DEVELOPMENT REVIEW COMMENTS

## I. INITIAL SUBMITTAL RESPONSE

# CITY OF BOULDER
# LAND USE REVIEW RESULTS AND COMMENTS

| | |
|---|---|
| DATE OF COMMENTS: | **June 21, 2013** |
| CASE MANAGER: | **Sloane Walbert** |
| PROJECT NAME: | **820 LEE HILL DRIVE SITE REVIEW** |
| LOCATION: | **820 LEE HILL DR** |
| COORDINATES: | **N09W07** |
| REVIEW TYPE: | **Site Review** |
| REVIEW NUMBER: | **LUR2013-00033** |
| APPLICANT: | **Coburn Development** |
| DESCRIPTION: | **SITE REVIEW: Request to redevelop an existing 6-acre parcel with 32 single family homes with a mixture of attached and detached garages. The homes are proposed to range from 1,200 to 2,400 square feet in floor area.** |

REQUESTED MODIFICATIONS TO THE LAND USE REGULATIONS:

- Section 9-7-1: Minimum front yard landscape setback on Lots 7, 8, 9, 10, 18, 19, 20, 21, 22 , 23, 24, 25, 26, 27, 28, 29, 30, 31 and 32, where 20-feet is required (see plans for specific proposed setbacks).
- Section 9-7-1: Minimum side yard setback from an interior lot line on Lots 1, 2, 3, 4, 5, 6, 7, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, and 32, to permit a minimum of 5 feet with no increased setback based on height.
- Section 9-7-1: Minimum rear yard setback to modify the 20-foot requirement as follows: 10 feet on Lot 10, 10 feet 6 inches on Lots 7 and 9, and 13 feet 3 inches on Lot 8.
- Aggregation of open space across the site as permitted in RL-2 zoning through Site Review.
- Section 9-9-11(f)(4): Request to include landscape areas within the public right-of-way to count for no more than 10% of the required open space.

### I. REVIEW FINDINGS

Staff commends efforts to create a more sensitive and compatible site design by locating larger lots on the western and southern sides of the property to appropriately transition to the existing neighborhood and incorporating shared driveway access on Yellow Pine Avenue. As with the previously submitted Concept Plan, staff continues to find the proposal consistent with many of the goals and policies of the Boulder Valley Comprehensive Plan (BVCP), including but not limited to, compact land use form, provision of high quality on-site affordable housing, high quality open space, and neighborhood connectivity. In general, the proposed development addresses the goals and policies expressed in the North Boulder Subcommunity Plan (NBSP) for orienting well designed buildings and porches to the street and incorporating small blocks and narrow streets conducive to all modes of travel. Staff has also evaluated the development using the Site Review criteria found in section 9-2-14(h), B.R.C. 1981 of the Land Use Code.

Staff has found that while there are many criteria that are successfully met, there are several issues that must be addressed. These key issues are summarized below and require submittal of revised plans. Please submit nine copies of the revised plan set directly to a Project Specialist. Please note that while submittals are accepted at any time, they are only distributed on the first and third Mondays of each month.

A tentative Planning Board date of **September 19, 2013** is reserved for the project; however, before progressing to Planning Board, the issues within this document must be addressed. If these remaining issues cannot be resolved in due time prior to Planning Board, the public hearing may need to be rescheduled. Staff would be happy to meet with the applicant to discuss the comments. To set up a meeting, please contact the Case Manager, Sloane Walbert at 303-441-4231 or walberts@bouldercolorado.gov.

## II. CITY REQUIREMENTS

**Access/Circulation,** David Thompson, 303-441-4417

1. Per section 2.02(B) of the City of Boulder Design and Construction Standards (DCS), a Traffic Impact Study (TIS) is required because the Traffic Assessment Letter shows that the residential development threshold of 20 vehicle trips or greater during any single hour is exceeded. Submit the TIS with the next re-submittal.

2. A Transportation Demand Management (TDM) Plan consistent with section 2.03(I) of the DCS and section 9-2-14(h)(2)(D)(iv) and (v) of the Boulder Revise Code (BRC), 1981 is required to be submitted which outlines strategies to mitigate traffic impacts created by the proposed development and implementable measures for promoting alternate modes of travel. Submit the TDM Plan with the next re-submittal.

3. Per Technical Drawing 2.61B of the DCS, an 8-foot landscape area must be provided between the back of curb and the sidewalk along Lee Hill Road. Revise accordingly.

4. Per section 9-2-14(d)(11) of the B.R.C., 1981, the site plan must show the width and limits of the right-of-way dedication along Lee Hill Road to accommodate the 8' landscape area, five foot detached sidewalk and 1' width behind the sidewalk.

5. The proposed 10-foot multi-use path along 8$^{th}$ Street must be extended to the east along Lee Hill Road and terminate at the curb ramp Lee Hill Drive crosswalk in order to provide accessibility to bicyclist between the multi-use path and Lee Hill Drive.

6. The site plan must show the existing 10' multi-use path along Yellow Pine Avenue fronting Lots 31 and 31.

7. The proposed woonerf alley must meet the standards for a city alley described in the DCS or the alley can be a private alley with a dedicated public access easement. Revise accordingly.

8. The mid-block curb ramps shown on 8$^{th}$ Street and 10$^{th}$ Street must be removed.

9. Per previous comment, additional information must be provided on the pavement material being proposed for the Park Link area on Zamia Avenue. Provide the information with the next re-submittal.

10. Per previous comment, the roadway alignment and cross-section elements of Zamia Avenue must be extended and constructed up to the east property line in order to allow for the road's future extension eastward as shown in the North Boulder Sub-community Plan. Revise accordingly.

11. The temporary curb and gutter on the east side of 10$^{th}$ Street must be constructed within the right of way.

12. On sheet LP-1, the sidewalk for the park must not extend beyond the street sidewalk for Zamia.

13. The marked crosswalk shown across Yellow Pine does not exist and must be removed from the plans.

14. Per section 9-9-7 of the B.R.C., 1981, sight triangles must be shown on the landscape plans.

15. Per chapter 5 of the AASHTO Guide for the Development of Bicycle Facilities, sight triangles must be provided where the multi-use path intersects with sidewalks and streets. Revise the landscape plan accordingly.

16. As discussed below, 10$^{th}$ Street must be extended north between Yellow Pine Avenue and Zamia Avenue to provide street connectivity consistent with the North Boulder Sub-Community Plan (see "site design" comments below for more information). The 10$^{th}$ Street roadway cross-section must be a minimum of 45.5' in order to accommodate the cross-section street elements consistent with the development proposal.

17. Per section 2.04(M)(f) of the DCS, the minimum width for a shared driveway must be 12-feet wide. Revise accordingly.

18. Per previous comment, a street light must be installed where 10$^{th}$ Street intersects with Lee Hill Drive. Revise accordingly.

19. A curb ramp must be shown where the multi-use path crosses Yellow Pine Avenue.

20. The right-of-way for Zamia Avenue, 10th Street and Yellow Pine must be revised to accommodate the required 8' wide landscape area discussed in the Landscape Section. Revise accordingly.

**Affordable Housing,** Beth Roberts, 303-441-1828
Each new residential unit developed on the property is subject to 9-13 B.R.C., 1981, "Inclusionary Housing." The general Inclusionary Housing requirement is that all residential developments must dedicate 20 percent of the total dwelling units as permanently affordable housing. For for-sale housing this requirement may be met through the provision of at least half of the required affordable units on-site. The other half of the requirement may be met by the provision of comparable existing or newly built off-site permanently affordable units, the dedication of land appropriate for affordable housing or by payment of a cash-in-lieu contribution.

Per section 9-13, B.R.C. 1981, and associated regulations, permanently affordable dwelling units must be proportionate in type (such as detached, attached or stacked units) and number of bedrooms to the market rate units. Each development shall have the same proportion of one-, two-, three- and four-bedroom dwelling units in its affordable dwelling units as in its market rate dwelling units. Detached permanently affordable units must have a floor area equal to at least 48 percent of the market-rate units. Permanently affordable dwelling units must be functionally equivalent to market rate units and must meet the "Livability Guidelines and Standards for Permanently Affordable Housing."

Location: The location of those permanently affordable dwelling units to the market-rate dwelling units within each development shall be distributed throughout the development to achieve integration and avoid concentration or segregation of the affordable households, unless a different distribution will result in a greater affordable housing benefit.

The proposed 32 units on site require 6.4 units of affordable housing. In the Preliminary DOC applicant indicates they will provide seven affordable units on-site however, in the written response six affordable units are indicated please clarify. Applicant must indicate the proposed lot numbers and model type for the affordable units.

A Determination of Inclusionary Housing Compliance form and a deed restricting Covenant to secure the permanent affordability of the units must be signed and recorded prior to application for any residential building permit and any applicable cash-in-lieu contribution must be made prior to receipt of a residential building permit. Permanently affordable units must be marketed and constructed concurrent with market-rate units.

Additional information about the Inclusionary Housing program may be found on-line at www.boulderaffordablehomes.com click on "Are You a Developer?"

**Building Design**, Sloane Walbert, Case Manager, 303-441-4231
Site Review Criteria
1. Provide "typical" elevations for all model types including details on proposed materials.

2. The porch on Lot 1 should wrap the corner to address both 8th Street and Lee Hill Drive in order to frame an active, pedestrian-scale streetscape (similar to Lot 17).

3. Please provide more detail on the side elevations of the homes placed on corner lots (Lots 1, 7, 10, 17, 18, 24, 25, and 32) so that staff can evaluate how these homes address the street/public open space and create interest at the pedestrian-level.

4. Per the Site Review criteria, "the building height, mass, scale, orientation, architecture and configuration are compatible with the existing character of the area." Please submit a color and material board that includes the colors proposed for the homes and samples of the materials (e.g., fiber board) to be used so that staff can evaluate the consistency of the colors and materials with the surrounding area. Pictures of buildings around the development should also be included to show how the colors and materials chosen would appear visually cohesive with the surrounding context.

5. The Site Review criteria speak to utilizing pedestrian scale materials that convey a sense of permanence, including brick, glass, wood and stone, etc. Therefore, stucco finish should be limited to trim or accents on single façades and other materials utilized consistent with the criterion below.

*Section 9-2-14(h)(2)(F)(xii): "Exteriors of buildings present a sense of permanence through the use of authentic materials such as stone, brick, wood, metal or similar products and building material detailing."*

6. As shown in figure 2, consider diversifying the model types and architecture of homes located along 10th Street to create interest and minimize perceived density. Staff appreciates efforts to locate larger models on the interior of the site; however the three larger homes (model B4) located in a row create an imposing presence (see below). The applicant should consider a greater roof pitch on these models to lessen the perceived height and scale.

