CITY OF BOULDER
PLANNING BOARD MEETING AGENDA
DATE: October 6, 2016
TIME: 6 p.m.
PLACE: 1777 Broadway, Council Chambers

1. CALL TO ORDER

2. APPROVAL OF MINUTES

The August 11, 2016, August 25, 2016 and September 15, 2016 minutes are scheduled for review.

3. PUBLIC PARTICIPATION

4. DISCUSSION OF DISPOSITIONS, PLANNING BOARD CALL-UPS/CONTINUATIONS

A. Call Up Item: Site Review: Redevelopment of a vacant lot, formerly occupied by a Recreational Vehicle (RV) dealership and repair facility located at 2751 30th Street. Proposed are 32 townhomes and four small corner retail spaces with below grade parking, a central open space area and a parking reduction of 25 percent or 60 spaces where 80 spaces are standard.

5. PUBLIC HEARING ITEMS

A. AGENDA TITLE: Public hearing for consideration of a Floodplain Development Permit (LUR2016-00035) and a Stream, Wetland, and Water Body Permit (LUR2016-00034) for a rehabilitation and enhancement project for the Civic Area along Boulder Creek, between 9th Street and Broadway within the conveyance zone, high hazard zone, stream, and buffer zones.

Applicant/Owner: City of Boulder Parks and Recreation Department

B. AGENDA TITLE: Public hearing and actions on the following items related to development review applications for properties located at 4801, 4855, 4865 and 4885 Riverbend Road within the Riverbend Office Park:

1. Boulder Valley Comprehensive Plan (BVCP) Land Use Map Change, LUR2016-00038**:** Decision on proposal to change the underlying BVCP Land Use Designation on the Riverbend Road site from Transitional Business to Public;
2. Rezoning, LUR2016-00038: Recommendation to City Council on request to rezone the properties from BT-2 (Business Transitional – 2) to P (Public);
3. Amendment to Ordinance No. 8028: Recommendation to City Council on a request to amend Ordinance No. 8028 to allow consideration of a height modification to up to 55 feet;
4. Site Review, LUR2016-00040: Decision on request to amend the Riverbend Office Park Planned Unit Development (PUD) to build a new 70,342 sq. ft., 3-story medical center to include inpatient behavioral health, inpatient rehabilitation and neurology facilities as part of the Boulder Community Health functions at the corner of Arapahoe Ave. and 48th Street. The proposal also includes a new, 6-story parking structure containing 406 parking spaces with first floor accessory uses including office and hospital-oriented retail. The proposal would require a height modification to permit the medical and parking garage buildings at 55-feet where 35-feet is the by-right limit, and
5. Use Review, LUR2016-00040: Decision on request for automobile parking lots, garages or car pool lots as a principal use on the site to permit a parking garage that serves the proposed medical office building and accessory retail uses as well as overflow parking from the Boulder Community Health Foothills Hospital.

Applicant: Darryl Brown for Boulder Community Health
Property Owner: Boulder Community Health & Riverbend Sleep, LLC

6. MATTERS FROM THE PLANNING BOARD, PLANNING DIRECTOR, AND CITY ATTORNEY

7. DEBRIEF MEETING/CALENDAR CHECK

8. ADJOURNMENT

For more information, call (303) 441-1880. Board packets are available after 4 p.m. Friday prior to the meeting, online at www.bouldercolorado.gov, at the Boulder Public Main Library's Reference Desk, or at the Planning and Development Services Center, located at 1739 Broadway, third floor.

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 (10 minutes maximum*)
b. Applicant presentation (10 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.

CITY OF BOULDER
PLANNING BOARD ACTION MINUTES
August 11, 2016
1777 Broadway, 1777 West Conference Room

A permanent set of these minutes and a tape recording (maintained for a period of seven years) are retained in Central Records (telephone: 303-441-3043). Minutes are also available on the web at: http://www.bouldercolorado.gov/

PLANNING BOARD MEMBERS PRESENT:
John Gerstle, Chair
Liz Payton, Vice Chair
Bryan Bowen
Leonard May
Crystal Gray
Harmon Zuckerman

PLANNING BOARD MEMBERS ABSENT:
John Putnam

STAFF PRESENT:
Lesli Ellis, Comprehensive Planning Manager
Jean Gatza, Senior Planner
Caitlin Zacharias, Planner I

1. CALL TO ORDER

Chair, **J. Gerstle**, declared a quorum at 6:00 p.m. and the following business was conducted.

2. MATTERS FROM THE PLANNING BOARD, PLANNING DIRECTOR, AND CITY ATTORNEY

A. AGENDA TITLE: Continuance of Boulder Valley Comprehensive Plan Update (BVCP) Discussion on Selected Policy Changes, Amendment Procedures, and Community Engagement from July 28, 2016 Planning Board Meeting.

Staff Presentation:
L. Ellis and **J. Gatza** presented the items, gave an update, format for tonight's discussion, and summary of comments received from the Planning Board and other city boards.

Board Comments:

<u>Topic #1: Natural Environment</u>

- **J. Gerstle** suggested that pesticide policies should be extended beyond those dealing only with city use practices to address private use of pesticides.
- **L. Payton** stated that there were a few suggested ides submitted to staff by the board regarding the Natural Environment that she would like to see become "standards" or new regulatory mechanisms rather than just aspirations. For example, the floodplain

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delineation, wetlands and groundwater policy should actually be implemented. In addition, there is nothing currently in the Comp Plan regarding climate change and she would like to see it addressed.

- **B. Bowen** agreed that especially the groundwater policy needs to be clearer and resolved with regulations.
- The board was in agreement that climate change should be addressed within the Comp Plan.
- **B. Bowen** added that policy *3.11, Urban Forests* should address food producing plant species landscaped within the city to create sustainability.
- In regards to the pesticide policy, the board agreed that it should be crafted so that it does not just pertains to the application to city properties but also privately (e.g. "bee-safe neighborhoods").
- **J. Gerstle** added that the city should consider issuing permits for the private and commercial use of pesticides to specify dosage, application procedures, etc. In addition, the language within *3.04* should not focus solely on undeveloped land or public lands, but should refer to "all lands". The board agreed.
- **B. Bowen** gave full support for carbon sequestration and having it in the Comp Plan.
- **J. Gerstle** suggested an expansion of coverage to include "sub-surface resources" and that this should cover not only groundwater but other resources and factors as well.

<u>Topic #2: Energy and Climate</u>

- **L. Payton** stated the new wording does not necessarily reflect a policy so much as a statement of efforts. There wasn't a clear vision.
- **L. May** suggested adding something about conservation within the bullets section.
- **B. Bowen** emphasized "shared resources" should be built into the policy and strong support for zero waste. The board agreed.
- **H. Zuckerman** added that some current sections of this policy are too prescriptive. He read samples of revisions and stated that they would make clear what the city and county support without providing levels of prescriptive language about how much and how we will support the goals. Often he removed the word "policies" and just left "programs and regulations" as things that the board supports because THIS is a policy, and it is meant not to support other policies, but actual programs and regulations.
- The board agreed.
- **C. Gray** added that the regulations and ideas around energy and climate have evolved dramatically in the past 5 years. The regulations and policies cannot stay stagnate and need to reflect that.
- **L. Payton** requested the wording in the policy regarding *Construction Waste* be stronger to encourage renovation over demolition. She proposed making the language sound as if demolition would be a last resort. The board was in agreement.
- **B. Bowen** suggested treating deconstruction materials as a resource to be reused in a variety of ways. The materials need to be thought of as a nutrient and not a waste.
- **L. May** stated that the current language talks about adaptation rather than changing behaviors to address the root causes of climate change. He asked that this be included in the bullet points section. The board agreed.

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Topic #3: Economy

- **J. Gerstle** mentioned that he did not see a reference to the various costs of economic and business-related activities, and that this aspect should be included in relevant considerations.
- In regards to the Creative Economy policy, the board generally was not in favor of it. **L. Payton** added that she does want to support the artist community. **L. May** questioned why the Comp Plan should select a preferred occupation. **H. Zuckerman** argued that we are not singling out a preferred occupation and listed other valuable groups within Boulder's economy and suggested to clarify that our economy is linked to the success of artists. **L. Payton** stated that the goal is to keep those groups from being pushed out and lost in the community. **C. Gray** suggested to not limit the language by saying "artists" but rather "residents and community" and broaden it to the variety of businesses in Boulder. **B. Bowen** added the most important aspect is to create a diverse and robust economy, but also allow the city to have a diverse workforce.
- **J. Gerstle** stated that in the process of redevelopment, many service, creative and light businesses are being lost. He asked that consideration be given to the value and benefits associated with such businesses.
- **C. Gray** mentioned that consideration should be given to small businesses and businesses owned by minorities and that the city develops strategies to specifically address this. The board agreed.
- **H. Zuckerman** suggested tying resilience strategy to the diversity of use types, people, income levels, etc.
- **C. Gray** asked that policy *5.01* be revised to tie the phrase referencing "incentivizing" to community benefit.
- **J. Gerstle** stated that policy *5.02* does not seem to be in accordance with the objectives of controlling job growth that the Comp Plan is trying to achieve. **L. May** added that job growth should be brought into context with the other factors that affect it. **H. Zuckerman** proposed the following language for the policy, "*The city supports strategies that further its role as a regional job center in the future with sustainability goals and projected growth.*" The board agreed to revisit this policy.
- **C. Gray** stated that she does not want "home occupations" to replace "residential units".

Topic #4: Transportation

- **L. Payton** stated that the Comp Plan could be clearer regarding the types of service that are being measured. Perhaps definitions need to be changed or updated.
- The board agreed that the flow and articulation of the chapter could be improved.
- **J. Gerstle** commented on a suggested possible new policy based on "distracted driving", and stated that it is not obvious to him that it belongs in the Comp Plan.
- **C. Gray** brought up the notion of people feeling safe as pedestrians or riding their bikes.
- **L. May** stated that the Comp Plan is the place to include this idea as it encompasses other aspects of the Transportation chapter.
- **B. Bowen** stated that "safety" should include any mode of transportation to anywhere in the city.
- **L. Payton** suggested to use the safety children as the target.
- **C. Gray** suggested having a statement regarding transportation impacting urban design.

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- In regards to the "15-Minute Neighborhood", **C. Gray** proposed that the residents themselves in those neighborhoods should have a say as to what goes into their "15-Minute Neighborhood". **B. Bowen** proposed referencing them, but to talk about land use changes in another place, not the transportation chapter. **L. May** suggested it be pulled out altogether. **B. Bowen** argued that neighborhood connectivity is part of the "15-Minute Neighborhood" discussion. **J. Gerstle** questioned whether all of the consequences of the "15-Minute Neighborhood" policy had been property considered and evaluated.

Topic #5: Community Well Being

- In regards to diversity, **L. Payton** brought up the notion of identifying the risks and challenges of groups within the community (i.e. seniors) to form policies for protection. The board agreed.
- **L. Payton** proposed a policy regarding firearms. **L. May** proposed a statement similar to the one found in the Transportation chapter stating that the goal would be zero deaths.

Topic #6: Ag and Food

- **C. Gray** stated that the city may not have the infrastructure to support ag.

Topic #7: Core Values

- **C. Gray** stated that the heart of the values would be "sensibility".
- **L. May** would prefer to keep travel by cars as a current core value. **B. Bowen** and **C. Gray** agreed. Most board members agreed that removing "without a car" weakens it. There was a suggestion to put it back in and state "…with or without a car" at the end.
- **C. Gray** stated that keeping a thriving local business community is the heart of sustainability.
- **H. Zuckerman** suggested that the core values should use words that are goals and incentivize. Under each individual policy is where items will be defined and detailed. One word that is missing in the core values is "resilience".
- **L. Payton** stated she finds the bullets problematic and does not know why they are needed. **J. Gerstle** agreed that their effect and purpose is weakened by the addition of excess verbiage.
- The board discussed the bullets and agreed to not disregard them completely but to embed them into the policies.

6. ADJOURNMENT

The Planning Board adjourned the meeting at 8:33 p.m.

APPROVED BY

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Board Chair

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DATE

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CITY OF BOULDER
PLANNING BOARD ACTION MINUTES
August 25, 2016
1777 Broadway, 1777 West Conference Room

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PLANNING BOARD MEMBERS PRESENT:
John Gerstle, Chair
Liz Payton, Vice Chair
Bryan Bowen
John Putnam
Leonard May
Crystal Gray
Harmon Zuckerman

PLANNING BOARD MEMBERS ABSENT:
N/A

STAFF PRESENT:
Hella Pannewig, Assistant City Attorney
Cindy Spence, Administrative Specialist III
Susan Richstone, Deputy Director for Planning
Lesli Ellis, Comprehensive Planning Manager
Jean Gatza, Senior Planner
Caitlin Zacharias, Planner I
Kalani Pahoa, Urban Planner

1. CALL TO ORDER

Chair, **J. Gerstle**, declared a quorum at 6:03 p.m. and the following business was conducted.

2. MEETING MANAGEMENT DISCUSSION – FOLLOW-UP FROM JULY 21, 2016 TRAINING BVCP UPDATE

- **S. Richstone** began the discussion by suggesting the board run through the handout "*Suggestions for Meeting Management Improvements*"

Board Discussion:
Topic #1 - Negative Polling and Matrix:

- **S. Richstone** stated that the key concept with negative polling was not to focus on areas of agreement, but rather to identify areas where the board is not in alignment and devote time for that discussion.

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- **J. Gerstle** agreed that negative polling would be a good approach.
- **H. Zuckerman** agreed however along with negative polling, a board member should state why they are in agreement, giving reason and justification. One board member could do it and the other 6 could merely agree. It would save time. This would give balance to the negative polling.
- **J. Putnam** suggested having the Chair ask the board if it meets with the criteria and then give an explanation for the board's agreement.
- **C. Gray** stated that it sounds disorganized when comments go down the line of board members giving general impressions. A structured approach would be better.
- **B. Bowen** stated that a bigger risk is when the board goes down the line and each member tries to give all their comments at once. He suggested an initial overview at a higher level and not delving into individual matters.
- **L. May** said that giving a general overview at the start and then combining with some negative polling is better.
- **B. Bowen** added that a concept plan is different than a site plan where decisions are not being passed. A site review needs to focus on criteria and key issues.
- **H. Zuckerman** recommended the points of discussion could be within staff's memo to assist with focusing the board's discussion.
- **L. Payton** mentioned that in the past, staff has presented a matrix along with the Comp Plan policies the project did not comply with. That was very helpful in understanding that a thorough analysis was done. Perhaps a matrix showing the major Comp Plan policies it complies with and ones it does not could be provided.
- **C. Gray** said it would be helpful if there was a staff report to reflect what public testimony was being addressing. It should reflect what has been read and/or heard from the public.

    - **S. Richstone** stated, in terms of negative polling, that staff would try to have key items from staff's perspective where there is disagreement.

- **J. Gerstle** stated that there seems to be a benefit to having each member talk about issues they are concerned about and interject where they agree with staff's recommendation. If the majority agree on an issue, then no point to discuss it further.

    - **S. Richstone** summarized that the board will go down the line for discussion with a preamble and identify if there is agreement or not or if there is another issue that has arisen, with the matrix on the board, and then they will create the negative polling of a list of items for discussion. Therefore, the matrix should work well and assist in identifying what the board will want to talk about.

- **H. Zuckerman** questioned if that would really save time. He questioned if a free form discussion would work before delving into the criteria when it will be done eventually.
- **L. May** explained that the point is not to reduce the amount of time but make more effective use of time. This may ultimately be a way to identify the issue and may end up saving time in the end.
- **H. Zuckerman** stated it will be difficult to figure out the direction of a discussion by having each member goes through the matrix. He suggested just going through the

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criteria. Any preamble will result in confusion by going down the line of board members looking at the entire matrix. He agrees with using a matrix, however the idea of going down the line and reviewing the entire matrix, by each member, and making a list of each item they want to comment on seems redundant, rather than just going down the list of the matrix anyway.

- **B. Bowen** commented that this group may not skilled enough in negative polling and needs to build their skills. He suggested trying negative polling for few meetings, working to make it better, and debrief at the end of the meetings to review how it went.
- **C. Gray** summarized that each board member will give a very brief overview at beginning as an opening remark.
- **J. Gerstle** agreed.
- **H. Zuckerman** liked the idea of an interactive visual checklist in order to see the progress on the matrix during the meeting.
- **B. Bowen** stated that he is lukewarm regarding the matrix idea. However, if it helps the public follow and organize thoughts, then it could be a good tool.

<u>Topic #3 – Roles and Criteria:</u>

- **B. Bowen** suggested that during public feedback time, and to make them feel heard during comment their public comment, perhaps writing down their comments on a flipchart so that it can be seen what people said. It may give credibility that the board is listening.
- **C. Gray** agrees that people want to feel they are heard, however that may work better at community meetings.

    - **S. Richstone** explained the concept that someone (i.e. staff or board member) would give information to the public regarding roles and criteria of the item that is before the Planning Board that evening. This will take time to develop.

- **J. Putnam** felt this is most critical and encouraged this to happen at the beginning of an item. He added that emails received by the board should have an opportunity to respond with what will be happening at the hearing. Perhaps a canned response for each type of review or meeting; some type of auto response.
- Board members were in general agreement.
- **B. Bowen** recommended giving the public explanations of what the criteria are or what the recommendation would mean. Perhaps a link on the website.
- **H. Zuckerman** suggested putting the explanations in layman terms for the public.
- **L. Payton** suggested that for each agenda item that appears on the website to have a link regarding how someone can be effective to that item.

<u>Topic #4 – Testimony:</u>

    - **S. Richstone** stated that there was differing opinions among the board members. They revolved around whether to use the timer for staff and/or applicants, limiting time for public speakers and setting parameters under certain conditions.

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- **J. Putnam** recommend to table this time and the board could work on the other items discussed tonight.
- **L. Payton** mentions that the board had discussed performing a check-in at 10:00-10:30 p.m. during meetings and she supports that.
- **J. Gerstle** understands limiting testimony time, but does not support limiting the time of staff and applicant.
- **C. Gray** agreed. She would like to have some guidance given to the applicant to cover the criteria and architecture of their project in the allotted time.
- **B. Bowen** stated, in regards to the applicant's presentations, he would like to keep the to as little time as possible but invite them to answer more questions.
- **L. May** agreed. The applicant needs to focus the presentation to ten minutes.
- **H. Zuckerman** stated the board should make is clear what the expectation is at the beginning. As for meeting duration, the meeting will be over at a certain time unless the board agrees to extend it.
- **J. Gerstle** stated that the Chair, at the beginning of the meeting, can declare that at 10:00 p.m. the board will make a decision on how they will proceed. At that time, if they decide to continue, then a motion will be made to do so.
- The board was in support.

3. DISCUSSION OF BVCP LAND USE SCENARIOS AND POLICY OPTIONS AND LAND USE DESCRIPTIONS

Staff Presentation:
L. Ellis presented the item to the board.

Board Comments, Refinements and New Ideas:

- See Attachment A – "Planning Board August 25, 2016 – Summary of Study Session Discussion"

4. DEBRIEF MEETING/CALENDAR CHECK

5. ADJOURNMENT

The Planning Board adjourned the meeting at 9:10 p.m.

APPROVED BY

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Board Chair

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DATE

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Planning Board
August 25, 2016 – Summary of Study Session Discussion

General Questions and Comments

- Are you considering that changes to land use will affect impact fee studies and transportation model?
  R: We give them a sense of where the new units would be allocated to transportation zones - to inform quantitative modeling as well as qualitative implications of changes and what it might mean in order of magnitude - comparison of changes.
- Are you considering rate of change by types of land uses that are considered and pace of change?
- What is the community benefit analysis?
  R: KM analysis on housing. If we change land uses to increase intensity on any given parcel there would be a requirement attached to that (e.g. affordable housing) that there would be a benefit back to the community. Analysis to ensure we would achieve affordable housing. Also conversation about community benefit beyond housing. A lot of analysis in the works and we aim to have it for public meetings.
- Materials heading in right direction. Suggest - apply community benefit to these areas where land use might be granted more intensity.
- Affordable housing, for market rate - looking to determine if it would be affordable in the future.
  R: There are tools outside comprehensive plan that will addresses deed restricted units. Consultants are looking at an array of options that may be suitable for some neighborhoods. Potential piloting in some neighborhoods.
- Suggested adding co-op housing to the mix of housing types (based on an example in a certain community).

About Community Engagement

- Have this info at a public hearing so people can comment on it.
  R: This is just the beginning. In Sept and October – there will be opportunities for public comment. Survey; October - local area meetings with opportunities for people to spend time with this information, the analysis completed and people can dive deeper into the info and provide their perspectives.
- Will Planning Board have an opportunity to go through this in detail?
  R: Yes. Will continue to evolve. Not looking for final decisions until early next year.
- When does the public have an opportunity to comment on the other policy sections?
  R: on the website now and open for comment through sept. 23.

Comments about Scenarios

- **Scenario A:** It will be critical to have a baseline - current policy scenario.
- **Nonresidential Growth Management:**
  - Pull out the growth management tool from the Scenario A. If there is another scenario for growth management, do it separately (more of a policy issue and not a land use change)

- Understand a policy that gets at GM on non-residential side. Why don't we have another scenario - Option D - plus housing minus non-residential. Might be a viable solution to the issues that agitate the community.
- We should look at non-res growth management - could apply to none or all of these scenarios - managing the pace of non-res growth.
- Nonresidential growth management can be addressed as land use (and zoning) change or policy direction (such as with Residential Growth Management System).

1. *Note: staff did pull out a separate Scenario Policy Option D based on these comments and assumed some reductions to nonresidential capacity within Scenarios B and C, based on the comments from Planning Board.*

- **For Scenario C** – it will be important to clarify infill in those areas and not displacing those uses in the industrial areas; potential arts spaces. Opportunity to add housing - less dense development. Messaging needs to be really on point.
  R: The assumption is that the housing would occur not as much the older areas but areas of business parks where there are large parking areas. Adding infill and having housing in addition to businesses that are there. Changing light industrial areas would not be one size fits all - qualities to recognize in those areas.
- **For Scenario B** - Look at the corridors with an eye to protecting the small businesses. How could the ideas in Scenario B (corridors and centers) be merged with ideas about area and sub-area planning? That focused planning seems important because there are many different character areas.
- Will scenarios give a snapshot along a timeline - continuity between now and buildout?
  R: No, model is not as sophisticated as that.
- Scenario B and C include a range of an additional 10-12K residential units. What is the context of those numbers and how were they calculated?
  R: Using 1% GM rate of growth for total number of units. Also wanted to look at a more modest end. The location of new projected units is different in the options. Shift in E Boulder and / or distributed in various centers. Provided a range to provide to transportation analysis. Numbers inclusive of current projections; stays a little lower than the range of 1% to 2040.
- Based on public input, would you add another Scenario or new concepts that might come up, or be covered by illustrations and concept diagrams that will be part of these?
  R: If concepts will fit within these scenarios, we'll add them; if not maybe new concepts or scenarios.

Housing Prototypes

- Would like to see concepts that addresses historic properties (e.g., allowing a little house in the back, and if landmarking properties, the ability to build a small house on the front of the property) A community benefit could be historic landmarking.
- Sketches could look more like Boulder architectural style.
- Everyone has been talking about tiny houses - would be good to reflect to people that we are listening to those ideas. People would like to see an option for two smaller houses rather than one large house on a lot. If there are nuances to recommend - please provide.
- Clarify what is medium density overlay district? *R: notes on an initial draft of housing prototypes were incorrect about a Medium Density Overlay district.*
- Address the problem of pushing the boundaries of building coverage and FAR – big house issue. Some will be addressed in policy discussions. An idea has been proposed by the Landmarks Board.

- Can we do “pocket neighborhoods” on large lots? The graphics showing options for corner lot development ideas just look at housing options but not other uses – why not? Adding mixed use or retail options to increase walkability could be important to some neighborhoods. Recommendation for *Suburbia by* David Long – for ideas to make neighborhoods more sustainable with successful and palatable changes.
- Missing in the visuals and texts are concepts of walkability and enhanced pedestrian experience. They could be reinforced with text and lines showing pedestrian access.
  R: Nelson Nygard and transportation team will be helping with that enhancement.

Subcommunity, area, and neighborhood planning

- The idea of idea to make neighborhoods more sustainable dovetails with the idea about neighborhood or area planning. Those ideas might be the ones that help sell new ideas to neighborhoods.
- Zoning that we have is problematic - area planning should not be to correct "bad" zoning. Area plans aren't to make zoning more fine-grained.

Corridors

- On corridors - along Broadway there is a lot of residential. Is there a concept where this gets some commercial mixed in as activity nodes or continuous mixed use? Are we looking to incorporate mixed use into residential areas?
  R: In the residential MU concept – look at adding housing, corner retail use; where there is medium residential can be subtler infill and important focus on transitions; N 28th Street. - commercial that is transitioning - introduce residential into that with a mix of commercial and residential. Low density might not work. When does the community or PB decide whether we want that or not? Maybe we like the nodes and residential in between. The community needs to weigh in.
- Cottage courts – would like to see some analysis about maintaining the middle housing or does this type of housing erode the middle over time? We don’t want to just create investor opportunity. More for-sale lots - add to middle income housing.
- Some concerns this is driven by a desire to maintain a segment of the population having access to affordable housing. We can make land use changes, but we need other mechanism (deed restriction or?) to ensure we achieve those housing goals. Land use is only half the equation. Need discussion of what else will happen in implementation.
- Built environment - need criteria for when, where that might be appropriate or what the planning is for that - desire to see it happen but concern that it happens in the right way and the codes are prohibitive. We could start to craft criteria to guide to that if it is a desired community outcome.

Land Use: Open Space Other Category

- Clarify confusing Open Space Other category that has been problematic. Suggestions included:
  - get rid of this category and map it to other categories, or
  - do map edits - map it to what it should be, or
  - have a land use type that shows alignments of greenways and what they will ultimately look like - linear parks or other. Similar to a connections plan. Greenways, multi-use paths, linear parks (because important connections have not been made because these aren't clear – e.g., Boulder Slough / Target; North Boulder along the creek / Crestview), or

    - Keep it but add a land use type that is meaningful. Shows an intent to become OS and the value should be considered very carefully.
    - The category that has been challenging in development review; especially where there is a strip of green that is supposed to correspond with a feature such as drainage. Fixing it would be a big mapping challenge. Develop criteria to help with those interpretations.
    - Have more interpretive language in the category description. Trying to interpret the intent is difficult.
- History of OS-O: Originally there was an open space map from the 70s that was general and not parcel based. In 1995, GIS reconciled the comp plan with the open space map. Some areas were very difficult to reconcile, and at the time the Open Space created many different open space designations. Everything that wasn't purchased open space or easements was left on the original Open space map from the 70s. So there are still many irregularities. An effort to do a clean-up in a comprehensive manner would be massive.

Land Use Designations:

- General policies at the beginning seem like a good idea to describe the intent of the chapter.
- Light industrial - in use description - heavily focused on data and digital businesses. Not a very strong description of what would go in that area. Rectify language with what has been happening in the areas.
- On General Business - should there be something about transformation goals? (e.g., 28th and 30th street corridors - what we might want to see there in the future). Is that built into the land use now? Elaborate on what it could transform to.
- Service commercial - generally require automotive access. Is that land use really intended to be so auto-centric? R: Yes, it really applies to one small area north of Transit Village Area Plan (TVAP) that was intended to address the issue of not wanting everything to gentrify.
- In the land use chapter, acknowledge climate change impacts that might make the land less suitable than it may have been.
- If we are going to pursue more form-based codes - need more mention of regulating plans.
- Didn't see resilience mentioned in land use chapter. How we might incorporate it into multiple policies? But need to think of resilience in land use categories. Thinking about it in an older paradigm - in converting to more residential. Displacement concept - businesses, and residents.
- Description of mixed density residential – like it; the land use designation of high density - a variety that isn't captured. Variety of units per acre. Maybe a little more work. Some around the downtown and in historic pre-WW!! Neighborhoods. Cluster of coop housing in newly designated areas.

Round Robin - Policy Topics for Further Discussion

- List of community benefits should include mature landscaping.
- Utility provision - add resilience goals and flood management;
- Sensitive infill - helpful to have suggestion that city pursue timelines to get subcommunity and neighborhood plans going so sensitive infill is more clear. Neighborhood plan - it is about people.
- BHP affordable housing policy – concern about it, and not sure what it means in terms of public input and Planning Board review. They should follow the same rules as others.
- Housing Policy 7.02 - affordability has too much emphasis on market rate. Unlikely to get much mileage out of that effort. More emphasis needs to be on preservation of units. Goal - not erode affordable housing stock as a result as redevelopment.