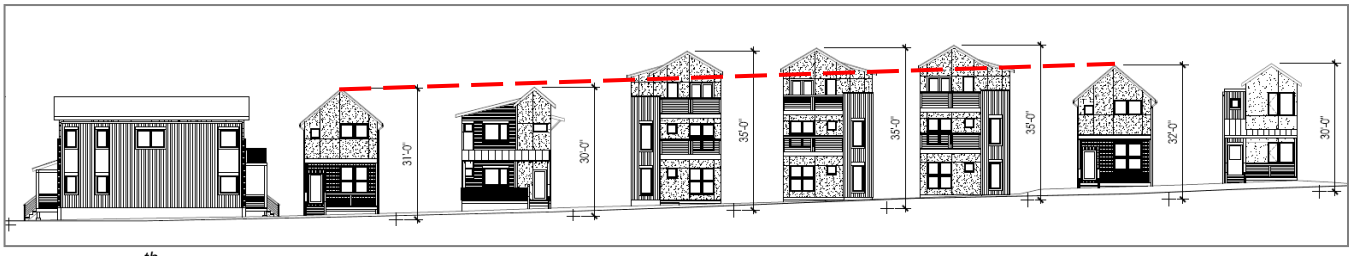



*Fig 1. 10th Street – Current Street Elevation*

*Fig. 2. 10th Street – Alternate Street Elevation*

7. Staff recommends developing design standards in conjunction with the Site Review to ensure consistency in building design in future development.

<u>North Boulder Subcommunity Plan</u>
The building design of the project is subject to the provisions of the North Boulder Subcommunity Plan.

1. In general, it appears the development is consistent with the following guidelines as discussed below:
   - Buildings, front doors, and front yards face the street.
   - Houses are designed so that garage doors do not dominate the front façade.
   - The proposal avoids monotonous building designs and includes human scale features such as porches, varied building elevations, and buildings of varied sizes and styles.
   - Houses are positioned close to the street to create a more pedestrian-friendly atmosphere, front yard setback reductions have been requested for several lots to achieve this effect.

2. Per the NBSP, the design of new neighborhoods should consider the scale and positive architectural attributes of adjacent housing. As stated above, please submit a color and material board so that staff can evaluate the consistency of the colors and materials with the surrounding area.

3. While houses are designed so that garage doors do not dominate the front façade, the NBSP states that garage doors should be no less than 20-feet behind the principal plane of the front of the house as to deemphasize their appearance. Please address this criterion on the homes with attached garages.

4. On Sheet SR-6 "Street Elevations" it does not appear that the homes on Lots 13, 14, 15 have a front porch that addresses the street. Please correct.

**Drainage**, Scott Kuhna, 303-441-4071

Plans

1. The plans show two storm sewer inlets and an 18-inch storm sewer at the corner of Zamia and 10th Street conveying all of the runoff for the minor and major storm events. While the inlets and pipe may be sized to carry the runoff, it appears that in the event of clogging, flooding in the area could occur. An overflow and channel from this sump condition in the street to the water quality pond needs to be provided.

2. The plans show a sidewalk chase conveying runoff from a swale in the front yards of Lots 13 through 17 to the curb and gutter of 10th Street. Nuisance flows (lawn sprinklers, snowmelt, etc.) may create a hazard in the curb and gutter. It appears that the swale could continue to the south down to Lot 11 where an area inlet could be installed and discharged to the back of the proposed inlet on the west side of the intersection of Zamia and 10th Street.

3. Drainage easements will be required for all front yard and rear yard drainage swales that cross multiple properties. Maintenance responsibilities will remain with the HOA.

4. Additional information/detail is needed for the proposed water quality pond discharge to the curb and gutter of Yellow Pine Avenue.

Report

1. The "Historic Runoff Coefficient & Time of Concentration Calculations" worksheet in the Appendix of the *Preliminary Drainage Report for 820 Lee Hill Drive (Drainage Report)* uses an initial overland time equation on that does not match the equation shown in section 7.05(D) of the City of Boulder *Design and Construction Standards (DCS)*. Revision the *Drainage Report* as necessary.

2. Curb and gutter capacity calculations, alley capacity calculations, and drainage swale calculations are necessary at this time to ensure adequate facilities for storm water runoff are being provided.

3. Page 4 of the *Drainage Report* states that drainage basin O2 will flow offsite undetained, however, the contours shown on Figure 1 in the Appendix of the *Drainage Report* show the runoff from this basin flowing southeast to the Zamia Avenue and the Alley. Revise accordingly.

4. No calculations for the Water Quality Capture Volume (WQCV) are included in the *Drainage Report*. Revisions are required.

**Fees**, Sloane Walbert, 303-441-4231

Please note that 2013 development review fees include a $131 hourly rate for reviewer services following the initial city response (these written comments). Please see the P&DS Questions and Answers brochure for more information about the hourly billing system.

Staff is researching the fee requirements contained in the Annexation Agreement dated December 18, 1990, including the payment of a Development Excise Tax (DET) and Flood Control Plant Investment Fee (Storm PIF). More information is forthcoming.

**Fire Protection**, David Lowrey, 303-441-4356

No issues with the request. I would need more detail drawings for the access in and around the site, including widths and turning radius. It appears that Lot 24 would be required to have a fire sprinkler system installed due to access.

**Land Uses,** Sloane Walbert, Case Manager, 303-441-4231

North Boulder Subcommunity Plan (NBSP)

One of the primary goals of the North Boulder Plan is that the subcommunity contains a diversity of housing types, sizes, and costs. The Lee Hill Road Area section states, "It is imperative that the project contain a mix of residential densities with a diversity of housing types" (page 11). While the concept does not include a variety of housing types, the proposed single family homes include a variety of sizes and affordable housing is integrated in the development. In this case compatibility with the surrounding neighborhood's scale and intensity may be at odds with the provision of duplex or tri-plex units. However, the applicant could consider duplex or tri-plex units that are designed to integrate into a single family context.

**Landscaping**, Elizabeth Lokocz, 303-441-3138
Please address the following comments at the next submittal. The proposed development offers many opportunities to continue the street grid and provide a very attractive and walkable extension of the north Boulder community. Additional comments are based on missing information. Contact staff with any questions or concerns.

1. The application as submitted is incomplete. Additional comments should be anticipated when all materials are included. Per 9-2-14(d)(18) submit: *A tree inventory that includes the location, size, species and general health of all trees with a diameter of six inches and over measured fifty-four inches above the ground on the property or in the landscape setback of any property adjacent to the development. The inventory shall indicate which trees will be adversely affected and what if any steps will be taken to mitigate the impact on the trees. The tree inventory shall be prepared by a certified arborist that has a valid contractor license pursuant to chapter 4-28, "Tree Contractor License," B.R.C*. The City Forestry Division is also available to assist in evaluating public street trees (303-441-4406).

   The plans indicate that a number of the existing pines on 8th St. will require removal for utility services. Any public street tree requiring removal is subject to mitigation fees per section 6-6-7(c) B.R.C. 1981. Any tree marked for preservation also needs to appear in the Preliminary Grading Plan for coordination purposes. Very limited cut and fill may occur within the dripline of an existing tree. See chapter 3.05 of the DCS for protection requirements. It appears that there's significant grading over all the existing pines. Although detailed grading plans are not typically required until Technical Document Review, sufficient information must be provided now to determine if preservation is likely to be successful. When an inventory is received that details the trees marked for preservation and removal, Forestry staff will provide values for the public trees marked for removal. Mitigation fees for the removal of public street trees are typically due at the time of Technical Document Review or Building Permit submittal.

2. Please revise the streetscape/sidewalk layout to address the minimum dimensions required by Ch. 2 Table 2-13 of the Design and Construction Standards (DCS) and coordinate all new sidewalk requirements as listed in the Access/transportation comments. All of the streets in the project are Residential and are required to have an eight foot detachment per Ch. 2 and large maturing street trees per 9-9-13(b) unless a specific identified conflict exists. The detachment is beneficial even if utility conflicts exist that would prevent large maturing street trees. The current layout with many undersized planting strips does not meet Site Review Criteria 9-2-14(h)(2)(C):

   *(iii) The project provides significant amounts of plant material sized in excess of the landscaping requirements of sections 9-9-12, "Landscaping and Screening Standards," and 9-9-13, "Streetscape Design Standards," B.R.C. 1981*; and

   *(iv) The setbacks, yards and useable open space along public rights of way are landscaped to provide attractive streetscapes, to enhance architectural features and to contribute to the development of an attractive site plan*.

   Coordinate all review comments and address the following site design changes:
   - Lee Hill Drive – new sidewalk per access/transportation and eight foot detachment
   - Yellow Pine Ave – new sidewalk per access/transportation and eight foot detachment
   - Zamia Ave – new street with sidewalk per access/transportation and eight foot detachment
   - 10th St – new street with sidewalk per access/transportation and eight foot detachment

3. Per the previous Concept Plan comments, alley trees are required on all new residential developments and must be incorporated into the woonerf design which takes the place of a traditional alley. Per section 9-9-13(c) B.R.C. 1981 alley trees shall be provided at a minimum average of one tree per forty linear feet within ten feet of the pavement or edge of alley. The alley is approximately 300 feet long and requires a minimum of seven trees per side.

4. Evaluate an alternative utility service design for the Yellow Pine Ave that pairs services or locates them at the edge of pavement areas such that the appropriate number of street trees is provided.

5. At the next submittal additional information is needed on the proposed tree species and a plant list for all proposed plant selections. Final quantities are not needed until the final approval set. Contact staff to discuss street tree selections prior to submittal if helpful.

6. The small seating area at the intersection of Zamia Ave and the woonerf appears to have small trees in open planters. Consider locating large maturing trees behind the benches that will not have any canopy conflicts and will shade the proposed benches much faster. The benches at the north end of the park/playground area might also benefit from larger trees. Overall, the woonerf and park are great additions to the design.

7. Please correct the graphic scale bar on landscape plans.

**Legal Documents,** Julia Chase, City Attorney's Office, 303-441-3020
Prior to signing the Development Agreement, if approved, the Applicant shall provide the following:

1. An updated title commitment current within 30 days; and

2. Proof of authorization to bind on behalf of the owner, such as corporate minutes/resolution confirming who the current officers are and indicate which officer will be signing if the owner is a corporation or an operating agreement or statement authority if the owner is an LLC.

**Neighborhood Comments**, Sloane Walbert, Case Manager, 303-441-4231
Several neighborhood comments were received in response to the public notice. These comments are attached to this document. Key neighborhood concerns include:

- One-car garages do not provide enough parking to accommodate residents and visitors.
- Lack of parking, especially given limited on-street parking.
- The use of narrow streets to slow traffic and issues caused by existing traffic islands on Yellow Pine.
- Increased traffic and congestion, especially on Zamia Ave., Yellow Pine Ave., and 8th Street, and related safety hazards.
- Inadequate connectivity with the existing street system and lack of accommodation of additional traffic the project will generate.
- Circuitous route to homes on Yellow Pine Ave. and single emergency access and evacuation routes for these homes.
- Street access to homes on Yellow Pine and associated curb cuts that limit on-street parking.
- Concern about the size of homes, architecture and materials used. Ensuring consistency with exiting neighborhood, including setbacks, home size, density, and design of homes.
- Overall integration of development into surrounding neighborhood.

Most input received from the surrounding neighborhoods was in support of the connection of 10th Street to Yellow Pine Ave. and believe that the connection would alleviate some of their concerns.

Given areas of concern expressed in the neighborhood comments, a good neighbor meeting is recommended. Staff recognizes and commends the applicant's initiative in communicating with the neighborhood early in the process. Please refer to section 9-2-4, B.R.C. 1981 for additional information regarding Good Neighbor Meetings. Please note that there is some lead time required to satisfy the noticing requirements as the public notice is required to be in the news paper at least 10 days prior to the meeting. Additionally, please note that it is the applicant's responsibility to secure a place, time and date for the meeting as well as coordinate with a facilitator. The applicant may consider a professional meeting facilitator. Please contact Clay Fong, Children Youth and Families Division, 303-441-4344, to coordinate. Staff is available to help coordinate meeting logistics with the applicant.

**Parking,** David Thompson, 303-441-4417

1. Per Table 2-3 of the DCS, a minimum paved street section of 36-feet must be provided for 8th Street unless all the residential homes fronting the west side of 8th Street agree to prohibit on-street parking on their side of the street.

2. The applicant must describe how the proposed on-street parking will be accommodated on the east side of 8th Street given the close proximity of the trees to the street, the slope of the landscape area and the existing low branches. Provide a written statement with the next re-submittal.

3. A minimum pavement section of 36-feet must be provided on Yellow Pine Avenue to allow for on-street parking on both sides of the street. Revise accordingly.

**Plan Documents,** Sloane Walbert, Case Manager, 303-441-4231

1. Update unit matrix on Sheet SR-1 to include finished and unfinished floor area (including garages) and the number bedrooms and bathrooms. The chart must also include FAR calculations for each lot (see "zoning" comments below).

2. Per "open space" comments below, update the table on Sheet SR-3 to include specific calculations of the amount of open space provided by type.

3. Include a setback matrix for each lot on Sheet SR-2 per "zoning" comments below.

4. Revise the plan documents to include the parcel 30 feet in width along the east property line on the south side of the site, which was absorbed into the subject property when it was purchased by Boulder County.

**Review Process,** Sloane Walbert, Case Manager, 303-441-4231
The property is located in a Residential - Low 2 (RL-2) zone district. Given the proposed number of units, 32, and the size of the site, roughly six acres, a Site Review is required pursuant to section 9-2-14(b), Table 2-2, "Site Review Threshold Table," B.R.C. 1981.

Site Review is typically a staff level decision with a 14-day Planning Board call-up period. However, staff has the discretion to refer all development review applications directly to the Planning Board for review. Given the level of public interest and amount of change in the area, staff will be referring this Site Review request to Planning Board for a public hearing and decision. The Planning Board hearing on this item is tentatively scheduled for **September 19, 2013**.

**Site Design,** Sloane Walbert, Case Manager, 303-441-4231
North Boulder Subcommunity Plan
The subject property is within the Lee Hill Road Area of the North Boulder Subcommunity Plan. The project is subject to the Development Guidelines for All Neighborhoods and guidelines specific to the Lee Hill Road Area on page 11 of the NBSP.

1. In general, it appears the development is consistent with the following guidelines as discussed below:
   - Site plan includes tree-lined streets that are pleasant for all modes of travel.
   - Designed so that the fronts of buildings and lots face the street and one another, and backs face one another.
   - Includes well-placed pedestrian and bicycle trails that connect to neighborhood amenities, including parks and trails.
   - The site plan encourages walking, biking, and transit by providing safe, comfortable and convenient connections.
   - Design includes small blocks and narrow streets to better serve pedestrians and to help calm traffic.
   - An alley is used on the north end of the site to reduce curb cuts and sidewalk interruptions.

2. Per the NBSP alleys should be considered in new developments to provide a "service" side to properties. The applicant should consider alley and/or woonerf access to the residences facing Yellow Pine Avenue. However, alley access for these homes may be at odds with compatibility with the neighborhood to the south.

3. The NBSP emphasizes the importance of an integrated network of streets to create more path options for motorists and users of alternate travel modes. The development guidelines for the Lee Hill Area include the provision that new developments should include transportation connections that "fully connect internal streets and provide direct access to Lee Hill Road and Broadway (page 11).

   After consideration by several city departments, and as discussed with the applicant, staff has found that connecting 10th Street through the east side of the site to connect to Yellow Pine Avenue will significantly benefit the local street network. It would be necessary to construct Zamia Avenue to the property line. As discussed at our meeting on June 14, 2013, staff is prepared to bring forward legislative solutions that would accommodate the 10$^{th}$ Street connection while balancing the other interests, needs and constraints on the site.

   In the NBSP 10th Street is planned as a primary road to extend to the south of 820 Lee Hill Dr. In fact, the east portion of the open space to the south has been reserved for the extension of 10th Street, to be constructed when the adjacent properties develop. The North Boulder Subcommunity Plan calls for a "Village Center" concept near the intersection of Broadway and Violet. The extension of 10th Street was planned to better connect the residential areas to the north (Dakota Ridge, Northbriar, etc.) to the neighborhood center as part of improved overall connectivity in the area.

4. Please provide a context map of the site including the proposed and surrounding building footprints and street grid.

BVCP
The comprehensive plan includes policy 6.12 “Neighborhood Streets Connectivity,” which states “neighborhood streets and alleys will be developed in a well connected and fine grained pattern to facilitate public access, to effectively disperse and distribute vehicle traffic and promote bike and pedestrian travel.” Staff must find that the proposed street connections are consistent with policies of the BVCP.

Open Space Criteria
Staff commends the applicant’s provision of interesting and usable open space, including a formal neighborhood park and informal natural area. Private open space is also planned as back yards, front porches, balconies, and decks. The concept plan includes the addition of 32 dwelling units on the site, which requires at least 192,000 square feet of useable open space at 6,000 square feet per dwelling unit.

1. Per section 9-9-11(e)(4), B.R.C. 1981 of the land use code all areas used as open space must be protected from vehicular encroachment. Per this criterion the woonerf may not be counted as usable open space, unless it is demonstrated that this requirement is met.

2. Paved sidewalks less than five feet in width may not be counted as usable open space. Please remove these areas from open space calculations.

3. Please update the table on Sheet SR-3 to include the specific calculations for the amount of open space provided by type. It must be demonstrated that open space provided on balconies, decks and patio areas are not less than thirty-six square feet in area and not less than forty-eight inches in any dimension. It must also be demonstrated that these areas meet the restrictions in section 9-9-11(i)(8), “Prohibitions,” B.R.C. 1981. In particular, balconies, decks and patio areas constructed over an enclosed building in association with a single family detached dwelling unit cannot be counted toward open space requirements. Please note that all porches counted as open space must meet the requirements of section 9-7-4, "Setback Encroachments for Front Porches," B.R.C. 1981.

4. Specifically call out the landscaped areas that are located in the rights of way, which are intended to count toward the usable open space requirement. Such areas shall constitute no more than ten percent of the required useable open space.

5. Considering the large amount of right-of-way requested on the site and the desire for increased density, a request to reduce the open space on the site may be appropriate considering the amount of affordable housing provided on the site and abundant amount of off-site open space in the vicinity of the development (i.e., Foothills Community Park, Four Mile Canyon Creek, and City of Boulder open space). However, modifications to the intensity standards in the RL-2 zone district may not be considered through the Site Review process. Any proposed reduction to the open space requirements would require approval of a special ordinance by City Council.

6. The applicant may wish to consider moving the multi-use path from the interior of the site to the original location shown on the Concept Plan. The amount of open space located within right-of-way and public access easements is limited to ten percent of the required useable open space. Safety hazards caused by the intersection of the multi-use path and Yellow Pine Avenue could be resolved through other means (see “Access/Circulation” comments above).

7. Please address how future development (e.g., footprint expansions/additions) would be considered and how any excess in provided open space would be allocated to each lot. This should be added into a zoning matrix table as requested ‘Plan Documents’ comments.

Subdivision Standards
The proposed development is subject to the subdivision regulations of chapter 9-12 of the land use code. The following waivers to the subdivision standards have been identified:

1. Lot 16 does not have thirty feet of frontage on a public street and is narrower than thirty feet. Please reorganize lots on this block to provide 30 feet of frontage.

2. Corner lots are not larger than other lots to accommodate setback requirements.

Requested waivers to the subdivision standards will be processed through the subdivision process. Approval of any waivers would be subject to section 9-12-12(b), B.R.C. 1981.

**Utilities**, Scott Kuhna, 303-441-4071

1. Per sections 5.02 and 6.02 of the *DCS*, there are no "preliminary" or "final" utility report requirements, but only one (1) Utility Report. All of the requirements of sections 5.02 and 6.02 of the *DCS* must be met in the Utility Report at time of Site Review. Revise the title of the report accordingly.

2. Per section 9-12-12 of the *Boulder Revised Code 1981 (B.R.C.)* existing overhead utilities are to be placed underground, unless the subdivider demonstrates that the cost substantially outweighs the visual benefit from doing so. All existing overhead lines need to be addressed accordingly.

3. The Utility Plan shows the wastewater service line for Lot 31 connecting into an existing manhole. Per section 6.08 of the *DCS* wastewater services shall be connected to the main with a tee or wye and connections to manholes shall be avoided.

**Zoning**, Sloane Walbert, Case Manager, 303-441-4231

1. Building Setbacks
   a. The site plan includes encroachment into the front, rear, and side yard setbacks on several lots, which would require setback modifications as follows.

**Table 1 – Requested Setback Modifications**

| ***Section 9-7-1 requirements*** | ***Required*** | ***Proposed*** | |
|---|---|---|---|
| Minimum **front yard** landscaped setback | 20' | Lot 7 | 12'-7 3/4" |
| | | Lot 8 | 12'-7 5/8" |
| | | Lot 9 | 12'-7 5/8" |
| | | Lot 10 | 12'-7 3/4" |
| | | Lot 18 | 16'-5 1/2" |
| | | Lot 19 | 16'-11 1/2" |
| | | Lot 20 | 17'-0 3/8" |
| | | Lot 21 | 17'-0 3/16" |
| | | Lot 22 | 17'-10 3/8" |
| | | Lot 23 | 17'-1" |
| | | Lot 24 | 17'-10 3/8" |
| | | Lot 25 | 17'-6" |
| | | Lot 26 | 17'-7 5/8" |
| | | Lot 27 | 17'-10 1/4" |
| | | Lot 28 | 18'-5 1/8" |
| | | Lot 29 | 18'-2 5/8" |
| | | Lot 30 | 18'-5 1/2" |
| | | Lot 31 | 18'-6 3/4" |
| | | Lot 32 | 18'-11 1/2" |

| ***Section 9-7-1 requirements*** | ***Required*** | ***Proposed*** | |
|---|---|---|---|
| Minimum **side yard** setback from an interior lot line | 1' per 2' of building height, 5' minimum | | |
| | Lot | Required* | Proposed |
| | Lot 1 | 15'-6" | 5' minimum |
| | Lot 2 | 16’-0" | 5' minimum |
| | Lot 3 | 14'-6" | 5' minimum |
| | Lot 4 | 16'-6" | 5' minimum |
| | Lot 5 | 15'-6" | 5' minimum |
| | Lot 6 | 15'-6" | 5' minimum |
| | Lot 7 | 15’-0" | 14'-1 3/4" |
| | Lot 11 | 15'-6" | 5' minimum |
| | Lot 12 | 15’-0" | 5' minimum |
| | Lot 13 | 17'-6" | 5' minimum |
| | Lot 14 | 17'-6" | 5' minimum |
| | Lot 15 | 17'-6" | 5'-9 3/8" |
| | Lot 16 | 16’-0" | 5' minimum |
| | Lot 17 | 14'-6"/15’-0" ** | 5' minimum |
| | Lot 18 | 15'-6" | 5' minimum |
| | Lot 19 | 17’-0" | 5' minimum |
| | Lot 20 | 16’-0" | 5' minimum |
| | Lot 21 | 16’-0" | 5' minimum |
| | Lot 22 | 16'-6" | 5' minimum |
| | Lot 23 | 17’-0" | 5' minimum |
| | Lot 24 | 16'-6" | 5' minimum |
| | Lot 25 | 16'-6" | 5' minimum |
| | Lot 26 | 16’-0" | 5' minimum |
| | Lot 27 | 14'-6" | 5' minimum |
| | Lot 28 | 15’-0" | 5' minimum |
| | Lot 29 | 16’-0" | 5' minimum |
| | Lot 30 | 15’-0" | 5' minimum |
| | Lot 31 | 16’-0" | 5' minimum |
| | Lot 32 | 15’-0" | 5' minimum |
| Minimum **rear yard** setback | 20’ | Lot 7 | 10'-6" |
| | | Lot 8 | 13'-3" |
| | | Lot 9 | 10'-6" |
| | | Lot 10 | 10'-0" |