- Need to talk about not displacing people - e.g. 7.08 manufactured homes - replace with same type of housing. Increase resilience without displacing residents.
- 7.10 - balancing housing supply with employment base. We're working to keep up with employment. Change language so it doesn't sound so much like we are in crisis mode and instead are being deliberate. Not subject of boom and bust cycles.
- With neighborhood plans – can ask what type of affordable housing would fit in with your neighborhood? Focus more on 15-minute neighborhood; ask more about new housing in your area.
- Subarea plans - no changes? Maybe for planning purposes you split up the 9 areas a bit more. Emphasis on preservation.
- Community benefit is worthy of long conversation. Distinction should be made between benefits required for increasing the amount of buildable space versus things that just make the site design better (heights, setbacks) - viable to tie to # of units but not height.
- Like new policy on 15 min neighborhoods; walkability is inconsistently applied. Needed in some areas.
- Structure map concept
    - concern that is looks really busy. Not sure putting everything on one map is too much. May look at a few maps. Maybe a heat map of intensity patterns.
    - Think about it as a graphic that is trying to tell a story - how density ties to transit… not just about layers.
- On the idea of preservation of existing buildings - Be careful. Keeping buildings can impair sustainability goals. Housing sections that are set up to be economic and sterile - capture maintaining diversity and social structure and richness - not just # of units.
- Be explicit about senior housing needs, that's critical and needs focus.
- Call out desire to provide affordable housing for public service workers.
- Housing policies have a lot of conflicting goals - preservation of housing stock, trying to reach sustainability goals. Post-war housing style emblematic of neighborhoods that aren't walkable. Need definition of neighborhood center. Are people in post-war neighborhoods ready for neighborhood centers?
- Clarify areas where accessory uses are desired but have been vilified in practice. Get clear vision for what city really wants. Do we want to preserve post -war neighborhoods or do we want 15 min neighborhoods? (or both)
- Be careful about growth management tools; they can create commodified markets that result in no development happening and inability to meet other goals. Can result in no redevelopment and stagnation. Develop GM tools in context.
- Accessory units. Clarify difference OAU, ADU.
- Inconsistency of goals. affecting the residential areas - neighborhood planning can knit everything together and resolve conflicts.
- Make it clear what we really want and avoid not pleasing everyone. Clarity and consistency are essential for an effective plan.
- Can we talk about what a 15 min neighborhood is? Ask the neighborhood. Will differ.

CITY OF BOULDER
PLANNING BOARD ACTION MINUTES
September 15, 2016
1777 Broadway, Council Chambers

A permanent set of these minutes and a tape recording (maintained for a period of seven years) are retained in Central Records (telephone: 303-441-3043). Minutes and streaming audio are also available on the web at: http://www.bouldercolorado.gov/

PLANNING BOARD MEMBERS PRESENT:
John Gerstle, Chair
Liz Payton, Vice Chair
Bryan Bowen
John Putnam
Leonard May
Crystal Gray

PLANNING BOARD MEMBERS ABSENT:
Harmon Zuckerman

STAFF PRESENT:
Susan Richstone, Deputy Director, PH&S
Lesli Ellis, Comprehensive Planning Manager, PH&S
Hella Pannewig, Assistant City Attorney
Cindy Spence, Administrative Specialist III
Edward Stafford, Development Review Manager for PW
Jean Gatza, Senior Planner, PH&S
Caitlin Zacharias, Planner I, PH&S
Jim Robertson, Chief Urban Designer, PH&S

1. CALL TO ORDER

Chair, **J. Gerstle**, declared a quorum at 6:19 p.m. and the following business was conducted.

2. APPROVAL OF MINUTES

On a motion by **L. Payton** and seconded by **J. Putnam** the Planning Board voted 6-0 (**H. Zuckerman** absent) to approve the July 28, 2016, August 18, 2016 and September 1, 2016 minutes as amended.
C. Gray abstained from the August 18, 2016 minutes.
B. Bowen abstained from July 28, 2016 minutes.

3. PUBLIC PARTICIPATION

1. **John Crawford** (pooling time with **Bruce Thompson**) spoke regarding flood mitigation.
2. **Greg Wilkerson** spoke regarding the BVCP Update and gave support for Policy Option D.

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3. **Jan Trussell** spoke regarding the BVCP Update and gave support for Policy Option D and zoning via land use vs. growth limits.
4. **Hollie Rogin** spoke regarding the BVCP Update, specifically Section 5, Economic Vitality.
5. **Steven Meier** spoke regarding the BVCP Update and gave support for Policy Option D.
6. **Lisa Spalding** spoke regarding the BVCP Update and gave support for Policy Option D.
7. **Sara Mayer** spoke regarding the BVCP Update, specifically density.
8. **Alan Delamere** spoke regarding the BVCP Update, specifically in-commuting jobs and an anti-demolition ordinance.
9. **Kathie Joyner** spoke regarding the flood mitigation project of South Boulder Creek and urged the annexation of CU South.
10. **Elmar Dormberger** spoke regarding the flood mitigation project of South Boulder Creek.
11. **Mike Marsh** spoke regarding the BVCP Update, specifically community benefit, adding neighborhood plans and gave support for Policy Option D.
12. **Raymond Bridge** regarding the BVCP Update, specifically Section 3, Natural Environment.
13. **Karen Hollweg** (pooling time with **Shelia Delamere**) regarding the BVCP Update, specifically Section 3, Natural Environment.
14. **Louise Padden** spoke regarding the BVCP Update and gave support for Policy Option D.
15. **Donna George** (pooling time with **Sara George**) spoke regarding the BVCP Update and gave support for Policy Option D.
16. **Al Gunter** spoke regarding the BVCP Update, specifically job growth and density.
17. **Joan Zimmerman** spoke regarding the BVCP Update and gave support for Policy Option D.
18. **Ellie Sciarra** spoke regarding the BVCP Update, specifically the building of mega-mansions in neighborhoods and gave support for Policy Option D.
19. **Patty Angerer** spoke in support a land use change request at 385 Broadway.
20. **Joe McDonald** spoke regarding the BVCP Update and gave support for Policy Option D.

4. DISCUSSION OF DISPOSITIONS, PLANNING BOARD CALL-UPS / CONTINUATIONS

A. Call Up Items: Boulder Civic Area, Floodplain Development Permit (LUR2016-00035), Wetland Permit (LUR2016-00034). This decision may be called up before Planning Board on or before September 20, 2016.

B. Call Up Item: Floodplain Development Permit (LUR2016-00001); 3107 Iris Avenue. This decision may be called up before Planning Board on or before September 22, 2016.

C. Call Up Item: Wetland Permit (LUR2016-00054); Mesa Trail Flood Repairs. This decision may be called up before Planning Board on or before September 15, 2016.

D. Call Up Item: Wetland Permit (LUR2016-00055); Boulder Falls Flood Repairs. This decision may be called up before Planning Board on or before September 27, 2016.

C. Gray called up the Boulder Civic Area, Floodplain Development Permit (LUR2016-00035) and Wetland Permit (LUR2016-00034). The remaining items were not called up.

5. DISCUSSION ITEMS

A. AGENDA TITLE: Boulder Valley Comprehensive Plan (BVCP) - Continued Discussion on Scenarios and Housing Prototypes, Land Use Definitions, and Key Policy Choices and Review of Draft CU South Site Suitability analysis.

Staff Presentation:
S. Richstone introduced the item.
L. Ellis and **J. Gatza** presented the item to the board.

Board Questions:
L. Ellis answered questions from the board.

Board Comments:
<u>Discussion Topics</u>

1. **Policy Integration: Next Steps**
   - **L. Ellis** answered questions from the board and informed them that because of the high level of interest and suggestions, Planning Board can have further discussions of policy integration for upcoming drafts in October 2016 and staff will then prepare a final draft for review at later dates.

2. **BVCP Survey Topics**
   - **J. Putnam** agreed that staff's proposed topics to cover the right categories. He stated that the direction and background given will be as important as the category themselves to obtain the best informed feedback.
   - **J. Gerstle** suggested, regarding the balance issues, to make sure respondents understand there are tradeoffs involved.
   - **L. Payton** suggested a question regarding "community benefit". Also she said to consider a question regarding CU and CU housing. Finally, a question asking if the community finds it important to retain primary employers or be a start-up community.
   - **L. May** would like to see if there are shifts in respondents' positions from the first survey (i.e. address the same issue in a different way). Terminology should be familiar. Regarding housing types, he suggested merging that question with the land use mix character type question as people may respond more to scale or character rather than housing type.
   - **J. Putnam** disagreed with **L. May**. Housing availability is not driven by mass and scale, but also by type.
   - **L. May** asked staff if both issues could be addressed together.
   - **B. Bowen** suggested asking what would make a neighborhood better for you under character within the survey.

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- **L. Payton** stated that traffic and parking are big issues. She suggested finding out if people are willing to trade off some of those to get other things.
- **C. Gray** agreed with **B. Bowen** regarding asking what would make your neighborhood better and making it open-ended. Some subcommunities are too large, therefore we should find out where people live on a smaller scale and coordinate the neighborhood planning to smaller areas. She suggested asking people to give their definition of community benefit.
- **L. May** suggested expanding "Equity" beyond housing to apply to businesses as well.
- Staff informed the board that they would have a chance to review the final questions before the survey is mailed.

3. Policy Choices, Scenarios & Analysis, and Land Use Designations

- **L. May** stated that when he proposed Option D, he had in mind a land use rebalancing of jobs vs. housing. If a growth management plan were implemented, but land use was still pushing an imbalance, the problem would not be addressed. Option D should not be confined to just growth management, but also need to look at land use.
- **J. Putnam** agreed. Need to find policy levers to constrain job growth and then look and compare to other scenarios. We need options to highlight the range of policy options for good policy direction.
- **L. May** stated that if Options B or C were to be considered, they may fit under the umbrella of Option D.
- **L. Payton** stated that in addition to the land use scenario that may change the available land for commercial or industrial and/or Option D, also have a system in place for exemptions as another tool. Her biggest concern is the displacement possibility.
- **B. Bowen** agreed. As the board looks at the balance of jobs vs. housing vs. growth, different neighborhoods will vary. The proposed diagrams of what uses fit into neighborhoods are useful. Boulder needs a building typology for a mixed-use, light industrial business in order to keep those types of businesses in town.
- **J. Putnam** concerned that those type of businesses would get pushed out by by-right development or redevelopment. Tools should there be to capture some affordable businesses. They may not be protected but we need to find a way to protect them.
- **C. Gray** agreed. She suggested putting "Local Small Businesses" under Core Values. Need to keep the same language throughout the BVCP for consistency (Policy vs. Scenario).
- **B. Bowen** stated that it is not appropriate to think we are going to adopt just one scenario. The board is attempting to model three different scenarios for exploratory purposes and then come to a solution. It's worth looking at pulling back commercial to concentrate on housing. The final solution will be a mix of the scenarios.
- **L. Payton** agreed.
- **J. Putnam** agreed the BVCP is heading in right direction. There are three policy thrusts. The first policy is the degree of jobs and housing growth in the future. Second is the range of tools involved. The third is where we want it to happen.

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- All board members agreed that staff could use the comments submitted by each member for the BVCP Template to start drafting polices for the upcoming October meetings.
- **J. Gerstle** suggested that comments submitted by **H. Rogin**, **K. Hollweg** and **R. Bridge** to be considered. The board agreed but details will need to be reviewed.
- **L. Payton** began a neighborhood plan discussion which was not submitted in her BVCP Template notes. Inspired by Britain's neighborhood plans, she proposed that defined neighborhoods be given "targets" for affordable housing and a stipend with staff support. Each neighborhood would work on their own plan for where the affordable housing would go, vote on it, and then it could become a regulatory document. Targets could be other things besides affordable housing.
- **B. Bowen** agreed. Neighborhoods could satisfy community goals.
- **L. May** stated it would put the Comp Plan in local hands and start people thinking about individual goals.
- **L. Payton** added there would be incentive to compromise and work together.
- **J. Putnam** suggested starting this on a pilot basis. Start the pilot in areas of change (e.g. Martin Acres, Uni-Hill).
- **B. Bowen** suggested the hospital site (BCH). This could not be staff nor community time intensive.
- **L. May** agreed with the notion of a pilot in an area that is currently under pressure and solutions could evolve out of the pilot. He suggested the areas of Martin Acres, Uni-Hill or BCH.
- **C. Gray, J. Gerstle and B. Bowen** endorsed **L. Payton's** idea.
- **J. Putnam** suggested other key policy issues for discussion. He stated that a policy addressing *Uber*, *Lift*, and self-driving cars is missing from the Comp Plan. This should be addressed as it will make an impact and change to parking requirements, curb-front requirements and traffic impacts. In regards to community benefit, it would be helpful to structure how to think about decisions, perhaps by looking at what sort of decisions should trigger community benefit, what are those benefits, and could they vary per decision. He suggested a tool to help govern that. He recommended getting feedback from the public in October.
- **L. May** suggested forming a subcommittee to work on this.
- **J. Putnam** stated that it should be done now rather than waiting for the survey results to come back.
- **J. Putnam** and **L. May** volunteered for the subcommittee to set up a matrix to organize a conversation surrounding community benefit but not to make decisions as to the policy.
- The board agreed that the main discussion would take place during a meeting but that **J. Putnam** and **L. May** would meet to form the discussion materials.
- **J. Putnam** added that it would be beneficial to have language regarding the preservation of affordable business space. Should be a strong policy statement that we want to protect or preserve these types of businesses so it can be applied during site reviews and looking at consistency with the BVCP.
- **L. May** emphasized a focus on a policy stating development cannot result on a net loss of population and affordable housing.

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4. **CU South Preview**
   - **L. Ellis** presented the item to the board at a high level and let the board know about the public open house on September 26, 2016 and that the board will have further discussion in October 2016.

   Board Questions:
   - **L. Ellis** and **H. Pannewig** answered questions from the board.

   Board Comments:
   - **J. Putnam** stated that the recent report disseminated by staff will be beneficial for the public and the board to review, then come back with feedback from the upcoming open house for discussion.
   - The board agreed and will continue its review.

5. **Trails Map**
   Board Questions:
   - **L. Ellis** and **J. Gatza** answered questions from the board.

6. DEBRIEF MEETING/CALENDAR CHECK

7. ADJOURNMENT

The Planning Board adjourned the meeting at 9:49 p.m.

APPROVED BY

_____
Board Chair

_____
DATE

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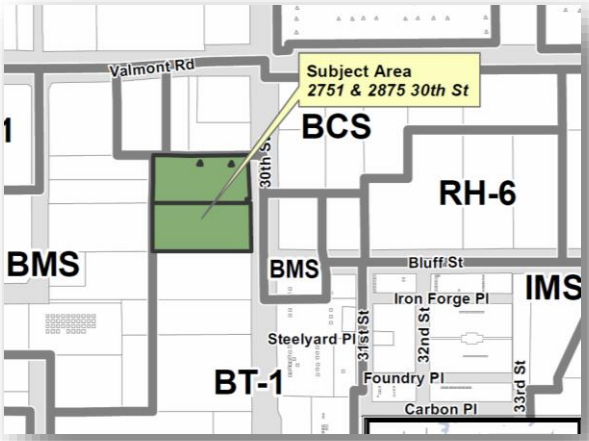
MEMORANDUM

TO: Planning Board
FROM: Elaine McLaughlin, Case Manager
DATE: September 27, 2016
SUBJECT: **Call Up Item:** Site Review: Redevelopment of a vacant lot, formerly occupied by a Recreational Vehicle (RV) dealership and repair facility located at 2751 30th Street. Proposed are 32 townhomes and four small corner retail spaces with below grade parking, a central open space area and a parking reduction of 25 percent or 60 spaces where 80 spaces are standard.
ADDRESS: 2751 30th Street
PROJECT NAME: Boulder Junction Rowhomes
CASE NUMBER: LUR2016-00008

Background



The 1.85-acre project site is located on the west side of 30th Street, just south of the intersection of 30th and Valmont Rd. The site is comprised of two parcels, one of which is currently undeveloped and the other of which currently contains an RV repair store. Surrounding uses include the mixed residential and live-work Steelyards development across 30th St. to the southeast as well as a variety of service industrial and retail uses along the 30th Street corridor running north and south of the project site. The site is located within the area identified as Phase 2 of the adopted Transit Village Area Plan (TVAP). TVAP Phase 2 includes the areas east of the railroad tracks and west of 30th Street, wherein regulatory changes necessary to implement the vision of TVAP, including land use map and zoning changes, are anticipated to occur after substantial redevelopment of the areas in Phase 1 is complete. The application was reviewed as a Concept Plan by the Planning Board on October 15, 2015. The project plans responded to Concept Plan comments by providing retail spaces on the ground floor along 30th Street on the north and south ends of both buildings; response to access and site layout issues to better respond to future TVAP connections; as well as provision of greater permeability through the site. In addition, working with the Design Advisory Board and staff through the process, the building fenestration patterns and material choices improved.

Proposed Project

The applicant is proposing 32 three-story brick townhomes and a central open space area over a podium parking structure with both passive and active recreational amenities. Also proposed are four small retail spaces on the ends of the buildings located along 30th Street. A total of 12 units will face 30th Street in two separate buildings (example shown on following page), and a total of 12 units will face west and an alley on the west side of the property. The applicant is proposing rooftop photovoltaic panels to address the city's energy efficiency standards. The applicant is also proposing a 25 percent parking reduction: 60 spaces are proposed where 80 are standard. The parking reduction is discussed in more detail below. The proposed bedroom count per unit and parking requirements are summarized as follows:

parking required / provided

count	unit	spaces	required	unit location(s)
16	3 bed-rm	2	32	29½ Street
12	4 bed-rm	3	36	30th Street
4	2 bed-rm	1.5	6	above commercial
2	comm	2	4	north and south ends
2	comm	1	2	either side - Paseo
			80	spaces required
after 25% reduction			60	spaces required
			60	provided

Analysis

The application was found to meet the Site Review Criteria along with the requirements of the Business Transition – 1 (BT-1) zoning for form, bulk and setbacks. Townhomes are considered a by-right use within the BT-1 zoning which is defined in section 9-5-2 of the Land Use Code as follows:

> *Transitional business areas which generally buffer a residential area from a major street and are primarily used for commercial and complementary residential uses, including without limitation, temporary lodging and office uses.*

Because the site is located within the area designated as Phase II of the Transit Village Area Plan (TVAP), the future zoning for the project site (under the TVAP land use designation of MU1) is Business Main Street (BMS), defined per section 9-5-2(c)(2)(F), B.R.C. 1981 as:

> *"Business areas generally anchored around a main street that are intended to serve the surrounding residential neighborhoods. It is anticipated that development will occur in a pedestrian-oriented pattern, with buildings built up to the street; retail uses on the first floor; residential and office uses above the first floor; and where complementary uses may be allowed."*

The provision of 32 townhomes constructed of brick with stone lintels in an urban configuration along 30th Street near services and transit meets a number of Site Review criteria including section 9-2-14(h)(2)(F)

> *"(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."*

In particular, the provision of townhomes that include three- and four-bedrooms will provide an important residential option particularly appealing to families. In addition, the enclosed open space central to the site has both active and passive recreational amenities that can serve as a neighborhood gathering space. The provision of small retail spaces will help to establish a vertical mix of uses for the buildings along 30th Street that is in keeping with the anticipated MU1 land use of Boulder Junction and are of sufficient size given the significant amount of retail within a ¼ mile radius of the site.

The parking reduction of 25 percent is considered consistent with the Site Review criteria in that the property uniquely located near a number of services and amenities including retail, restaurants, access to the Goose Creek Multi-Use Path, and the RTD station at Depot Square. There's also a significant number of bus stops in the immediate area as shown on the bus map:

Alternatives to the automobile are being promoted through a Transportation Demand Management Plan that includes: installation of bike racks, covered bike storage, Eco-Passes for a period of three years; unbundled parking: parking spaces will not be designated to specific units during business hours. This will aid in parking congestions as residents who do not have a vehicle will not have a parking space sitting unoccupied and residents with the need for additional parking spaces can obtain them. This will also aid in the use of parking spaces for commercial units in the daytime as parking spaces will be reserved for after hour use. The applicant is illustrating 27 EV charging stations or roughly half of the number of vehicle spaces devoted to the option of Electric Vehicle charging station. This, combined with the rooftop photovoltaic panels will help to meet the city's rigorous energy efficiency standards along with the Site Review criteria for on-site renewable energy generation and management.

Public Comment. Required public notice was given in the form of written notification mailed to all property owners within 600 feet of the subject property and a sign posted on the property for at least 10 days. All notice requirements of section 9-4-3, "*Public Notice Requirements*," B.R.C. 1981 have been met. No comments were received on this application.

Conclusion. The proposal was *approved* by staff on September 27, 2016 and the decision may be called up before Planning Board on or before ***October 11, 2016*** and there is one Planning Board hearing scheduled during the required 14 day call-up period on ***October 6, 2016.*** Questions about the project or decision should be directed to the Case Manager, Elaine McLaughlin at (303) 441-4130 or at the following email address:mclaughline@bouldercolorado.gov.

Attachments

A. Signed Disposition
B. Site Review
C. Project Plans/Written Statement

CITY OF BOULDER
Planning and Development Services

1739 Broadway, Third Floor • P.O. Box 791, Boulder, CO 80306-0791
phone 303-441-1880 • fax 303-441-3241 • email plandevelop@bouldercolorado.gov
www.boulderplandevelop.net

CITY OF BOULDER PLANNING DEPARTMENT
NOTICE OF DISPOSITION

You are hereby advised that the following action was taken by the Planning Department based on the standards and criteria of the Land Use Regulations as set forth in Chapter 9-2, B.R.C. 1981, as applied to the proposed development.

DECISION:	**APPROVED WITH CONDITIONS**
PROJECT NAME:	**BOULDER JUNCTION ROWHOUSES**
DESCRIPTION:	**SITE REVIEW for 32 townhomes and four retail/commercial spaces with interior open space and below grade parking.**
LOCATION:	**2751 30TH ST**
COOR:	**N04W04**
LEGAL DESCRIPTION:	**Refer to Exhibit A attached**
APPLICANT:	**Jason Lewiston**
OWNER:	**Boulder Junction Rowhomes LLC**
APPLICATION:	**Site Review, LUR2016-00008**
ZONING:	**BT-1**
CASE MANAGER:	**Elaine McLaughlin**
VESTED PROPERTY RIGHT:	**NO; the owner has waived the opportunity to create such right under Section 9-2-19, B.R.C. 1981.**

APPROVED MODIFICATIONS FROM THE LAND USE REGULATIONS:
Section 9-9-6, "Parking Standards," B.R.C. 1981: 25 percent parking reduction to provide 60 spaces provided where 80 are standard.

FOR CONDITIONS OF APPROVAL, SEE THE FOLLOWING PAGES OF THIS DISPOSITION.

Approved On: 9/27/16
Date

By:
David Driskell, Executive Director of Community Planning and Sustainability

This decision may be appealed to the Planning Board by filing an appeal letter with the Planning Department within two weeks of the decision date. If no such appeal is filed, the decision shall be deemed final fourteen days after the date above mentioned.

Appeal to Planning Board expires: 10/11/16
Final Approval Date: 10/12/16

Address: 2751 30TH ST

IN ORDER FOR A BUILDING PERMIT APPLICATION TO BE PROCESSED FOR THIS PROJECT, A SIGNED DEVELOPMENT AGREEMENT AND FINAL PLANS FOR CITY SIGNATURE MUST BE SUBMITTED TO THE PLANNING DEPARTMENT WITH DISPOSITION CONDITIONS AS APPROVED SHOWN ON THE FINAL PLANS, IF THE DEVELOPMENT AGREEMENT IS NOT SIGNED WITHIN NINETY (90) DAYS OF THE FINAL DECISION DATE, THE PLANNING DEPARTMENT APPROVAL AUTOMATICALLY EXPIRES.

Pursuant to Section 9-2-12 of the Land Use Regulations (Boulder Revised Code, 1981), the applicant must begin and substantially complete the approved development within three years from the date of final approval. Failure to "substantially complete" (as defined in Section 9-2-12) the development within three years shall cause this development approval to expire.

CONDITIONS OF APPROVAL

1. The Applicant shall be responsible for ensuring that the **development shall be in compliance with all approved plans prepared by the Applicant on August 30, 2016** and the Transportation Demand Management (TDM) Plan dated July 13, 2016 on file in the City of Boulder Planning Department except to the extent that the development may be modified by these conditions of approval.

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

    a. **Final architectural and site plans,** which include detailed floor plans and section drawings including material samples and colors, to insure compliance with the intent of this approval and compatibility with the surrounding area. The final plans shall illustrate the building to be prewired for future photovoltaic systems, from the roof-top to the primary electrical panel for the building. The architectural intent shown on the approved plans prepared by the Applicant on August 30, 2016 is acceptable. Planning staff will review the plans to ensure that the architectural intent is performed.

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

    c. **A final storm water report and plan** meeting the City of Boulder Design and Construction Standards.

    d. **Final transportation plans** meeting the City of Boulder Design and Construction Standards and the CDOT State Highway Access Code Standards for all transportation improvements. These plans must include, but are not limited to: plan and profile drawings for the north/south alley; plan and profile drawings for 30th Street where the cross-section of the road is to be widened; profile drawings for the flow-line of the curb-and-gutter to be constructed or re-constructed along 30th Street and extending twenty-five feet beyond the existing curb-and-gutter to ensure positive drainage; plan and profile drawings for the 30th Street sidewalk, cross-sections at twenty-five foot intervals or where required by staff for 30th Street and the new alley; typical sections for the streets and alley; signage and striping plans in conformance with Manual on Uniform Traffic Control Devices (MUTCD) standards, street lighting, driveway ramp and transportation detail drawings, geotechnical soils report and pavement analysis.

    e. **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 the City right of way must also receive prior approval of the City Forester.

f. **A detailed outdoor lighting plan** showing location, size and intensity of illumination units, indicating compliance with section 9-9-16, B.R.C. 1981.

3. Prior to a building permit application, the Applicant shall submit an application for and receive approval of a **Preliminary Plat** and submit a Technical Document Review application and receive approval for a **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 and which provides, without limitation and at no cost to the City, for the following, unless otherwise approved by the City Manager:

    a. The dedication, to the City, of all right-of-way and easements necessary to serve the development.

    b. The construction of all public improvements necessary to serve the development, including but not limited to: the new alley running north/south; the widening of 30th Street to accommodate a northbound left-turn lane; five-foot wide bike lane, two-foot wide curb-and-gutter; landscape strip and detached sidewalk; relocation of existing street lighting; stormwater detention facilities; and water and sanitary sewer mains.

    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.

4. Prior to a building permit application and as part of a Technical Document Review application, the Applicant shall ensure that the owner of the property known as 2691 30th Street dedicates to the City, at no cost, **a 20-foot wide temporary emergency access easement** which will connect to 30th Street to be generally located along the westerly and southerly property lines of the 2691 30th Street property, meeting City of Boulder Design and Construction standards, the form and final location of which shall be subject to the approval of the City Manager. This temporary emergency access easement shall extinguish once another code-compliant emergency access easement is provided subject to City Manager approval.

5. Prior to issuance of a building permit, 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 and employees of the development for three years after the issuance of a certificate of occupancy for each dwelling unit and commercial / retail unit as proposed in the Applicant's TDM Plan.

Exhibit A: Legal Description

LEGAL DESCRIPTION

A PART OF THE NW 1/4 OF SECTION 29, TOWNSHIP 1 NORTH, RANGE 70 WEST OF THE 6TH P.M., DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT 417.06 FEET SOUTH AND 20 FEET WEST OF THE NORTH QUARTER CORNER OF SAID SECTION; THENCE WEST 309.55 FEET; THENCE SOUTH 140.72 FEET; THENCE EAST 309.535 FEET; THENCE NORTH 140.72 FE TO THE POINT OF BEGINNING, COUNTY OF BOULDER, STATE OF COLORADO,

LESS AND EXCEPT ANY PORTION OF THE SUBJECT PROPERTY LYING WITHIN THE 30TH STREET RIGHT OF WAY.

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.

The site is located within the service area of the city and is being proposed consistent with the BVCP land use map designation: Mixed Use Industrial. On page 67 of the Comprehensive Plan, the Mixed Use Industrial land use is defined as follows:

> *"Mixed Use-Industrial development may be deemed appropriate and will be encouraged in some industrial areas where industrial character will predominate. Housing compatible with and appropriate to the industrial character will be encouraged and may be required. Neighborhood retail and service uses may be allowed. Specific zoning and other regulations will be adopted which define the desired intensity, mix, location and design characteristics of these uses."*

While the site is located within Phase II of the area guided by the Transit Village Area Plan, the phased approach to implementation of TVAP requires the city's funding of key public improvements and the regulatory aspects of the plan involving land use and zoning changes, TDM and transportation connections. Because of this, a BVCP Land Use Map change and Rezoning of the project site to Business Main Street (per phase II of TVAP) would not be warranted at this time. The criteria for city initiation of Phase 2 land use and zoning changes are the following:

- Substantial redevelopment of Phase 1;
- Plan in place for providing public improvements to Phase 2; and
- Market support for Phase 2 land uses

The policies of the BVCP also encourage a compact form of development and promote higher density development along existing and future multi-modal corridors, in compatible surroundings. Policies within the BVCP also aim to mitigate the increasingly significant in-commuting trend due to the current jobs-to-housing imbalance by requiring development projects to provide affordable housing. The development pattern established by the relationship of the transit facility to the proposed (and future) residential, in concert with the mix of uses that include retail and nearby office industrial directly fulfills a number of the BVCP policies including:

2.16 Mixed Use and Higher Density Development
2.17 Variety of Activity Centers
2.21 Commitment to a Walkable and Accessible Community
2.23 Trail Corridors/Linkages
2.30 Sensitive Infill and Redevelopment
2.31 Design of Newly-Developing Areas
2.32 Physical Design for People
2.33 Environmentally Sensitive Urban Design
2.34 Importance of Street Trees and Streetscapes
2.37 Enhanced Design for Private Sector Projects

The following are responses specific to several key policies:

2.16 Mixed Use and Higher Density Development
The city will encourage well-designed mixed use and higher density development that incorporates a substantial amount of affordable housing in appropriate locations, including in some commercial centers and industrial areas and in proximity to multimodal corridors and transit centers.

The provision of townhomes, considered higher density residential, mixed with some commercial space is a unique unit type in the context. The townhomes would likely be appealing to families and are within proximity to the BRT station at Depot Square. The Inclusionary Housing requirement for the site is being met through cash-in-lieu. While there will not be "a substantial amount of affordable housing" on the site, the application meets the IH requirement and the contribution will allow for affordable housing to be built.

2.31 Design of Newly-Developing Areas
The city will encourage a neighborhood concept for new development that includes a variety of residential densities, housing types, sizes and prices, opportunities for shopping, nearby support services and conveniently sited public facilities, including roads and pedestrian connections, parks, libraries and schools.