* Based on model types.
** Clarify height of building on Lot 17.

b. Please verify that the identified setback modifications are correct and add this information into a setback matrix for each lot on Sheet SR-2

c. Please confirm how the proposed porches meet the standards porch encroachments in section 9-7-4, B.R.C. 1981.

d. In general, staff finds that the proposed modifications may be appropriate considering the defined density in the Residential - Low 2 (RL-2) zone district and Low Density Residential land use designation. The development guidelines in the NBSP include a provision that buildings should be placed close to the street to create a more pedestrian friendly atmosphere. To this effect, staff supports the proposed modifications to the front yard setbacks. However, more information is required to demonstrate that the proposed side and rear yard setbacks are consistent with the surrounding context as required by the Site Review criteria. Please provide a basic study of the adjacent developments to demonstrate compatibility with the surrounding neighborhood.

2. Building Heights
   a. The RL-2 zoning district allows buildings up to 35 feet in height. Based on the information submitted no proposed buildings exceed 35-feet in height.

   b. Please provide the location of the low point for each building on the site plan to demonstrate that the accuracy of height measurements.

   c. The height of the home on Lot 17 is not consistent between elevations. Please clarify whether the height is 29 or 30 feet.

3. Intensity Standards
   a. There are no restrictions on minimum lot size, lot area per dwelling unit, or dwelling units per acre in the RL-2 zoning district. However, 6,000 square feet of open space is required per dwelling unit.

   b. Please note that per section 9-8-2(e)(1)(v) of the land use code floor area ratio requirements may be applied to the site should the city find that bulk limiting standards would be necessary to ensure compatibility with the surrounding neighborhoods. Please provide FAR calculations for each house and lot (see “plan documents” above).

   c. Per “plan documents” comments above, please create a plan of how future development will be addressed to ensure that required open space on site is preserved and each lot does not exceed the FAR required in the zone district.

4. Parking
   The parking standards in the RL-2 zoning district require a minimum of one off-street parking space per detached dwelling unit. The site plan includes a one-car garage for each house, which fulfills this requirement.

5. Solar Access
   The subject property is located in Solar Access Area II, which requires a 25 foot solar fence around the perimeter of the development and between individual lots. The submitted solar analysis assumes a level lot. Please submit a solar analysis that accounts for grade and includes the shadow height at property line (not from grade). This information is necessary to demonstrate that the homes on Lots 13, 14, 15 do not require a solar exception.

6. Signage
   The standards in the sign code dealing with sign setbacks from property lines and the spacing between freestanding signs may be varied through the Site Review process; however, any proposed variations to the sign code standards must be specifically referenced in the requested variations to the land use regulations and called out on the plan set in order to be valid following approval of the application. Please provide more information on the entry monuments shown on the landscape plan. A sign is any object or device which is used to advertise, identify, display, direct or attract attention to an object, person, institution organization, business, product, service, event or location.

## III. INFORMATIONAL COMMENTS

**Access/Circulation,** Jeff Hirt, 303-441-4497

The North Boulder Subcommunity Plan shows an off street multi-use path connecting Lee Hill Drive to Yellow Pine Avenue through the subject property. Any modification made to the proposed route will require an amendment to the NBSP. The 1995 Plan also identifies a future road connection (10th Street connection) from Lee Hill Drive to Yellow Pine Avenue that runs along the eastern edge of portions of the subject property. The overall purpose of these routes is for enhanced connectivity in general, but it is also important to note a key related item from the 1995 Plan. The plan recommends a "Village Center" concept on both sides of Broadway at approximately Yarmouth and Broadway. As this Village Center builds out, having efficient multimodal connections from the residential areas on the west side of Broadway will be an important element towards implementing the plan's vision. Any changes to this connection plan may require a plan amendment.

**Access/Circulation,** David Thompson, 303-441-4417

The applicant is encouraged to eliminate the bike path by-pass alignment shown on the site plan and extend the proposed pedestrian path west to the multi-use path because the bike path is a redundancy of the existing multi-use path.

**Addressing**, Sloane Walbert, Case Manager, 303-441-4231

The City is required to notify utility companies, the County Assessor's office, emergency services and the US Post Office of proposed addressing for development projects. Please submit a Final Address Plat and list of all proposed addresses as part of the Technical Document Review process.

**Area Characteristics and Zoning History**, Sloane Walbert, Case Manager, 303-441-4231

The site was used as the Boulder County Fire Training Center from 1974 to 2010. The site has been used as a transportation maintenance facility for the county since 2010. The parcel with annexed as part of the larger North Boulder Annexation Area in 1990. The North Boulder Subcommunity Plan originally recommended that the site become "ER: Estate Residential." However, 1997 Planning Board and City Council approved rezoning the parcel to LR (Low Density Residential) to more closely match the density of adjacent residential uses. See attached checklist for more information on the surrounding area.

**Building and Housing Codes**, Jim Gery 303-441-3129

1. Please be advised that 2006 IRC Section R302 and Table R302.1 require all exterior walls to be built with a minimum one-hour fire-resistive construction with exposure from both sides when they are within five feet of a property line. Projections between four feet and two feet from a property line must have a minimum of one-hour fire–resistive construction on the underside. No projections are permitted within two feet of a property line. No openings are permitted on exterior walls within three feet of a property line, and openings between three feet and five feet may comprise no more than twenty five percent of wall area. Penetrations within five feet of a property line must comply with Section R317.3.

2. Please be advised that building comments are general in nature and based on the limited information provided for the purposes of this Land Use Review, and in no way constitute a complete or exhaustive review for compliance with any Building, Mechanical, Fuel Gas, Plumbing, Electrical, or Energy Code, accessibility requirements, or the Green Building and Green Points Program; nor may they be construed as approval of any existing or proposed structure for the purposes of a building permit. Documents submitted at the time of building permit application for development or redevelopment will be required to fully demonstrate compliance with the aforementioned Codes and any other applicable laws, Codes and Standards in force at the time.

3. Please also be advised that the comments provided herein are based on the 2006 model Codes as adopted and amended by the City of Boulder. Specifically, the 2006 International Residential Code – IRC, as amended is the governing Code for this type of structure at the present time. The International Code Council releases updated Codes every three years for adoption by jurisdictions. The City elected not to adopt the 2009 series of Codes, but the 2012 Codes will be likely adopted sometime in the relatively near future. If a permit is submitted after the effective date of any new Codes, any new or altered structure must meet the provisions of the adopted and amended Codes in force at the time of building permit application.

**Drainage**, Scott Kuhna, 303-441-4071

1. A Final Storm Water Report and Plan will be required as part of the Technical Document Review process. All plans and reports shall be prepared in accordance with the City of Boulder *Design and Construction Standards*.

2. All inlet grates in proposed streets, alleys, parking lot travel lanes, bike paths, or sidewalks shall utilize a safety grate approved for bicycle traffic.

3. A construction stormwater discharge permit is required from the State of Colorado for projects disturbing greater than 1-acre. The applicant is advised to contact the Colorado Department of Public Health and Environment.

**Fire Protection**, Jeff Hirt, 303-441-4497
The North Boulder Subcommunity Plan sets forth wildfire mitigation recommendations for redevelopment sites near the western edge of the subcommunity. The 1995 Plan does not specify what areas are considered "western edge", but the standards on page 29 warrant consideration ("Wildfire Hazard Mitigation").

**Land Uses,** Sloane Walbert, Case Manager, 303-441-4231
The land use designation in the Boulder Valley Comprehensive Plan for the subject property is Low Density Residential.

Redevelopment of the site would include the demolition of eight existing structures, which were predominantly built in the 1980s. Due to past industrial uses, both Phase I and Phase II Environmental Assessments have been done on the site and it was determined that no further action was needed to mitigate potential hazards. The most recent Phase I assessment was completed in February of 2013.

**Miscellaneous**, Scott Kuhna, 303-441-4071
1. The applicant is notified that any groundwater discharge to the storm sewer system will require both a state permit and a city agreement. The steps for obtaining the proper approvals are as follows:

   Step 1 -- Identify applicable Colorado Discharge Permit System requirements for the site.

   Step 2 -- Determine any history of site contamination (underground storage tanks, groundwater contamination, industrial activities, landfills, etc.) If there is contamination on the site or in the groundwater, water quality monitoring is required.

   Step 3 -- Submit a written request to the city to use the municipal separate storm sewer system (MS4). This submittal should include a copy of the Colorado Department of Public Health and Environment (CDPHE) permit application. The written request should include the location, description of the discharge, and brief discussion of all discharge options (e.g., discharge to MS4, groundwater infiltration, off-site disposal, etc.) The request should be addressed to: City of Boulder, Stormwater Quality, 4049 75th St, Boulder, CO 80301 Fax: 303-413-7364

   Step 4 -- The city's Stormwater Quality Office will respond with a DRAFT agreement, which will need to be submitted with the CDPHE permit application. CDPHE will not finalize the discharge permit without permission from the city to use the MS4.

   Step 5 -- Submit a copy of the final discharge permit issued by CDPHE back to the City's Stormwater Quality Office so that the MS4 agreement can be finalized.

   For further information regarding stormwater quality within the City of Boulder contact the City's Stormwater Quality Office at 303-413-7350. All applicable permits must be in place prior to building permit application.

▪

2. No portion of any structure, including footings and eaves, may encroach into any public right-of-way or easement.

**Transit,** Jeff Hirt, 303-441-4497
Chapter 8 of the North Boulder Subcommunity Plan recommends improved transit access into the residential areas west of Broadway, north of Violet Avenue. There are not any specific routes or transit stops proposed on the subject property. At minimum, the plan should not preclude any future opportunities for enhanced transit into the surrounding neighborhood.

**Utilities**, Scott Kuhna, 303-441-4071

1. The applicant is advised that any proposed street trees along the property frontage may conflict with existing utilities, including without limitation: gas, electric, and telecommunications, within and adjacent to the development site. It is the applicant's responsibility to resolve such conflicts with appropriate methods conforming to the Boulder Revised Code 1981, the City of Boulder Design and Construction Standards, and any private/franchise utility specifications.

2. Final utility construction drawings will be required as part of the Technical Document Review process (which must be completed prior to building permit application).

3. Further detail of the ground water barriers used to prevent ground water migration or diversion along the water, wastewater, and storm sewer mains will be required at time of Technical Document Review.