The proposed project offers a unique unit type within the context: a townhome that would be appealing to families and in a location where there is an opportunity for shopping and other services. The site is located 600 feet from both the Goose Creek Multi-Use Path as well as the Mapleton Ballfields and the YMCA.

2.37 Enhanced Design for Private Sector Projects
Through its policies and projects, 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:

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.

The proposed townhomes are planned to address the street in an urban configuration in keeping with the existing Steelyards development across 30th Street. The well designed buildings along 30th Street will provide pedestrian interest through the use of well-defined entries; durable, attractive materials including brick and stone; and through the "punctuation marks" of commercial spaces at the corners of the buildings along 30th Street.

__√__(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:

The BVCP does not specify density requirements for the Mixed Use Industrial land use designations and therefore this part of the criterion doesn't apply to that area.

The existing residential development within 300 feet of the site includes the residential units at Steelyards which has densities that meet the density permitted in the BVCP.

__n/a__(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 9-8, "Intensity Standards," B.R.C. 1981.

The land use designation on the site is consistent with the intensity standards of the equivalent zoning district BT-1 zoning district. The application is well within the maximum density permitted in the BT-1 zoning of 1,200 square feet of open space per dwelling unit (in this case: 38,400 square feet of open space is required for 32 units and there is 43,670 square feet of open space provided on the plans).

__√__(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 proposed project incorporates high quality and durable building materials on attractive buildings along with well designed open space areas. The development would not be rendered infeasible in meeting the BVCP polices or the Site Review criteria.

(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:

__√__(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 project plans illustrates both individual balcony spaces as well as a central courtyard space that includes opportunities for both passive and active recreation.

n/a (ii) Private open space is provided for each detached residential unit;

There are no detached residential units planned on the site.

n/a (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;

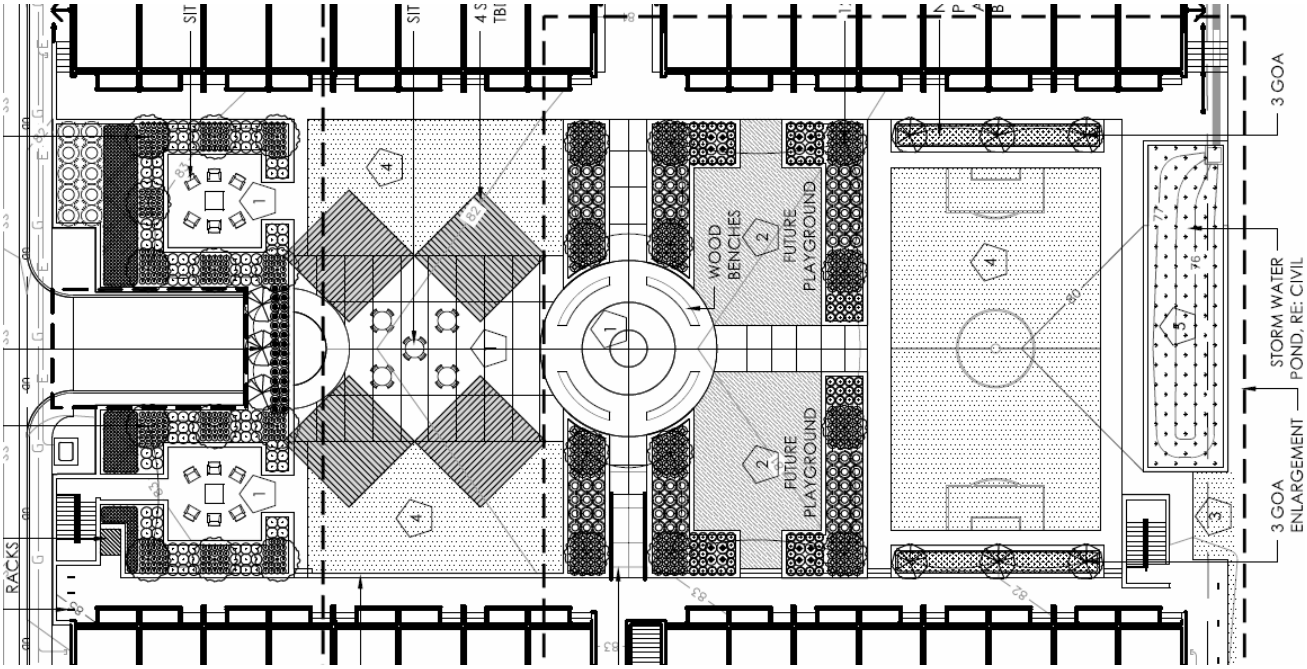
There are no known special status plant or animal species on the project site.

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

The interior courtyard space provides a relief to density in a communal gathering area.

√ (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;

Configured with an internal courtyard space with units opening to the space, the active recreational areas shown on the landscape plan will provide a useable, and functional space that would be attractive to families.



n/a (vi) The open space provides a buffer to protect sensitive environmental features and natural areas;

There are no sensitive environmental features or natural areas on the site or adjacent to the site.

√ (vii) If possible, open space is linked to an area- or city-wide system.

The planned detached walkway will link to the existing urbanized street system, and the walkway links to the nearby Goose Creek Multi-Use Path (600 feet to the south).

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

√ (i) The open space provides for a balance of private and shared areas for the residential uses and common open space that is available for use by both the residential and non-residential uses that will meet the needs of the anticipated residents, occupants, tenants, and visitors of the property;

The internal courtyard space creates a common gathering space for the residential units; there are also private 3rd story balcony spaces proposed for each townhome. There are small patio spaces planned to serve the non-residential spaces proposed.

√ (ii) The open space provides active areas and passive areas that will meet the needs of the anticipated residents, occupants, tenants, and visitors of the property and are compatible with the surrounding area or an adopted plan for the area.

There's variety in the open space area (courtyard space with play areas) that offers both passive and active recreational amenities. The active recreation includes a ballfield and a playground; along with passive amenities such as outdoor seating and tables with shade structure. There is an adopted plan for the area: TVAP but it is not in effect for the site which falls under Phase II of TVAP.

(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 plan illustrates both hard surface courtyard spaces along with a variety of planting areas. The plant schedule indicates mixes of perennials, ornamental grasses, shrubs and vines; along with a variety of trees both understory/ornamental trees and larger canopy and evergreen trees.

√ (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;

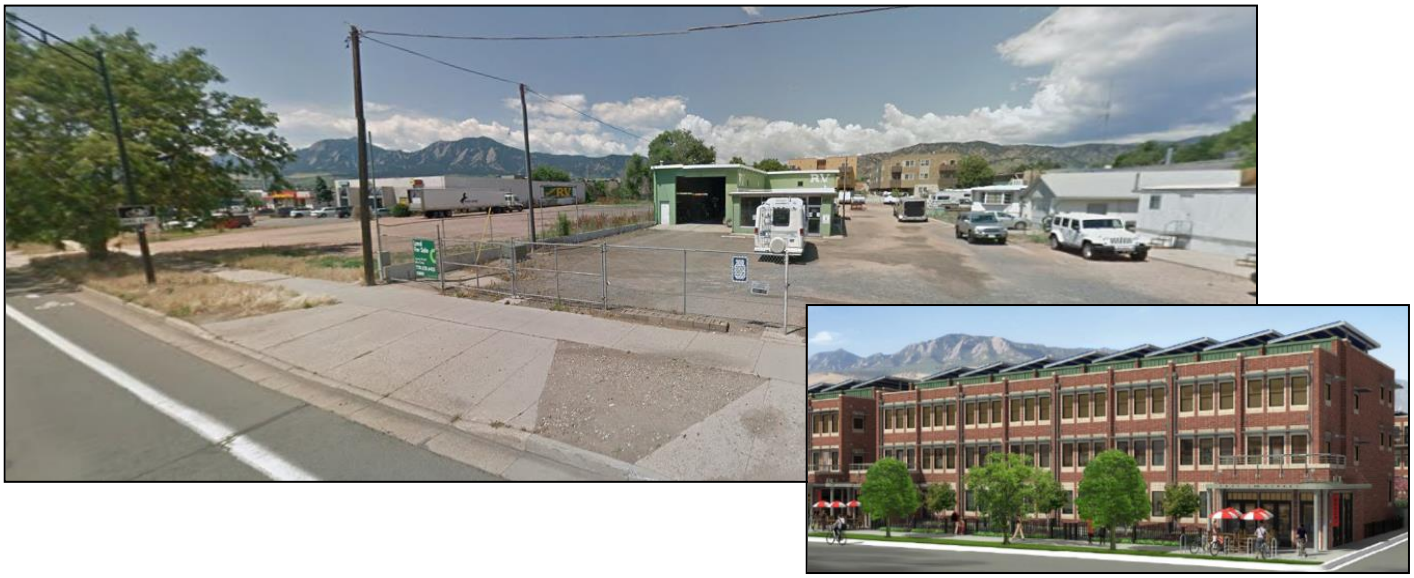
There are no known special status species within the project site.

__√__(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;

There are 42 trees required per the land use code and there are 64 trees provided; and there are 237 shrubs where 140 are required.

__√__(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 public rights of way along both 30th Street and the west alley are planned to be well landscaped and will contribute to an attractive streetscape, particularly along 30th Street where today there are few plant materials. Shown below is the existing site and a rendering of the proposed buildings inset in approximately the same location.



(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;

The site is designed to have a single access off of 30th Street per the Design and Construction Standards; and vehicles have specific well-defined access into the below grade parking and the alley. In addition, the applicant is illustrating the alley that is identified in the TVAP connections plan, although the site is not yet subject to TVAP, the connection will be put in place.

__√__(ii) Potential conflicts with vehicles are minimized;

There is limited vehicular access within the site, primarily it is intended to access the below grade parking or the alley that is anticipated to connect with other properties in the future.

__√__(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;

Along with the proposed detached walkway, there is a connection to a proposed alley on the north side of the site that will ultimately connect to other properties in the future. The site is located 600 feet north of the Goose Creek Multi-use Path that has regional connectivity to other paths within the city, both to the east and west.

__√__(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 applicant is proposing a moderate (25 percent) parking reduction given the close proximity to the RTD BRT station at Depot Square and the immediate access to a number of bus lines and bus stops as shown in the RTD map to the right. The applicant will be required to provide EcoPasses for a period of three years to occupants. In addition, the applicant is proposing 62 short term bike parking spaces and 56 long term bike storage spaces within the garage.

__√__(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;

Refer to response to (iv) above.

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

An existing bus stop is located approximately 100 feet to the north and the proposed detached walkway will provide direct access to the bus stop. As shown to the right, the site is located along or very close to a number of bus lines including the Bound, the Hop, the 206 and the 208 and is located approximately ¼ mile from the regional RTD bus rapid transit (BRT) facility.

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

See response to (i) above.

__√__(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.

See response to (i) above.

(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 below grade parking structure is designed consistent with the city's Design and Construction Standards to provide safety and convenience for pedestrians. The parking structure is below grade and therefore the following criteria: (E)(ii)(iii) and (iv) are not applicable.

(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;

This criteria is met due to the parking that is proposed below grade.

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

This criteria is met due to the parking that is proposed below grade.

(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 9-9-14, "Parking Lot Landscaping Standards," B.R.C. 1981.

This criteria is met due to the parking that is proposed below grade.

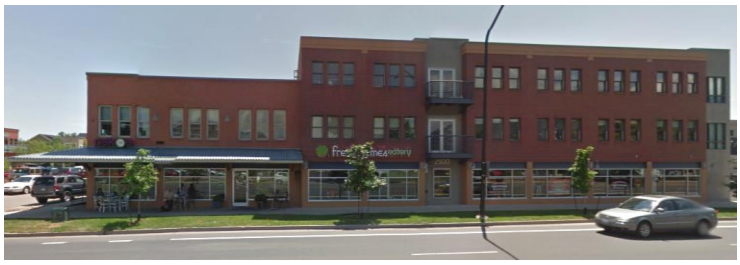
(F) ***Building Design, Livability, and Relationship to the Existing or Proposed Surrounding Area***

__√__(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;

The buildings do not exceed the 35 foot height limit and with three stories planned, they are consistent with the immediate context of Steelyards across 30th Street as shown below. The building-forward design is consistent both with the configuration of buildings in Steelyards along 30th Street they are proposed to be in keeping with the configuration anticipated in TVAP, although the application is not required to be consistent with the area plan as it is located within Phase 2 of the plan.

√ (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;

As noted above, the three story and 35-foot heights proposed are consistent with the two and three story heights within Steelyards as well as the Goose Creek condominiums located to the south; and the recently constructed permanently affordable apartments (the Ledges) located on 29th Street to the west of the site. There are some existing single story buildings nearby within the service commercial areas nearby that include service stations and warehouses. However, the residential buildings in close proximity are primarily two and three stories.



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

The densities anticipated for this area are urban and within Solar Access Area III where, per land use code section 9-9-17(c)(3), B.R.C.1981: "*because of planned densities, topography or lot configurations or orientations, uniform solar access protection for the south yards and walls or for rooftops may unduly restrict permissible development*." Today, the site is developed as a surface parking lot with a single story building set far back from 30th Street. With an urban configuration planned for the project, the existing broad views of the Flatirons across the parking lot will not be seen along 30th Street. This would be true if the building were two stories as well. Like most of the urbanized areas of Boulder, the views toward the Flatirons in particular are ephemeral, that is, as one moves along a street or walkway views toward the Flatirons open back up and become visible, then are obscured by a building. That condition is true whether a building is single story or five stories when one is walking, biking or driving adjacent to a building that is in the foreground of a mountain or Flatirons view.

__√__(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 Steelyards established the most recent character of the area, with use of red and blond brick and with fenestration that is traditional in scale and proportion. The project is proposed with brick and traditional scale and proportion and would be compatible in this context.

__√__(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;

The buildings are designed to a human scale with well-defined fenestration and patterning. The corners of the buildings along 30th Street are punctuated by commercial spaces that also provide pedestrian interest as one moves through the space adjacent to the building. The buildings are located close to the 30th Street right of way and there are building elements, design details and landscaping designed to enhance pedestrian interest.

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

The public realm in this relatively small site is realized in the improvements to the public right of way on 30th Street. The applicant is proposing a new streetscape that will include a detached walkway and street trees where today little landscaping exists.

__√__(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;

The proposed project will provide 32 townhomes in an area where there are few such units that would likely be attractive to families. Recent buildout and approvals in the area include a number of one and two bedroom stacked flat apartments, the townhomes will provide a unique housing option and add variety to the existing residential context.

__√__(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 applicant has placed the recycling and trash service areas within the below grade parking structure which will help to screen noise. Similarly, commercial spaces that could generate noise are placed on the corners of the buildings along the 30th Street where there is an existing noise environment.

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

A lighting plan will be evaluated at technical document review for consistency with the city's dark skies ordinance.

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

There are no natural systems on the project site that today is a broad parking lot for RVs.

__√__(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.

The project plans illustrate rooftop photovoltaic panels for each unit. Similarly, the applicant is proposing 27 electric vehicle charging stations within the parking garage. Heat island effect is minimized by moving parking to below grade and placing a park like space above the parking structure. The existing heat island effect from the broad parking lot will be eliminated with the proposed project.