4. The applicant may want to install 1-inch water service taps (with 3/4-inch meters) in the event that upsizing of domestic services is necessary in the future.

5. Maintenance of sand/oil interceptors and all private wastewater and storm sewer lines and structures shall remain the responsibility of the owner.

6. The landscape irrigation system requires a separate water service and meter. A separate water Plant Investment Fee must be paid at time of building permit. Service, meter and tap sizes will be required at time of building permit submittal.

7. The applicant is advised that at the time of building permit application the following requirements will apply:

    a. The applicant will be required to provide accurate proposed plumbing fixture count forms to determine if the proposed meters and services are adequate for the proposed use.

    b. Water and wastewater Plant Investment Fees and service line sizing will be evaluated.

    c. If the buildings will be sprinklered, the approved fire line plans must accompany the fire sprinkler service line connection permit application.

8. All water meters are to be placed in city R.O.W. or a public utility easement, but meters are not to be placed in driveways, sidewalks or behind fences.

9. Trees proposed to be planted shall be located at least 10 feet away from existing or future utility mains and services.

**Zoning,** Sloane Walbert, Case Manager, 303-441-4231

1. The property is located in a Residential - Low 2 (RL-2) zone district, which is described as *"medium density residential areas primarily used for small-lot residential development, including, without limitation, duplexes, triplexes or townhouses, where each unit generally has direct access at ground level."* The RL-2 zoning for this property was determined in conformance with the land use designation change in the Boulder Valley Comprehensive Plan (BVCP) to Low Density Residential (average of two to six units per acre).

2. <u>Outdoor Lighting</u>
   Please note that development of the lot will require compliance with section 9-9-16, "Outdoor Lighting," B.R.C. 1981.

3. <u>Occupancy of Dwelling Units</u>
   Please note the occupancy limits set forth in section 9-8-5.

4. <u>Development Standards</u>
   Any lots that exceed 8,000 square feet in area in the RL-2 zone district are subject to compatible development standards, including side yard wall articulation, building coverage and floor area ratio. No lots currently exceed 8,000 square feet in area.

## I. RESPONSE TO REVISIONS

# CITY OF BOULDER
# LAND USE REVIEW RESULTS AND COMMENTS

| | |
|---|---|
| DATE OF COMMENTS: | **September 6, 2013** |
| CASE MANAGER: | **Sloane Walbert** |
| PROJECT NAME: | **820 LEE HILL DRIVE SITE REVIEW** |
| LOCATION: | **820 LEE HILL DR** |
| COORDINATES: | **N09W07** |
| REVIEW TYPE: | **Site Review** |
| REVIEW NUMBER: | **LUR2013-00033** |
| APPLICANT: | **Coburn Development** |
| DESCRIPTION: | **SITE REVIEW: Request to redevelop an existing 6-acre parcel with 31 single family homes with a mixture of attached and detached garages. The homes are proposed to range from 1,200 to 2,400 square feet in floor area.** |

REQUESTED MODIFICATIONS TO THE LAND USE REGULATIONS (B.R.C. 1981):

- Section 9-7-1: Minimum front yard landscape setback on Lots 7, 8, 9, and 10, where 20-feet is required (see plans for specific proposed setbacks).
- Section 9-7-1: Minimum side yard setback from an interior lot line on Lots 1, 2, 3, 4, 5, 6, 7, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, and 31, to permit a minimum of 5 feet with no increased setback based on height.
- Section 9-7-1: Minimum rear yard setback on Lots 7, 8, 9, and 10, where 20-feet is required (see plans for specific proposed setbacks).
- Section 9-7-1: Minimum front yard setback for accessory buildings on Lots 8 and 9, where 55-feet is required (see plans for specific proposed setbacks).
- Section 9-9-17: Solar access to allow shading by proposed homes on Lots 13, 14, and 15 to a greater degree than the adjacent lot would be shaded by a solar fence twenty-five feet in height.
- Section 9-9-11(f)(4): Request to include landscape areas within the public right-of-way to count for no more than 10% of the required open space.
- Aggregation of open space across the site as permitted in RL-2 zoning through site review.

### I. REVIEW FINDINGS

Staff acknowledges the applicant for responding to previous comments and for the changes that have occurred in the site design, including the extension of 10th Street and the incorporation of shared access drives along Yellow Pine. The modifications to the site plan are positive changes that provide for improved connectivity and access along Yellow Pine Ave. Staff continues to find the proposal consistent with many of the goals and policies of the Boulder Valley Comprehensive Plan (BVCP) and the North Boulder Subcommunity Plan (NBSP).

Staff has evaluated the development using the Site Review Criteria found in section 9-2-14(h) of the Land Use Code. Staff has found that while many of the criteria are successfully met, there are several issues that must be addressed, primarily with regard to building and site design. These key issues are summarized below and require submittal of revised plans. Please submit ten copies of the revised plan set directly to a Project Specialist. Please note that while submittals are accepted at any time, they are only distributed on the first and third Mondays of each month.

A tentative Planning Board date of **October 17, 2013** is reserved for the project; however, before progressing to Planning Board, the issues within this document must be addressed. In order to meet deadlines for this meeting all final plans must be submitted to, and affirmed by staff as complete, before September 26, 2013. If these remaining issues cannot be resolved in due time prior to Planning Board, the public hearing may need to be rescheduled.

Staff is happy to meet with the applicant to review the below comments at your convenience.

## II. CITY REQUIREMENTS

**Access/Circulation,** David Thompson, 303-441-4417

8. Per section 9-2-14(d)(11), B.R.C. 1981, the site plans must show the areas to be dedicated for right-of-way, public access easements and utility easements. Revise the site plans accordingly.
9. Pursuant to section 2.04(M)(5)(h) of the City of Boulder Design and Construction Standards, a minimum 15' public access easement must be dedicated for the shared driveways. Revise the site plan.
10. The north right of way line for Zamia Avenue must extend on a straight tangent to the east property line rather than arc as shown in order to allow for the extension of Zamia Ave in the future.
11. Per section 9-2-14(d)(2), B.R.C. 1981, the grading plan must show the flow-line to flow-line dimensions for the following roads:
    - 8th Street
    - 9th Street
    - 9th Street at the curb extensions
    - 10th Street
    - Zamia Avenue at the curb extensions.
12. A 1-foot separation must be provided between the back of curb and the right-of-way line along the east side of 9th and 10th Streets in order to allow for the construction of the curb-and-gutter.
13. Staff does not support the use of concrete as a traffic calming element for the park link because it has not been discussed how concrete contributes to the traffic calming element of the park link. The applicant might consider making the park element a raised intersection which would result in lowering the vehicle speeds across the park link.
14. Per previous comment, the sidewalk for the park must not extend beyond the street sidewalk for Zamia.
15. The Grading Plan must provide sufficient detail to evaluate how the new multi-use path connects to the existing multi-use path at the intersection of Zamia and 8th Streets and its impacts to the existing multi-use curb ramp located at the intersection in order to determine if additional right-of-way is needed for the transition.

**Affordable Housing,** Beth Roberts, 303-441-1828

The proposed 31 units on site require 6.2 units of affordable housing. The applicant has indicated that the inclusionary requirement may be met by providing either on-site affordable units or cash-in-lieu (CIL).

If the requirement is met entirely with CIL, the 2013-2014 cash-in-lieu is calculated as $157,194 per unit for 3.2 units. For the remaining half that are required on-site, or three (3.1 rounded to 3) units a fifty percent premium would apply. Cash-in-lieu amounts are adjusted annually on the first of July and the amount in place when the payment is made will apply.

The location of those permanently affordable dwelling units to the market-rate dwelling units within each development needs to be distributed throughout the development to achieve integration and avoid concentration or segregation of the affordable households. Applicant needs to propose lot numbers and model type for the affordable units. Housing staff has completed the livability guideline review on the 1,200 sq. ft. units noted as A1 House and A2 House; these unit types meet all livability guideline requirements. A footnote on page SR-2 states that an asterisk denotes permanently affordable housing units. However, only one unit has an asterisk (Lot 17). Please clarify.

A Determination of Inclusionary Housing Compliance form and a deed restricting Covenant to secure the permanent affordability of the units must be signed and recorded prior to application for any residential building permit and any applicable cash-in-lieu contribution must be made prior to receipt of a residential building permit. Permanently affordable units must be marketed and constructed concurrent with market-rate units.

Additional information about the Inclusionary Housing program may be found on-line at www.boulderaffordablehomes.com.

**Building Design**, Sloane Walbert, Case Manager, 303-441-4231

1. As requested in the previous comments, the porch on Lot 1 should wrap the corner to address both 8th Street and Lee Hill Drive in order to frame an active, pedestrian-scale streetscape (similar to Lot 17). The proposed design for this lot is not consistent between pages. Revise accordingly.
2. As requested in the previous comments, provide more detail on the side elevations of the homes placed on corner lots (Lots 1, 7, 10, 17, 18, 24 and 31) so that staff can evaluate how these homes address the street/public open space

and create interest at the pedestrian-level.

3. As requested in the previous review comments, please submit a color and material board that includes samples of the proposed materials (e.g., fiber board) so that staff can evaluate the proposal against the site review criteria.
4. The building design site review criteria state, "If the character of the area is identifiable, the project is made compatible by the appropriate use of color, materials, landscaping, signs, and lighting." Additionally, the North Boulder Subcommunity Plan states that the design of new neighborhoods should consider the scale and positive architectural attributes of adjacent housing and provide high quality building design with attention to detail. More information is required to demonstrate compliance with these criteria. Please update the contextual information provided to include examples from Dakota Ridge. Call out how the proposed design is compatible with the area in terms of building colors and materials.
5. Thank you for submitting a color matrix. Please clarify which colors will be used as principal colors and which will be used as accent (trim/fascia) colors.
6. The site review criteria speak to utilizing building materials that are at a pedestrian scale, including brick, stone, wood, etc. The materials, as currently proposed, do not appear consistent with this criterion. Utilizing pedestrian scale, timeless, elegant materials will add emphasis to the pedestrian level as well as provide variation in the building form as well. Large expanses of stucco finish should be avoided. The applicant should also consider extending the use of brick along the first story to provide a sense of permanence and quality.
7. The proposed architecture and materials for model type A2.1 do not appear to meet the site review criteria. Variation in the building materials will help breakdown the large expanses of lap siding as well as add variation in the building form. Consideration should be given to utilizing more pedestrian scale materials and architectural detailing.
8. The building design site review criteria state, "The height of buildings is in general proportion to the height of existing buildings and the proposed or projected heights of approved buildings or approved plans or design guidelines for the immediate area." Overall, the general massing of the proposed buildings is consistent with the surrounding development, being mostly comprised of one and two-story single family detached homes. However, more information is needed to justify the greater massing of the 3-story homes on Lots 13, 14, and 15, including reduced side yard setbacks. See "zoning" comments for more information.

**Drainage**, Scott Kuhna, 303-441-4071
Per previous comments from city staff, drainage easements will be required for all front yard and rear yard drainage swales that cross multiple properties. Maintenance responsibilities will remain with the HOA. Please include all easements to be dedicated on plans.

**Fees**, Sloane Walbert, Case Manager, 303-441-4231
Please note that 2013 development review fees include a $131 hourly rate for reviewer services following the initial review comments. Please see the P&DS Questions and Answers brochure for more information about the hourly billing system.

**Landscaping**, Elizabeth Lokocz, 303-441-3138
Significant progress has been made towards addressing all standards and comments. Please respond to the following comments.

1. As previously commented, the application, as submitted, is incomplete. Additional comments should be anticipated when all materials are included. Per section 9-2-14(d)(18), B.R.C. 1981, please submit the following:

   "*A tree inventory that includes the location, size, species and general health of all trees with a diameter of six inches and over measured fifty-four inches above the ground on the property or in the landscape setback of any property adjacent to the development. The inventory shall indicate which trees will be adversely affected and what if any steps will be taken to mitigate the impact on the trees. The tree inventory shall be prepared by a certified arborist that has a valid contractor license pursuant to chapter 4-28, "Tree Contractor License."*

   The City Forestry Division is also available to assist in evaluating public street trees (303-441-4406). Because a tree inventory was not received with the resubmittal package, please contact staff if this is an error. The public trees on 8th Street were assessed by the Forestry Division and do not need to be included in the inventory. There are a handful of existing trees internal to the site that appear to be in good condition and do not appear to be within proposed building envelopes. Their preservation may not be feasible given grading and drainage needs, but insufficient detail has been supplied to determine if the project meets criterion of section 9-2-14(h)(2)(C)(ii), B.R.C. 1981,

"*Landscape design attempts to avoid, minimize or mitigate impacts on and off site to important native species, healthy, long lived trees, plant communities of special concern, threatened and endangered species and habitat by integrating the existing natural environment into the project.*"

Please contact staff to discuss this requirement and how to approach any preservation.

2. Regarding the removal and mitigation of the existing Pines on 8th Street, several options exist as the project moves forward. These include:
   a. An alternative form of mitigation may be presented per section 6-6-7(b) B.R.C. 1981, "*Planting one or more approved trees or plants where the combined value equals or exceeds that which previously existed in terms of species, condition, and size, in a location approved by the city manager*.". Staff is available to discuss what other mitigation arrangements might be an option for this project.
   b. The city takes a relative conservative approach to determining tree values using the Trunk Formula Method, but can review and discuss alternative values as determined by an independent Licensed Arborist.
   c. Any combination of alternative mitigation, fees, etc.

   City regulations do not provide an option to waive mitigation within a by-right or site review process.
3. Please dimension the width of all proposed landscape strips for easy coordination, excluding curbs. Additional comments may be provided when staff is able to determine if all previous revisions have been completed.
4. Please label the six proposed small maturing trees adjacent to the new sidewalk connection from 8th Street to Yellow Pine Ave.
5. Tree selections:
   a. Rather than using two Honeylocust varieties, consider substituting English Oak for the Imperial Honeylocust.
   b. Accolade Elm seems to be a more reliable variety than Triumph.
   c. Common Horsechestnut (Aesculus hippocastanum), although not a good street tree, would be a great addition to the opens space/park areas.
   d. The proposed Chanticleer Pear along Lee Hill Drive may be too tall to avoid significant future conflict with the existing overhead utility lines. Please substitute a smaller maturing tree. Russian Hawthorn (Crataegus ambigua) is a great underutilized small tree. Other non or minimally fruiting Crabapples would also be acceptable.
6. At a minimum, complete the quantity column for all proposed trees for the next submittal and all quantities for the final approval set.
7. Consider including some deliberate pedestrian breaks or connections between the private rear yards and Woonerf. These connections could be relatively informal, such as a sandstone or concrete paver set in the planting beds, but should facilitate easier movement between the two areas.

**Legal Documents,** Julia Chase, City Attorney's Office, 303-441-3020
Prior to signing the Development Agreement, if approved, the Applicant shall provide the following:

3. An updated title commitment current within 30 days; and
4. Proof of authorization to bind on behalf of the owner, such as corporate minutes/resolution confirming who the current officers are and indicate which officer will be signing if the owner is a corporation or an operating agreement or statement authority if the owner is an LLC.

**Neighborhood Comments**, Sloane Walbert, Case Manager, 303-441-4231
Several neighborhood comments were received in response to the revised plans. These comments are attached to this document. Overall, neighborhood feedback was appreciative of the changes that had been made, including the connection of 10th Street to Yellow Pine Ave. However, there are remaining neighborhood concerns that include the following:

- Provision of the two small parks is not functional for the surrounding neighborhood. Applicant should consider consolidating the park space;
- Expanded informal open space with water quality and detention pond is not functional and could become a

gathering place for vagrants;

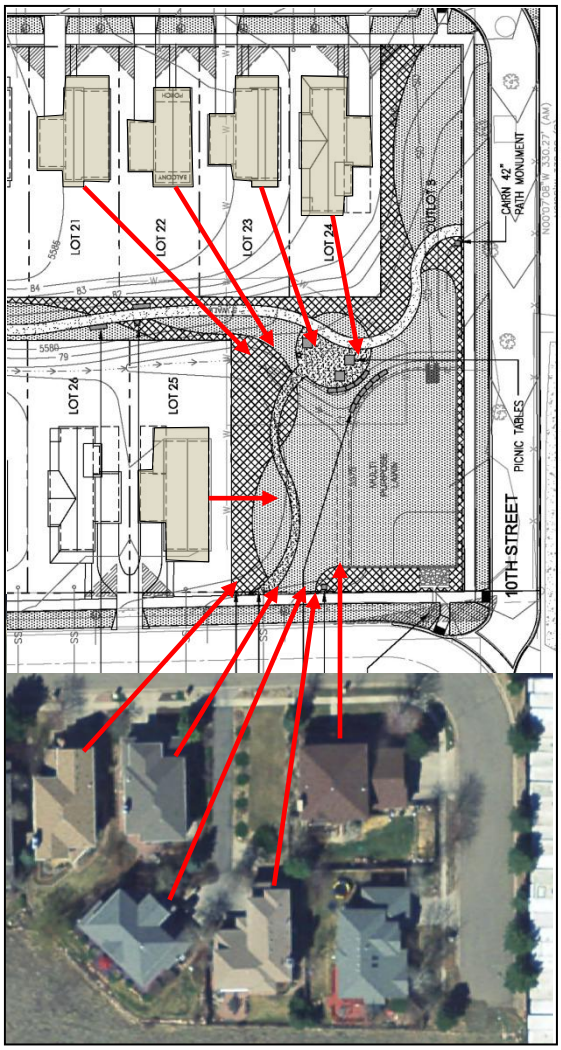
- Perceived density, the proposed homes are too close together;
- Color scheme, architecture, and building materials are not compatible with surrounding neighborhood;
- One-car garages do not provide enough parking to accommodate residents and visitors;
- Small garages do not provide enough storage for trash, recycling, and composting carts.

Staff Response

While staff appreciates neighborhood concerns regarding informal open space, staff believes that the proposed open space design meets the standards for usable open space in section 9-9-11; the site review criteria in section 9-2-14; and the goals and policies expressed in the North Boulder Subcommunity Plan (NBSP). Per the land use code, the purpose of open space is "to provide indoor and outdoor areas for passive and active uses…and to enhance the environment of a development or building." Open space can be used to provide interesting and usable places, both public and private, active and passive. Staff believes the informal open space creates an interface with the existing neighborhood to the south and provides a relief to the density. The space also provides important passive open space for residents, a place for walking the dog, sitting and casual play. The design will incorporate quality landscaping and utilizes the water quality and detention on the site, which would otherwise be wasted space.

In "The Death and Life of Great American Cities," the author and urban planning activist Jane Jacobs explained that "eyes on the street" make public spaces secure. Despite being located on the edge of the development, the space will be visible by at least 10 homes as well as a new roadway linkage. The fences used on the lots bordering the open space will be low and open and no screening is planned for the informal open space, consistent with the North Boulder Subcommunity Plan. Due to the visibility of the informal open space, the area will be viewed as "defensible space" by surrounding neighbors, which will keep the space secure.

In the revised plans the Applicant should provide elevations of the homes surrounding the informal open space to demonstrate the visibility of the space and where need be, provide additional windows to on elevations that face the open space.




**Plan Documents,** Sloane Walbert, Case Manager, 303-441-4231

5. Provide an updated survey that includes the parcel to the east that was acquired by Boulder County, labeled as emergency access easement on the previously submitted survey.
6. Include the area of Outlot B, Northbriar Estates Subdivision, and associated access and utility easement, on all plans.
7. Please split the maximum allowable floor area and calculated FAR for each lot into separate columns in the unit matrix on Sheet SR-2. In addition, include the square footage of garages in the floor area calculations. The maximum allowable floor area should be based on the maximum FAR for each lot (reference Table 8-3, B.R.C. 1981). This chart will be used to guide future development and to ensure that each lot does not exceed the maximum FAR for the zone district. Please increase the size of the chart to improve readability, if possible.
8. The color matrix on page SR-7 refers to the Yarmouth development. Please revise accordingly.
9. The design of the porch on Lot 1 is not consistent between pages. Please revise accordingly.

10. Include a row on the open space summary table for the area of building footprints, as was included in the first submittal.
11. Please split out the area of the multi-use path trail connection through the site as a separate row on the open space summary table. This area will not be counted toward the allowable 10% of open space in the right-of-way.
12. Include footnote on open space summary table that balconies, decks, or patio areas constructed over an enclosed building are not to be counted as usable open space, per section 9-9-11(i)(8)(B), B.R.C. 1981.
13. The percentage of open space for private porches and balconies on the open space summary table sill refers to previous requirement of 192,000 square feet. Please revise accordingly.
14. Page C1.0 (Preliminary Grading and Drainage Plan) labels the north-south street connection as both 9th and 10th Street. Please revise accordingly.

**Review Process,** Sloane Walbert, Case Manager, 303-441-4231
The property is located in a Residential - Low 2 (RL-2) zone district. Given the proposed number of units, 32, and the size of the site, roughly six acres, a site review is required pursuant to section 9-2-14(b), Table 2-2, "Site Review Threshold Table," B.R.C. 1981.

Site review is typically a staff level decision with a 14-day Planning Board call-up period. However, staff has the discretion to refer all development review applications directly to the Planning Board for review. Given the level of public interest and amount of change in the area, staff will be referring this site review request to Planning Board for a public hearing and decision. The Planning Board hearing on this item is tentatively scheduled for **October 17, 2013**.

**Site Design,** Sloane Walbert, Case Manager, 303-441-4231
1. More information is required to demonstrate that the proposed side and rear yard setbacks are consistent with the surrounding context, as required by the site review criteria. Please provide a basic study of the adjacent developments to demonstrate compatibility with the surrounding neighborhood. See "zoning" comments below for more information.
2. The required public access easements for share driveways may not be counted toward usable open space, beyond the permitted ten percent for the site. See "access" comments for more information.

**Utilities**, Scott Kuhna, 303-441-4071
Per section 9-12-12(a)(3), B.R.C. 1981, existing overhead utilities are to be placed underground, unless the subdivider demonstrates that the cost substantially outweighs the visual benefit from doing so. The applicant has stated that they are working with Xcel on an estimate and staff awaits their determination.