__√__(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 applicant has designed four sides of the buildings with brick, stone and limited metal panels. This will help to establish a sense of permanence.

__√__(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 existing surface parking lot will be removed and a single story parking structure will be excavated into the site to establish below grade parking. The townhomes will also have basements for which site excavation will be required.

__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 site is consistent with the terms of Solar Access Area III defined in the land use code section 9-9-17, B.R.C. 1981 as follows,

> *"includes areas where, because of planned densities, topography or lot configurations or orientations, uniform solar access protection for south yards and walls or for rooftops may unduly restrict permissible development."*

__√__**(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 buildings have been configured to align 30th Street (a north-west arterial) with a center courtyard. This will permit light, air and solar access into the site. The roof tops are aligned with PV panels.

__√__**(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 form is intended to balance the utilization of solar energy, ensuring solar access into the communal courtyard space along with adherence to principles of good urban design where buildings align and address 30th Street and the future alley.

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

The proposed planting of 64 deciduous trees throughout the site will provide shade during hot summer months and allow solar access when branches are denuded of leaves during the winter months. Within the site, the landscaping has been designed to balance both sun and shade within the open spaces, along the streets, and within the setbacks. Soil volumes proposed for trees exceeds recommended volumes for example for a 10-foot canopy tree, the recommended volume is 157 cubic feet where 180 to 191 cubic feet of soil volume is proposed. Similarly, for a 12-foot canopy tree the recommended soil volume is 226 cubic feet where 308- to 514 cubic feet of soil volume is proposed.

The following criteria is not applicable to the proposed project.

___(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:**

___(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

___(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.

___(l) *Land Use Intensity Modifications:*

___(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.

___(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:

(a) *Open Space Needs Met:* The needs of the project's occupants and visitors for high quality and functional useable open space can be met adequately;

(b) *Character of Project and Area:* The open space reduction does not adversely affect the character of the development or the character of the surrounding area; and

(c) *Open Space and Lot Area Reductions:* The specific percentage reduction in open space or lot area requested by the applicant is justified by any one or combination of the following site design features not to exceed the maximum reduction set forth above:

(i) Close proximity to a public mall or park for which the development is specially assessed or to which the project contributes funding of capital improvements beyond that required by the parks and recreation component of the development excise tax set forth in chapter 3-8, "Development Excise Tax," B.R.C. 1981: maximum one hundred percent reduction in all Downtown (DT) districts and ten percent in the BR-1 district;

(ii) Architectural treatment that results in reducing the apparent bulk and mass of the structure or structures and site planning which increases the openness of the site: maximum five percent reduction;

(iii) A common park, recreation, or playground area functionally useable and accessible by the development's occupants for active recreational purposes and sized for the number of inhabitants of the development, maximum five percent reduction; or developed facilities within the project designed to meet the active recreational needs of the occupants: maximum five percent reduction;

(iv) Permanent dedication of the development to use by a unique residential population whose needs for conventional open space are reduced: maximum five percent reduction;

(v) The reduction in open space is part of a development with a mix of residential and non-residential uses within an BR-2 zoning district that, due to the ratio of residential to non-residential uses and because of the size, type, and mix of dwelling units, the need for open space is reduced: maximum reduction fifteen percent; and

(vi) The reduction in open space is part of a development with a mix of residential and non-residential uses within an BR-2 zoning district that provides high quality urban design elements that will meet the needs of anticipated residents, occupants, tenants, and visitors of the property or will accommodate public gatherings, important activities, or events in the life of the community and its people, that may include, without limitation, recreational or cultural amenities, intimate spaces that foster social interaction, street furniture, landscaping, and hard surface treatments for the open space: maximum reduction 25 percent.

___(J) *Additional Criteria for Floor Area Ratio Increase for Buildings in the BR-1 District:*

___(i) *Process:* For buildings in the BR-1 district, the floor area ratio ("FAR") permitted under table 8-2, section 9-8-2, "Floor Area Ratio Requirements," B.R.C. 1981, may be increased by the city manager under the criteria set forth in this subparagraph.

___(ii) *Maximum FAR Increase:* The maximum FAR increase allowed for buildings thirty-five feet and over in height in the BR-1 district shall be from 2:1 to 4:1.

___(iii) *Criteria for the BR-1 District:* The FAR may be increased in the BR-1 district to the extent allowed in subparagraph (h)(2)(J)(ii) of this section if the approving agency finds that the following criteria are met:

(a) Site and building design provide open space exceeding the required useable open space by at least ten percent: an increase in FAR not to exceed 0.25:1.

(b) Site and building design provide private outdoor space for each office unit equal to at least ten percent of the lot area for buildings 25 feet and under and at least 20 percent of the lot area for buildings above 25 feet: an increase in FAR not to exceed 0.25:1.

(c) Site and building design provide a street front facade and an alley facade at a pedestrian scale, including, without limitation, features such as awnings and windows, well-defined building entrances, and other building details: an increase in FAR not to exceed 0.25:1.

(d) For a building containing residential and non-residential uses in which neither use comprises less than 25 percent of the total square footage: an increase in FAR not to exceed 1:1.

(e) The unused portion of the allowed FAR of historic buildings designated as landmarks under chapter 9-11, "Historic Preservation," B.R.C. 1981, may be transferred to other sites in the same zoning district. However, the increase in FAR of a proposed building to which FAR is transferred under this paragraph may not exceed an increase of 0.5:1.

(f) For a building which provides one full level of parking below grade, an increase in FAR not to exceed 0.5:1 may be granted.

___(K) ***Additional Criteria for Parking Reductions: The off-street parking requirements of section 9-9-6,, "Parking Standards," B.R.C. 1981, may be modified as follows:***

___(i) ***Process:*** **The city manager may grant a parking reduction not to exceed fifty percent of the required parking. The planning board or city council may grant a reduction exceeding fifty percent.**

The applicant is proposing a 25 percent parking reduction. The following findings were made for the staff level approval of the parking reduction.

___(ii) ***Criteria:*** **Upon submission of documentation by the applicant of how the project meets the following criteria, the approving agency may approve proposed modifications to the parking requirements of section 9-9-6, "Parking Standards," B.R.C. 1981 (see tables 9-1, 9-2, 9-3 and 9-4), if it finds that:**

(a) For residential uses, the probable number of motor vehicles to be owned by occupants of and visitors to dwellings in the project will be adequately accommodated;

There are 60 spaces for 32 townhome units. While three- and four-bedroom units predominate on the site, it is likely that these units will be occupied by families, many of whom would not have driving age children. The parking reduction is adequate for the numbers of units, the anticipated residents, and the proximity to transit.

(b) The parking needs of any non-residential uses will be adequately accommodated through on-street parking or off-street parking;

There is no on-street parking proposed on 30th Street, however, there are on-street spaces along the alley within the site. The small commercial spaces planned in the building are of a reasonable size to not create a large parking demand and will likely be oriented to pedestrians, bicyclists and residents.

(c) A mix of residential with either office or retail uses is proposed, and the parking needs of all uses will be accommodated through shared parking;

The parking on the site is proposed to be unbundled. Therefore, if a resident does not want to have a parking space, one of the commercial tenants could lease the space instead. This establishes and inherent shared parking configuration.

(d) If joint use of common parking areas is proposed, varying time periods of use will accommodate proposed parking needs;

See response to (c) above.

(e) If the number of off-street parking spaces is reduced because of the nature of the occupancy, the applicant provides assurances that the nature of the occupancy will not change.

The nature of occupancy is predominately residential townhomes with four small retail spaces. This type of occupancy is unlikely to change to any other uses – particularly on

the ground floor. Live-work units are not a use that is permitted in the BT-1 zoning district and therefore, there would not be a change of use on the ground level that would increase parking demand.

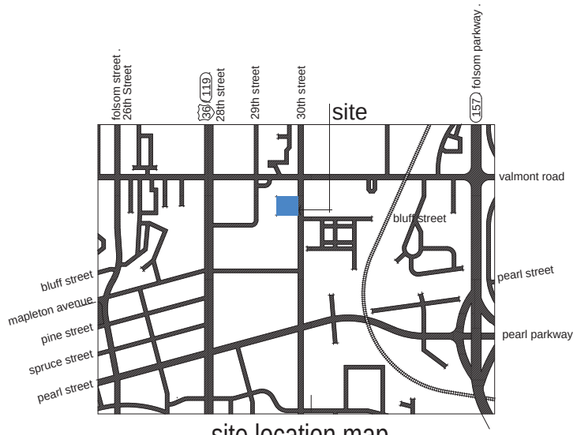
n/a (L) *Additional Criteria for Off-Site Parking:* The parking required under section 9-9-6, "Parking Standards," B.R.C. 1981, may be located on a separate lot if the following conditions are met:

n/a i) The lots are held in common ownership;

n/a (ii) The separate lot is in the same zoning district and located within three hundred feet of the lot that it serves; and

n/a (iii) The property used for off-site parking under this Subsection continues under common ownership or control.

Boulder Junction
rowhouses
2751 - 2875 30th Street



site location map
2751 - 2875 30th Street

drawing index

drawing number	subject
T1.0	Drawing Index . Project Team
C1.0	Civil Engineering Cover
C2.0	Demolition Plan
C3.0	Civil Site Plan (Ground Level)
C3.1	Civil Site Plan (Garage Level)
C4.0	Overall Utility Plan
C5.0	Grading Plan (Ground Level)
C5.1	Grading Plan (Garage Level)
C6.0	Storm Water Management Plan
C7.0	R.O.W. Improvement Section
C8.0	Section Grading Plan
L1.0	Landscape Plan
L2.0	Commons Area Landscape Planting Plan
L3.0	Front Yard Planting Plan
L4.0	Landscape Details
L5.0	Landscape Details
A1.0	Energy Features
A2.0	Inspirations
A3.0	Rendered Site Plan
A4.0	Rendered 30th Street Elevation
A5.0	Rendered 29 1/2 Alley Elevation
A6.0	Rendered Commons View 1
A7.0	Rendered Commons View 2
A8.0	Materials
A9.0	Zoning Chart plus Open Space and Parking Calculations
A10.0	Typical Wall Section (1/2"=1'-0")
A11.0	Typical Window Details (3"=1'-0")
A12.0	Typical Building Elevation(s): 30th Street and 29 1/2 Alley
	. plus: Building Height Graphics
A13.0	partial Building Elevation(s) - Commons
A14.0	Typical Side Elevations and Building Section
A15.0	Floor Plans . (typ.) End Unit Commercial and 2 Bedroom Units
A16.0	Floor Plans . (typ.) Paseo Unit Commercial and 2 Bedroom Units
A17.0	Floor Plans . (typ.) 30th Street 4 Bedroom Units
A18.0	Floor Plans . (typ.) 29 1/2 Alley 3 bedroom Units

Project Team

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30 August 2016

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T1.0

LAND USE & SITE REVIEW
FOR

BOULDER JUNCTION ROWHOUSES

2751 & 2875 30TH STREET, BOULDER, COLORADO

A PART OF THE NW 1/4 OF SECTION 29,
TOWNSHIP 1 NORTH, RANGE 70 WEST OF THE 6TH P.M.
COUNTY OF BOULDER, STATE OF COLORADO

1.85 ACRES ±

AUGUST 2016

LEGEND

PROPOSED INTERMEDIATE CONTOUR	5334
PROPOSED INDEX CONTOUR	5335
PROPOSED SPOT ELEVATION (ALL C&G ELEVATIONS ARE FL U.N.O.)	x 10.5
EX. INTERMEDIATE CONTOUR	5318
EX. INDEX CONTOUR	5320
EX. SPOT ELEVATIONS	x 10.5
HIGH POINT	HP
GRADE BREAK	GB
LOW POINT	LP
TYPICAL	TYP.
TOP BACK OF CURB	TOC
FLOWLINE	FL or FL
PROPOSED STORM SEWER	
PROPOSED MANHOLE	
PROPERTY LINE	
EASEMENT	
RIGHT-OF-WAY	
PROPOSED SANITARY SEWER	SS
PROPOSED WATER LINE	W
PROPOSED FIRE HYDRANT	
PROPOSED WATER METER	
EX. STORM SEWER	ST
EX. SANITARY SEWER	SS
EX. WATER LINE	W
EX. BURIED ELECTRIC LINE	E
EX BURIED TELEPHONE LINE	T
EX. OVERHEAD POWER AND ELECTRIC	OE
EX. FIRE HYDRANT	FH
EX. WATER VALVE	WV
EX. WATER METER	WM
EX. MANHOLE	MH
EX. LIGHT POLE	LP
EX. POWER POLE	PP
EX. TREE	

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JASON LEWISTON

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(303) 442-4338
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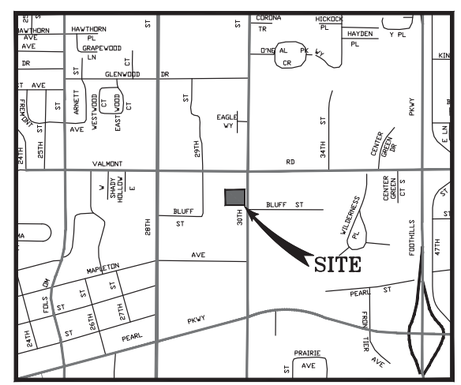
GARRETT LINGREEN, P.E.



VICINITY MAP
1" = 1000'

SHEET INDEX	
SHEET NUMBER	SHEET TITLE
C1.0	COVER SHEET
C2.0	DEMOLITION PLAN
C3.0	CIVIL SITE PLAN
C3.1	CIVIL SITE PLAN – GARAGE
C4.0	ULTILTY PLAN
C5.0	GRADING PLAN
C5.1	GRADING PLAN – GARAGE
C6.0	STORM WATER MANAGEMENT PLAN
C7.0	R.O.W. IMPROVEMENTS SECTION
C8.0	SECTION GRADING PLAN

LEGAL DESCRIPTION

A PARCEL OF LAND LOCATED IN THE NW 1/4 OF SECTION 29, TOWNSHIP 1 NORTH, RANGE 70 WEST OF THE 6TH P.M., COUNTY OF BOULDER, STATE OF COLORADO, DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTH 1/4 CORNER OF SECTION 29, TOWNSHIP 1 NORTH, RANGE 70 WEST OF THE 6TH P.M., BOULDER COUNTY, COLORADO; THENCE S0°14'20" E, ALONG THE NORTH-SOUTH CENTERLINE OF SAID SECTION 29, A DISTANCE OF 276.34 FEET; THENCE S 89°39'10" W, A DISTANCE OF 20.00 FEET TO THE NE CORNER OF THAT TRACT OF LAND DESCRIBED IN DEED RECORDED AT RECEPTION NO. 64410I OF THE BOULDER COUNTY RECORDS; THENCE S 89°39'10" W, A DISTANCE OF 24.48 FEET TO THE TRUE POINT OF BEGINNING;

THENCE S 89°39'10" W, ALONG THE NORTH LINE OF SAID TRACT, A DISTANCE OF 285.06 FEET TO THE NW CORNER OF SAID TRACT; THENCE S 0°14'20" E ALONG THE WEST LINE OF SAID TRACT, A DISTANCE OF 140.72 FEET TO THE SW CORNER OF SAID TRACT; THENCE N 89°39'10" E ALONG THE SOUTH LINE OF SAID TRACT, A DISTANCE OF 279.04 FEET; THENCE N 0°14'20" W A DISTANCE OF 10.00 FEET; THENCE N 89°39'10" E A DISTANCE OF 10.00 FEET; THENCE N 0°14'20" W A DISTANCE OF 13.13 FEET; THENCE N 2°11'10" W A DISTANCE OF 117.69 FEET, MORE OR LESS TO THE TRUE POINT OF BEGINNING.