**Zoning**, Sloane Walbert, Case Manager, 303-441-4231
7. Solar Access
   a. The subject property is located in Solar Access Area II, which requires a 25 foot solar fence around the perimeter of the development and between individual lots. The submitted solar analysis shows that the proposed homes on Lots 13, 14, 15 require a solar exception. The applicant must provide responses to the review criteria for solar exceptions in section 9-9-17(f)(6). In addition, please revise the solar analysis to show actual shadow lengths, not adjusted lengths. Clarify where the shading from Lots 13, 14, and 15 will fall on the adjacent homes, i.e. will the shadows cover the entire south facing wall or roof? Also, provide information on proposed ceiling height and roof pitch on the proposed homes to justify the solar exception.

   b. The building design Site Review Criteria state that the orientation of buildings minimizes shadows on and blocking of views from adjacent properties. Per this criterion, the applicant must either revise the lot spacing, model choice, and proposed building height to meet solar access and site review criteria or demonstrate compliance with the solar exception criteria.

8. Setbacks
   a. In general, staff finds that the proposed setback modifications may be appropriate considering the defined density in the Residential - Low 2 (RL-2) zone district and Low Density Residential land use designation. The NBSP development guidelines include a provision that buildings should be placed close to the street to create a more pedestrian friendly atmosphere. To this effect, staff supports the proposed modifications to the front yard setbacks. However, more information is required to demonstrate that the proposed side and rear yard setbacks

are consistent with the surrounding context as required by the site review criteria. The applicant must include a basic study of the adjacent developments to demonstrate compatibility with the surrounding neighborhood. A context map of the site including the proposed and surrounding building footprints would be useful in this endeavor and assist staff in making findings for consistency with the criteria and guidelines.

b. The building design site review criteria state that noise must be minimized between buildings for residential projects through spacing, landscaping, and building materials. The applicant should consider revising lot spacing to meet this criterion or demonstrate to staff in the response to comments, how this criterion would be met.

## III. INFORMATIONAL COMMENTS

**Access/Circulation,** Jeff Hirt, 303-441-4497
The North Boulder Subcommunity Plan (1995 Plan) shows an off street multi-use path connecting Lee Hill Drive to Yellow Pine Avenue through the subject property. The 10-foot walk/bike path on the west edge of the property satisfies this 1995 Plan requirement as it connects with the existing connection that is aligned with 8th Street. The 1995 Plan also requires a north-south road connection from Lee Hill Road. The site plan satisfies this requirement with the 10th Street connection on the east edge of the property from Lee Hill Rd. to Yellow Pine Ave.

**Access/Circulation,** David Thompson, 303-441-4417
The applicant is encouraged to provide a radius curve for the sidewalk at the intersection of Zamia Ave and 10 Street in order to eliminate pedestrians cutting the corner.

**Addressing**, Sloane Walbert, Case Manager, 303-441-4231
The City is required to notify utility companies, the County Assessor's office, emergency services and the US Post Office of proposed addressing for development projects. Please submit a Final Address Plat and list of all proposed addresses as part of the Technical Document Review process.

**Area Characteristics and Zoning History**, Sloane Walbert, Case Manager, 303-441-4231
The site was used as the Boulder County Fire Training Center from 1974 to 2010. The site has been used as a transportation maintenance facility for the county since 2010. The parcel with annexed as part of the larger North Boulder Annexation Area in 1990. The North Boulder Subcommunity Plan originally recommended that the site become "ER: Estate Residential." However, 1997 Planning Board and City Council approved rezoning the parcel to LR (Low Density Residential) to more closely match the density of adjacent residential uses.

**Building Design**, Sloane Walbert, Case Manager, 303-441-4231

1. Staff recommends developing design standards at time of Technical Document Review to ensure consistency in building design in future development.
2. In general, the development is consistent with the following design guidelines in the North Boulder Subcommunity Plan (NBSP):
   - Buildings, front doors, and front yards face the street.
   - Houses are designed so that garage doors do not dominate the front façade.
   - The proposal avoids monotonous building designs and includes human scale features such as porches, varied building elevations, and buildings of varied sizes and styles.
   - Houses are positioned close to the street to create a more pedestrian-friendly atmosphere, front yard setback reductions have been requested for several lots to achieve this effect.
3. The NBSP states that garage doors should be no less than 20-feet behind the principal plane of the front of the house as to deemphasize their appearance. The applicant has provided justification that the proposed garages facing the street are narrow one-car garages on narrow lots. The garages are attached to small- and medium-sized homes. Proposed houses are designed so that garage doors do not dominate the front façade.

**Building and Housing Codes**, Jim Gery 303-441-3129

4. Please be advised that 2006 IRC Section R302 and Table R302.1 require all exterior walls to be built with a minimum one-hour fire-resistive construction with exposure from both sides when they are within five feet of a property line. Projections between four feet and two feet from a property line must have a minimum of one-hour fire–resistive construction on the underside. No projections are permitted within two feet of a property line. No openings are

permitted on exterior walls within three feet of a property line, and openings between three feet and five feet may comprise no more than twenty five percent of wall area. Penetrations within five feet of a property line must comply with Section R317.3.

5. Please be advised that building comments are general in nature and based on the limited information provided for the purposes of this Land Use Review, and in no way constitute a complete or exhaustive review for compliance with any Building, Mechanical, Fuel Gas, Plumbing, Electrical, or Energy Code, accessibility requirements, or the Green Building and Green Points Program; nor may they be construed as approval of any existing or proposed structure for the purposes of a building permit. Documents submitted at the time of building permit application for development or redevelopment will be required to fully demonstrate compliance with the aforementioned Codes and any other applicable laws, Codes and Standards in force at the time.

6. Please also be advised that the comments provided herein are based on the 2006 model Codes as adopted and amended by the City of Boulder. Specifically, the 2006 International Residential Code – IRC, as amended is the governing Code for this type of structure at the present time. The International Code Council releases updated Codes every three years for adoption by jurisdictions. The City elected not to adopt the 2009 series of Codes, but the 2012 Codes will be likely adopted sometime in the relatively near future. If a permit is submitted after the effective date of any new Codes, any new or altered structure must meet the provisions of the adopted and amended Codes in force at the time of building permit application.

**Drainage**, Scott Kuhna, 303-441-4071

4. A Final Storm Water Report and Plan will be required as part of the Technical Document Review process. All plans and reports shall be prepared in accordance with the City of Boulder *Design and Construction Standards*.

5. All inlet grates in proposed streets, alleys, parking lot travel lanes, bike paths, or sidewalks shall utilize a safety grate approved for bicycle traffic.

6. A construction stormwater discharge permit is required from the State of Colorado for projects disturbing greater than 1-acre. The applicant is advised to contact the Colorado Department of Public Health and Environment.

**Fire Protection**, David Lowrey, 303-441-4356

No issues with the request. I would need more detail drawings for the access in and around the site, including widths and turning radius. It appears that Lot 24 would be required to have a fire sprinkler system installed due to access.

**Fire Protection**, Jeff Hirt, 303-441-4497

The North Boulder Subcommunity Plan sets forth wildfire mitigation recommendations for redevelopment sites near the western edge of the subcommunity. The 1995 Plan does not specify what areas are considered “western edge”, but the standards on page 29 warrant consideration (“Wildfire Hazard Mitigation”).

**Land Uses,** Sloane Walbert, Case Manager, 303-441-4231

1. The land use designation in the Boulder Valley Comprehensive Plan for the subject property is Low Density Residential.

2. Redevelopment of the site would include the demolition of eight existing structures, which were predominantly built in the 1980s. Due to past industrial uses, both Phase I and Phase II Environmental Assessments have been done on the site and it was determined that no further action was needed to mitigate potential hazards. The most recent Phase I assessment was completed in February of 2013.

3. One of the primary goals of the North Boulder Plan is that the subcommunity contains a diversity of housing types, sizes, and costs. The Lee Hill Road Area section states, “It is imperative that the project contain a mix of residential densities with a diversity of housing types” (page 11). While the concept does not include a variety of housing types, the proposed single family homes include a variety of sizes and affordable housing is integrated in the development. In this case compatibility with the surrounding neighborhood’s scale and intensity may be at odds with the provision of duplex or tri-plex units.

**Miscellaneous**, Scott Kuhna, 303-441-4071

3. The applicant is notified that any groundwater discharge to the storm sewer system will require both a state permit and a city agreement. The steps for obtaining the proper approvals are as follows:

   Step 1 -- Identify applicable Colorado Discharge Permit System requirements for the site.

Step 2 -- Determine any history of site contamination (underground storage tanks, groundwater contamination, industrial activities, landfills, etc.) If there is contamination on the site or in the groundwater, water quality monitoring is required.

Step 3 -- Submit a written request to the city to use the municipal separate storm sewer system (MS4). This submittal should include a copy of the Colorado Department of Public Health and Environment (CDPHE) permit application. The written request should include the location, description of the discharge, and brief discussion of all discharge options (e.g., discharge to MS4, groundwater infiltration, off-site disposal, etc.) The request should be addressed to: City of Boulder, Stormwater Quality, 4049 75th St, Boulder, CO 80301 Fax: 303-413-7364

Step 4 -- The city's Stormwater Quality Office will respond with a DRAFT agreement, which will need to be submitted with the CDPHE permit application. CDPHE will not finalize the discharge permit without permission from the city to use the MS4.

Step 5 -- Submit a copy of the final discharge permit issued by CDPHE back to the City's Stormwater Quality Office so that the MS4 agreement can be finalized.

For further information regarding stormwater quality within the City of Boulder contact the City's Stormwater Quality Office at 303-413-7350. All applicable permits must be in place prior to building permit application.

4. No portion of any structure, including footings and eaves, may encroach into any public right-of-way or easement.

**Site Design,** Sloane Walbert, Case Manager, 303-441-4231

North Boulder Subcommunity Plan

The subject property is within the Lee Hill Road Area of the North Boulder Subcommunity Plan. The project is subject to the Development Guidelines for All Neighborhoods and guidelines specific to the Lee Hill Road Area on page 11 of the NBSP.

1. In general, the development is consistent with the following guidelines as discussed below:

   - Site plan includes tree-lined streets that are pleasant for all modes of travel.
   - Designed so that the fronts of buildings and lots face the street and one another, and backs face one another.
   - Includes well-placed pedestrian and bicycle trails that connect to neighborhood amenities, including parks and trails.
   - The site plan encourages walking, biking, and transit by providing safe, comfortable and convenient connections.
   - Design includes small blocks and narrow streets to better serve pedestrians and to help calm traffic.
   - An alley is used on the north end of the site to reduce curb cuts and sidewalk interruptions.

2. Per the NBSP alleys should be considered in new developments to provide a "service" side to properties. The applicant should consider alley and/or woonerf access to the residences facing Yellow Pine Avenue. However, it has been determined that alley access for these homes would be at odds with compatibility with the neighborhood to the south and would limit usable open space on the site.

Open Space Criteria

Staff commends the applicant's provision of interesting and usable open space, including a formal neighborhood park and informal natural area. Private open space is also planned as back yards, front porches, balconies, and decks. The concept plan includes the addition of 31 dwelling units on the site, which requires at least 186,000 square feet of useable open space at 6,000 square feet per dwelling unit.

At time of Technical Document review the applicant must address how future development (e.g., footprint expansions/additions) would be considered and how any excess in provided open space would be allocated to each lot.

Subdivision Standards

The proposed development is subject to the subdivision regulations of chapter 9-12 of the land use code. The following waivers to the subdivision standards have been identified:

3. Corner lots are not larger than other lots to accommodate setback requirements.

Requested waivers to the subdivision standards will be processed through the subdivision process. Approval of any waivers would be subject to section 9-12-12(b), B.R.C. 1981.

**Transit,** Jeff Hirt, 303-441-4497
Chapter 8 of the North Boulder Subcommunity Plan recommends improved transit access into the residential areas west of Broadway, north of Violet Avenue. There are not any specific routes or transit stops proposed on the subject property. At minimum, the plan should not preclude any future opportunities for enhanced transit into the surrounding neighborhood.

**Utilities**, Scott Kuhna, 303-441-4071

10. The applicant is advised that any proposed street trees along the property frontage may conflict with existing utilities, including without limitation: gas, electric, and telecommunications, within and adjacent to the development site. It is the applicant's responsibility to resolve such conflicts with appropriate methods conforming to the Boulder Revised Code 1981, the City of Boulder Design and Construction Standards, and any private/franchise utility specifications.
11. Final utility construction drawings will be required as part of the Technical Document Review process (which must be completed prior to building permit application).
12. Further detail of the ground water barriers used to prevent ground water migration or diversion along the water, wastewater, and storm sewer mains will be required at time of Technical Document Review.
13. The applicant may want to install 1-inch water service taps (with 3/4-inch meters) in the event that upsizing of domestic services is necessary in the future.
14. Maintenance of sand/oil interceptors and all private wastewater and storm sewer lines and structures shall remain the responsibility of the owner.
15. The landscape irrigation system requires a separate water service and meter. A separate water Plant Investment Fee must be paid at time of building permit. Service, meter and tap sizes will be required at time of building permit submittal.
16. The applicant is advised that at the time of building permit application the following requirements will apply:
    d. The applicant will be required to provide accurate proposed plumbing fixture count forms to determine if the proposed meters and services are adequate for the proposed use.
    e. Water and wastewater Plant Investment Fees and service line sizing will be evaluated.
    f. If the buildings will be sprinklered, the approved fire line plans must accompany the fire sprinkler service line connection permit application.
17. All water meters are to be placed in city right-of-way or a public utility easement, but meters are not to be placed in driveways, sidewalks or behind fences.
18. Trees proposed to be planted shall be located at least 10 feet away from existing or future utility mains and services.

**Zoning,** Sloane Walbert, Case Manager, 303-441-4231

5. The property is located in a Residential - Low 2 (RL-2) zone district, which is described as *"medium density residential areas primarily used for small-lot residential development, including, without limitation, duplexes, triplexes or townhouses, where each unit generally has direct access at ground level."* The RL-2 zoning for this property was determined in conformance with the land use designation change in the Boulder Valley Comprehensive Plan (BVCP) to Low Density Residential (average of two to six units per acre).
6. Intensity Standards
   There are no restrictions on minimum lot size, lot area per dwelling unit, or dwelling units per acre in the RL-2 zoning district. However, 6,000 square feet of open space is required per dwelling unit.
7. Outdoor Lighting
   Please note that development of the lot will require compliance with section 9-9-16, "Outdoor Lighting," B.R.C. 1981.
8. Occupancy of Dwelling Units
   Please note the occupancy limits set forth in section 9-8-5.
9. Parking
   The parking standards in the RL-2 zoning district require a minimum of one off-street parking space per detached dwelling unit. The site plan includes a one-car garage for each house, which fulfills this requirement.
10. Development Standards
    Any lots that exceed 8,000 square feet in area in the RL-2 zone district are subject to compatible development standards, including side yard wall articulation, building coverage and floor area ratio. No lots currently exceed 8,000

square feet in area.

11. Signage
    The applicant has not indicated on the plans that they are seeking a variance to the sign code. As such, proposed monument signs must meet all applicable regulations for freestanding signs in residential zone districts.

**C I T Y O F B O U L D E R**
**PLANNING BOARD AGENDA ITEM**

**MEETING DATE: October 24, 2013**

**AGENDA TITLE:** Feedback regarding the AMPS (Access Management and Parking Strategy) guiding principles and areas of focus.

**REQUESTING DEPARTMENT:**
Community Planning & Sustainability
David Driskell, Executive Director
Susan Richstone, Deputy Director
Molly Winter, Director, Downtown and University Hill Management Division/Parking Services
Kathleen Bracke, GO Boulder Manager, Transportation Department

**OBJECTIVE:**
Receive feedback from the Planning Board on the AMPS project.

## SUMMARY
The purpose of this item is to receive feedback from Planning Board on the Access Management and Parking Strategy project's guiding principles and areas of focus. (See Attachment A.)

## BACKGROUND
Building on the foundation of the city's successful multi-modal, district-based access and parking system, AMPS will define priorities and develop over-arching policies and tailored programs and tools to address citywide access (vehicular, pedestrian, transit and bike) management in a manner consistent with the community's social, economic and environmental sustainability principles. AMPS will:

- Be consistent with and support the city's sustainability framework: safety and community well-being, community character, mobility, energy and climate, natural environment, economic vitality and good governance.
- Be an interdepartmental effort that aligns with and supports the implementation of the city's master plan, policies and codes.
- Be flexible and adapt to support the present and future we want while providing predicitability.
- Reflect the city's values: service excellence for an inspired future through customer service, collaboration, innovation, integrity and respect.

## PROPOSAL
The interdepartmental staff team is proposing the following **guiding principles** for the project (also see Attachment A for more specific description):

- Provide for all transportation modes
- Support a diversity of people

- Customize tools by area
- Seek solutions with co-benefits
- Plan for the present and future
- Cultivate partnerships.

The **areas of focus** for AMPS develop are proposed to be (see Attachment A for specific descriptions):

- District Management
- Travel Demand Management Programs
- Enforcement
- Technology
- Parking Management: on and off street
- Parking Code Requirements for Private Property
- Parking Management through pricing.

**PUBLIC COMMENT AND PROCESS**

After several multi-departmental staff workshops, the AMPS project concept was presented to city advisory boards (TAB, Planning Board, and the district boards: Boulder Junction Access Districts, Downtown Management Commission and the University Hill Commercial Area Management Commission) in the spring for feedback. A study session was held with City Council on April 27th to affirm the project direction and approach. A joint board meeting of the district boards, Planning Board, TAB and the Environmental Advisory Board was held in August to present three inter-related efforts: AMPS, Transportation Master Plan Update (TMP) and the Climate Committee, and provide a first time opportunity for discussion amongst the boards. During the fall, staff will be seeking specific feedback from these advisory boards on the AMPS guiding principles and areas of focus. A study session with City Council is scheduled for October 29 in order to receive their feedback, guidance and endorsement of the AMPS principles and areas of focus in order to formulate the AMPS work plan for 2014.

**ATTACHMENTS:**

**A.** AMPS Areas of Focus and Guiding Principles

# AMPS

## Access Management & Parking Strategies

## What is Purpose?

Building on the foundation of the successful multi-modal, district-based access and parking system, the Access Management and Parking Strategy (AMPS) will define priorities and develop over-arching policies, and tailored programs and tools to address citywide access management in a manner consistent with the community's social, economic and environmental sustainability principles.

## The Access Management and Parking Strategy (AMPS) will :

- Be consistent with and support the city's sustainability framework: safety and community well-being, community character, mobility, energy and climate, natural environment, economic vitality, and good governance.
- Be an interdepartmental effort that aligns with and supports the implementation of the city's master plans, policies, and codes.
- Be flexible and adapt to support the present and future we want while providing predictability.
- Reflect the city's values: service excellence for an inspired future through customer service, collaboration, innovation, integrity, and respect.

# AMPS Areas of Focus

## District Management

Integration of public space management, parking management, business assistance, maintenance, and alternative modes services to the Downtown and University Hill commercial areas through the highest level of customer service, efficient management and effective problem solving in order to support economically and socially vital commercial areas.

## Travel Demand Management Programs

Manage access in our commercial districts through alternative modes of transportation, including the downtown employee Eco Pass, eGo CarShare memberships, Boulder B-cycle stations, and pedestrian-based infrastructure improvements. Reducing employee automobile trips leads to increased parking supply for customers and visitors, and supports the city's Climate Action Plan.

## Enforcement

Employ enforcement to ensure reasonable access and turnover for businesses, residents and visitors to support the health, safety, neighborhood livability and economic vitality of the City. Well-designed enforcement enables the City to maximize its use of the existing parking supply.

## Technology

Research and utilize the most efficient technologies to manage existing and future parking and enforcement operations, and to improve the overall customer parking experience in Boulder.

## Parking Management On Street and Off Street

Manage parking garages, on-street systems and enforcement for three of Boulder's commercial districts: Downtown Boulder, University Hill and, when completed, Boulder Junction, as well as, the 10 Neighborhood Parking Permit districts throughout Boulder.

## Parking Code Requirements for Private Property

Consider code changes for private, off-street parking regulations in order to align policies with citywide goals for reducing single occupant vehicle trips, supporting alternative modes of transportation with the goal of creating vital centers and neighborhoods.

## Parking Management through Pricing

Use pricing to effectively manage parking resources and balance the role of pricing in supporting the use of alternative modes of transportation with economic viability.

# AMPS

## Access Management & Parking Strategies

## Specific Guiding Principles

- **Provide for All Transportation Modes:** Support a balance of all modes of access in our transportation system: pedestrian, bicycle, transit, and multiple forms of motorized vehicles—with the pedestrian at the center.
- **Support a Diversity of People:** Address the transportation needs of different people at all ages and stages of life and with different levels of mobility – residents, employees, employers, seniors, business owners, students and visitors.
- **Customize Tools by Area:** Use of a toolbox with a variety of programs, policies, and initiatives customized for the unique needs and character of the city's diverse neighborhoods both residential and commercial.
- **Seek Solutions with Co-Benefits:** Find common ground and address trade offs between community character, economic vitality, and community well-being with elegant solutions—those that achieve multiple objectives and have co-benefits.
- **Plan for the Present and Future:** While focusing on today's needs, develop solutions that address future demographic, economic, travel, and community design needs.
- **Cultivate Partnerships:** Be open to collaboration and public and private partnerships to achieve desired outcomes.

## Issues & Opportunities

- Meeting the access needs of our diverse customer base to our city centers – employees, visitors, customers, clients, residents; young, old, disabled and everything in between.
- Balancing the economic vitality of our commercial districts with other city sustainability goals: social and environmental.
- Maintaining neighborhood livability within the context of our compact, mixed use, higher density development model.
- Increasing our downtown employee alternative transportation mode-share by offering viable options and valuable incentives in a market now experiencing longer commuter miles.
- Balancing the demands for use of the public right of way: providing space for alternative modes, pedestrian walkability, socializing and having events.

# Next Steps

## Climate Commitment

Strategy development and testing

Community outreach and engagement

Strategy refinement and interim target establishment

Partnership development

Plan review and final adoption (1st Quarter 2014)

## Transportation Master Plan

Continue to deploy and evaluate bike/ped innovations

Develop and evaluate transit scenarios (Fall - Winter)

Integrate funding, projects, TDM strategies into investments programs

Study sessions proposed for February and April 2014

## Access Management & Parking Strategies

Feedback from Joint Board Meeting (8/13)

Interdepartmental teams by areas of focus (9/13)

Hire a consultant (9/13)

Develop draft work areas and prioritization matrix (9-10/13)

Public Open House (10/13)

Check-in with City Council (10/13)

Phase implementation (2014)