TOGETHER WITH:

A PART OF THE NW 1/4 OF SECTION 29, TOWNSHIP 1 NORTH, RANGE 70 WEST OF THE 6TH P.M., DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT 417.06 FEET SOUTH AND 20 FEET WEST OF THE NORTH QUARTER CORNER OF SAID SECTION; THENCE WEST 309.55 FEET; THENCE SOUTH 140.72 FEET; THENCE EAST 309.535 FEET; THENCE NORTH 140.72 FEET TO THE POINT OF BEGINNING, COUNTY OF BOULDER, STATE OF COLORADO.

LESS AND EXCEPT ANY PORTION OF THE SUBJECT PROPERTY LYING WITHIN THE 30TH STREET RIGHT OF WAY.

BENCHMARK

A CITY OF BOULDER BENCHMARK, ID NO. B-13, BEING A CHISELED L ON INLET BOX LOCATED AT THE SOUTHWEST CORNER OF VALMONT ROAD AND 30TH STREET WITH AN ELEVATION OF 5283.43 FEET, CITY OF BOULDER DATUM

PREPARED BY:

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COLORADO SPRINGS
GREELEY

OWNER/CLIENT:

THE BOULDER JUNCTION ROWHOUSES, LLC

BOULDER JUNCTION ROWHOUSES
2751 AND 2875 30TH STREET
BOULDER, COLORADO

ISSUE	DATE
LAND USE REVIEW	8/30/2016

DESIGNED BY:	SKG
DRAWN BY:	SKG
CHECKED BY:	GJL
FILE NAME:	20545_C1.0

NOT FOR CONSTRUCTION

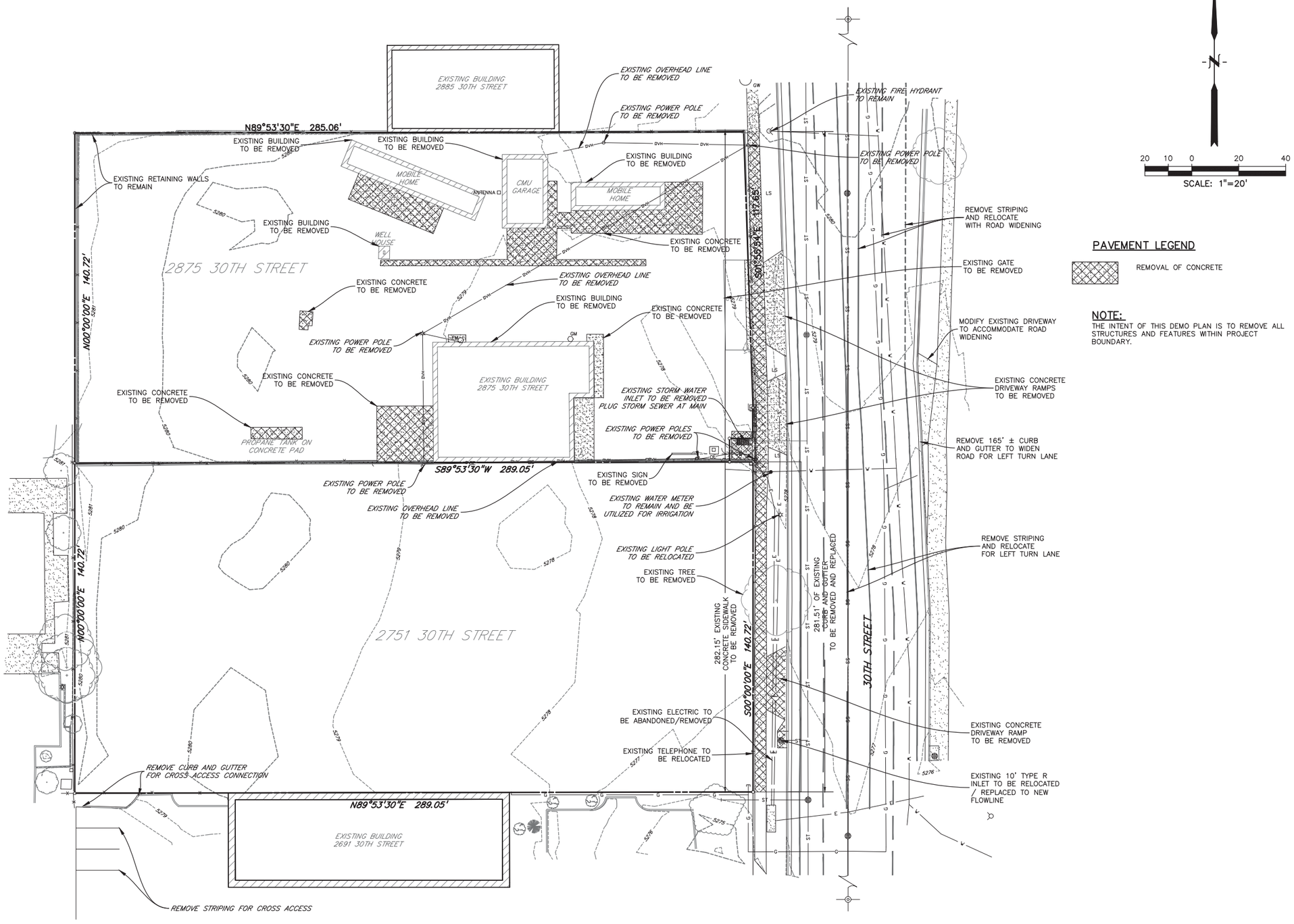
DRAWING SCALE:
HORIZONTAL: N/A
VERTICAL: N/A

COVER SHEET

PROJECT NO. 20545-00BLCV

C1.0

SHEET: 1 OF 10



PAVEMENT LEGEND

REMOVAL OF CONCRETE

NOTE:
THE INTENT OF THIS DEMO PLAN IS TO REMOVE ALL STRUCTURES AND FEATURES WITHIN PROJECT BOUNDARY.

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OWNER/CLIENT:

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BOULDER JUNCTION ROWHOUSES

2751 AND 2875 30TH STREET
BOULDER, COLORADO

ISSUE	DATE
LAND USE REVIEW	8/30/2016

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FILE NAME:	20545_C2.0

NOT FOR CONSTRUCTION

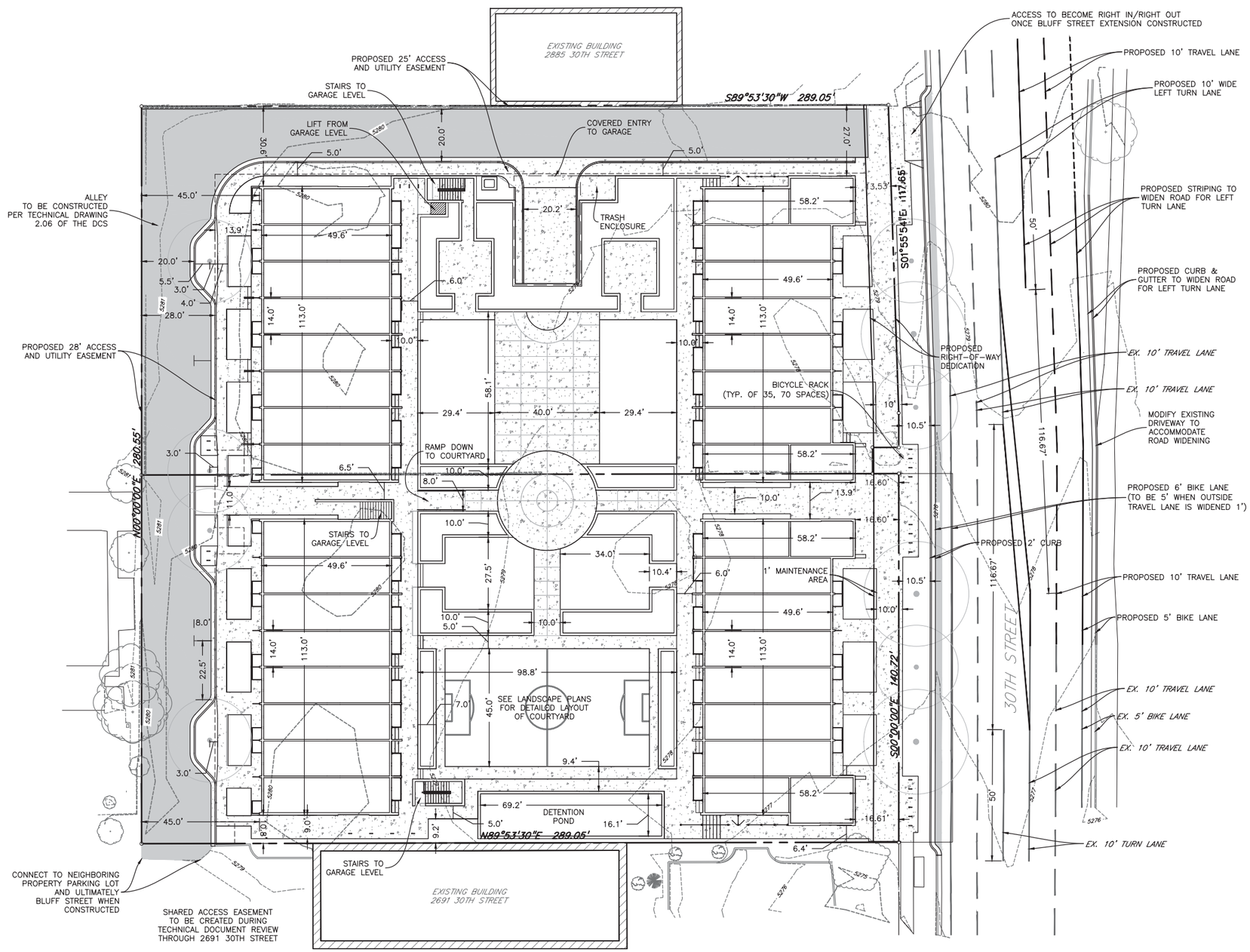
DRAWING SCALE:
HORIZONTAL: 1" = 20'
VERTICAL: N/A

DEMOLITION PLAN

PROJECT NO. 20545-00BLCV

C2.0

SHEET: 2 OF 10



20 10 0 20 40

SCALE: 1"=20'

PAVEMENT LEGEND

- DRIVE AISLE (ASPHALT OR CONCRETE)
- WALKS (CONCRETE)

NOTE:
SEE SHEET C7.0 FOR R.O.W. IMPROVEMENTS SECTION.

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BOULDER JUNCTION ROWHOUSES

2751 AND 2875 30TH STREET
BOULDER, COLORADO

ISSUE	DATE
LAND USE REVIEW	8/30/2016

DESIGNED BY:	SKG
DRAWN BY:	SKG
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FILE NAME:	20545_C3.0

NOT FOR CONSTRUCTION

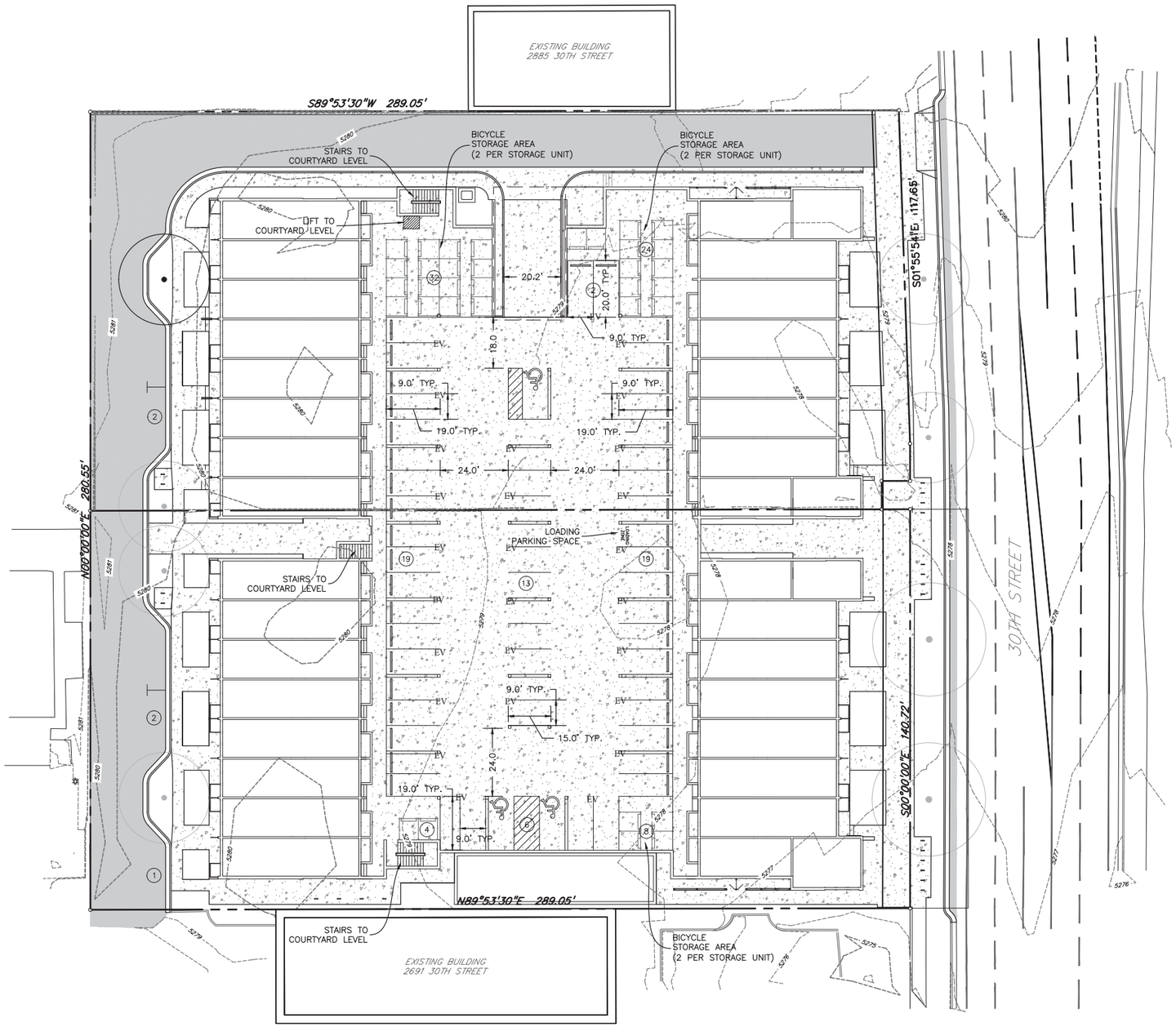
DRAWING SCALE:
HORIZONTAL: 1" = 20'
VERTICAL: N/A

CIVIL
SITE PLAN
(GROUND LEVEL)

PROJECT NO. 20545-00BLCV

C3.0

SHEET: 3 OF 10



20 10 0 20 40

SCALE: 1"=20'

PAVEMENT LEGEND

DRIVE AISLE (ASPHALT OR CONCRETE)

CONCRETE

EV Plugs (27)

EV Outlets
EV outlets throughout garage for electric cars

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BOULDER JUNCTION ROWHOUSES

2751 AND 2875 30TH STREET
BOULDER, COLORADO

ISSUE	DATE
LAND USE REVIEW	8/30/2016

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FILE NAME:	20545_C3.1

NOT FOR CONSTRUCTION

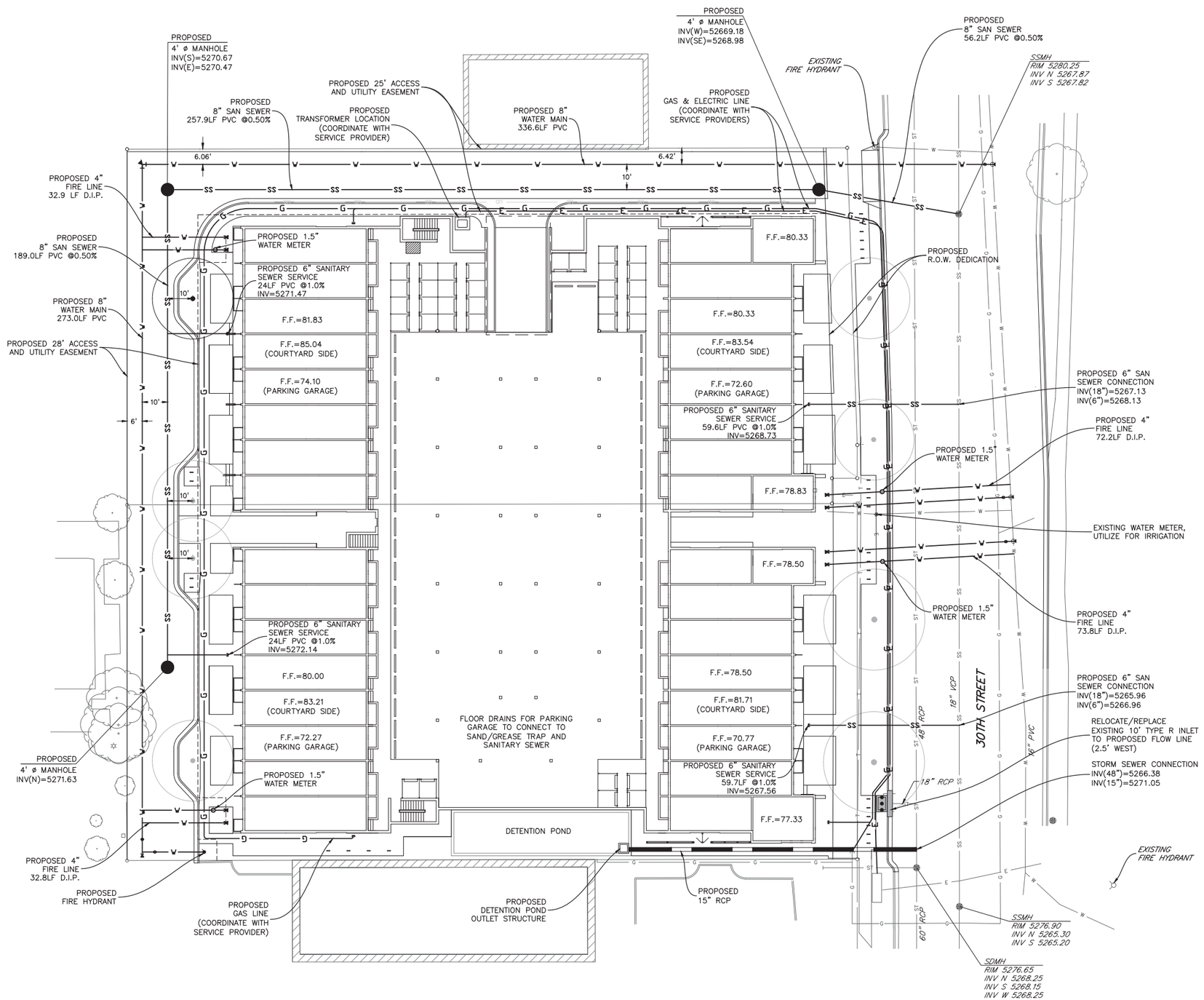
DRAWING SCALE:
HORIZONTAL: 1" = 20'
VERTICAL: N/A

CIVIL
SITE PLAN
(GARAGE LEVEL)

PROJECT NO. 20545-00BLCV

C3.1

SHEET: 4 OF 10



20 10 0 20 40

SCALE: 1"=20'

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BOULDER JUNCTION ROWHOUSES

2751 AND 2875 30TH STREET
BOULDER, COLORADO

ISSUE	DATE
LAND USE REVIEW	8/30/2016

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DRAWN BY:	SKG
CHECKED BY:	GJL
FILE NAME:	20545_C4.0

NOT FOR CONSTRUCTION

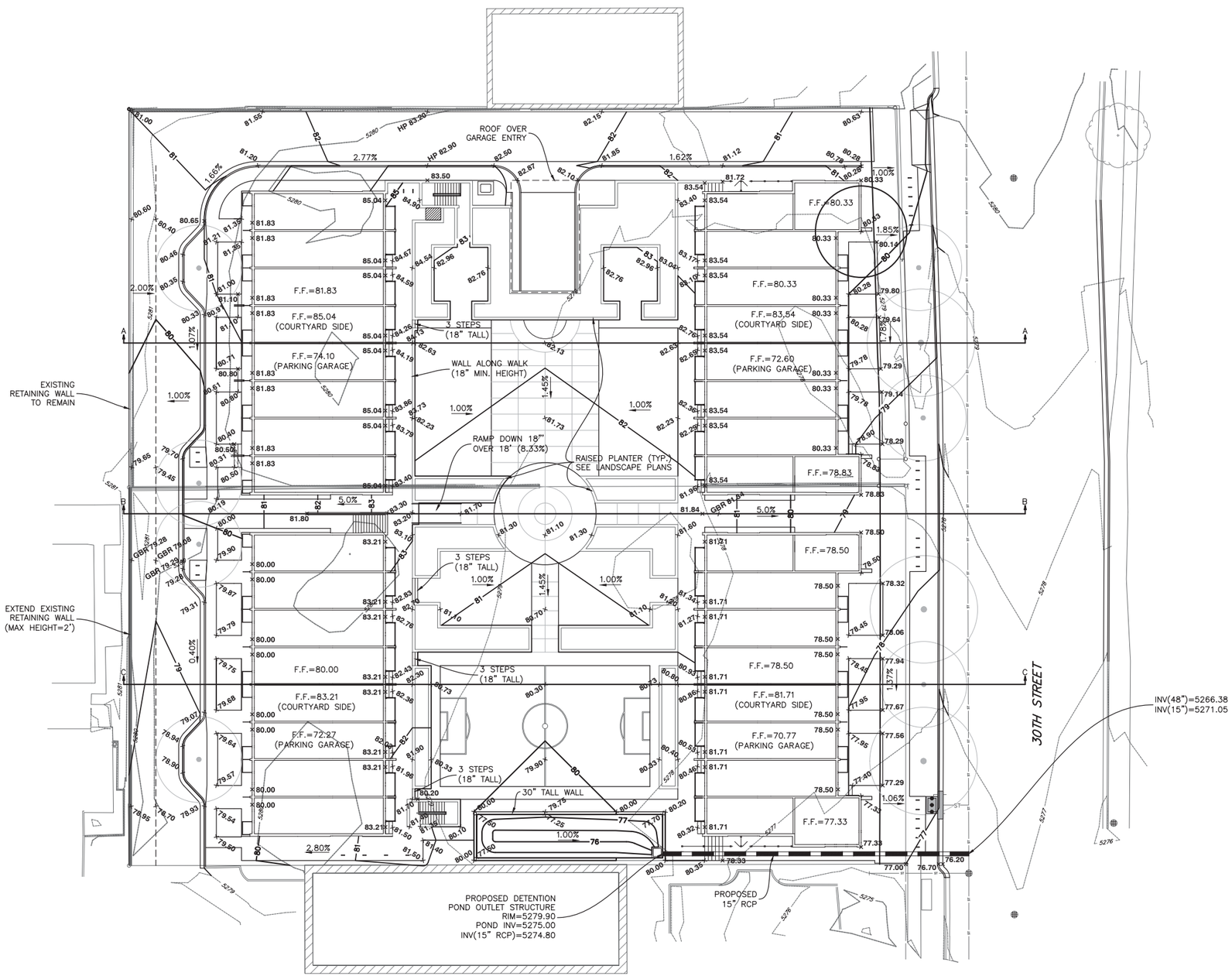
DRAWING SCALE:
HORIZONTAL: 1" = 20'
VERTICAL: N/A

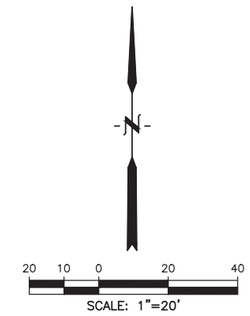
OVERALL
UTILITY
PLAN

PROJECT NO. 20545-00BLCV

C4.0

SHEET: 5 OF 10





NOTE:
SEE SHEET C8.0 FOR SECTIONS A–A, B–B, AND C–C.

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BOULDER JUNCTION ROWHOUSES

2751 AND 2875 30TH STREET
BOULDER, COLORADO

ISSUE	DATE
LAND USE REVIEW	8/30/2016

DESIGNED BY:	SKG
DRAWN BY:	SKG
CHECKED BY:	GJL
FILE NAME:	20545_C5.0

NOT FOR CONSTRUCTION

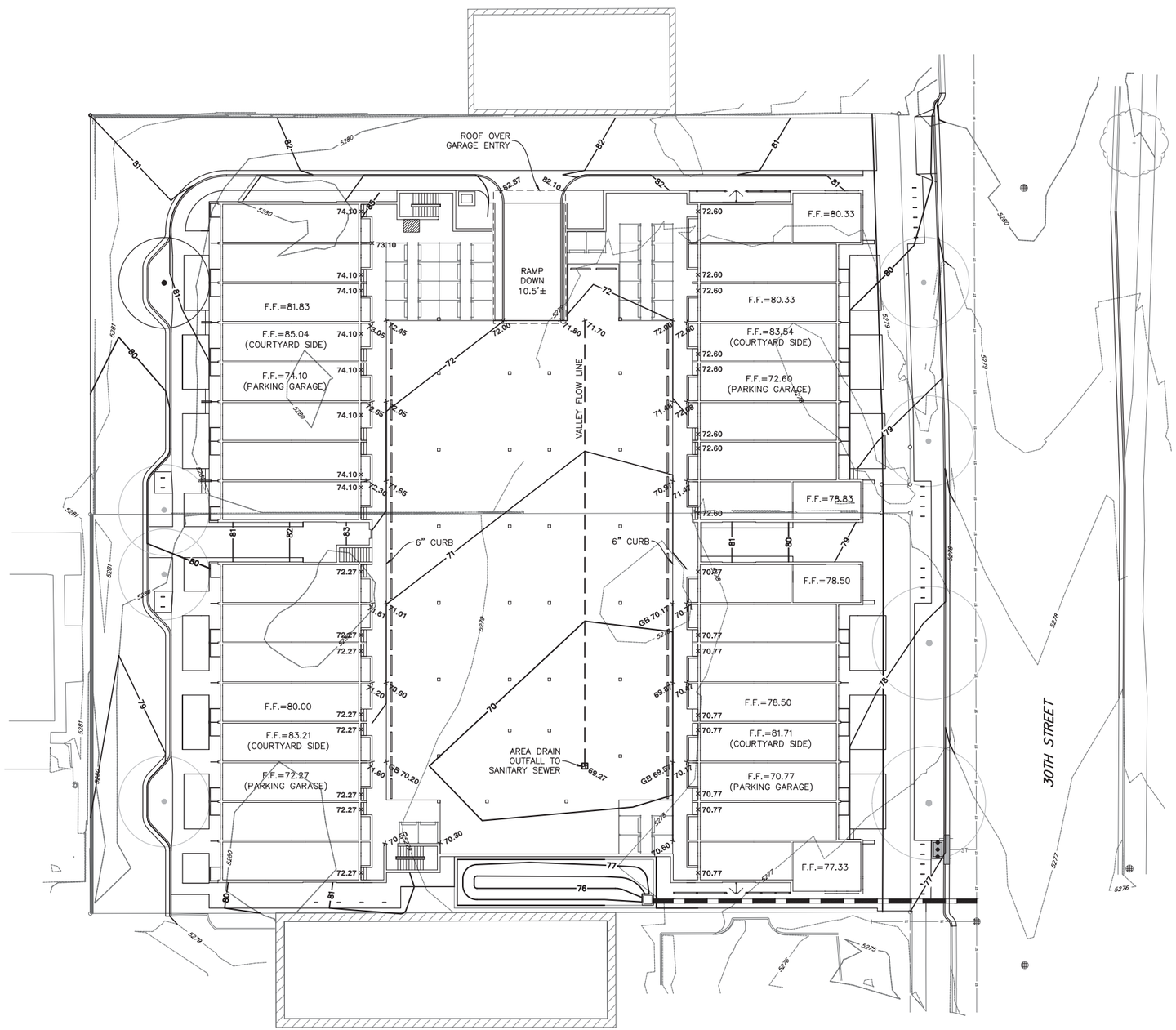
DRAWING SCALE:
HORIZONTAL: 1" = 20'
VERTICAL: N/A

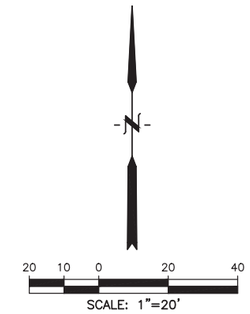
GRADING PLAN (GROUND LEVEL)

PROJECT NO. 20545–00BLCV

C5.0

SHEET: 6 OF 10





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OWNER/CLIENT:

THE BOULDER JUNCTION ROWHOUSES, LLC

BOULDER JUNCTION ROWHOUSES

2751 AND 2875 30TH STREET
BOULDER, COLORADO

ISSUE	DATE
LAND USE REVIEW	8/30/2016

DESIGNED BY:	SKG
DRAWN BY:	SKG
CHECKED BY:	GJL
FILE NAME:	20545_C5.1

NOT FOR CONSTRUCTION

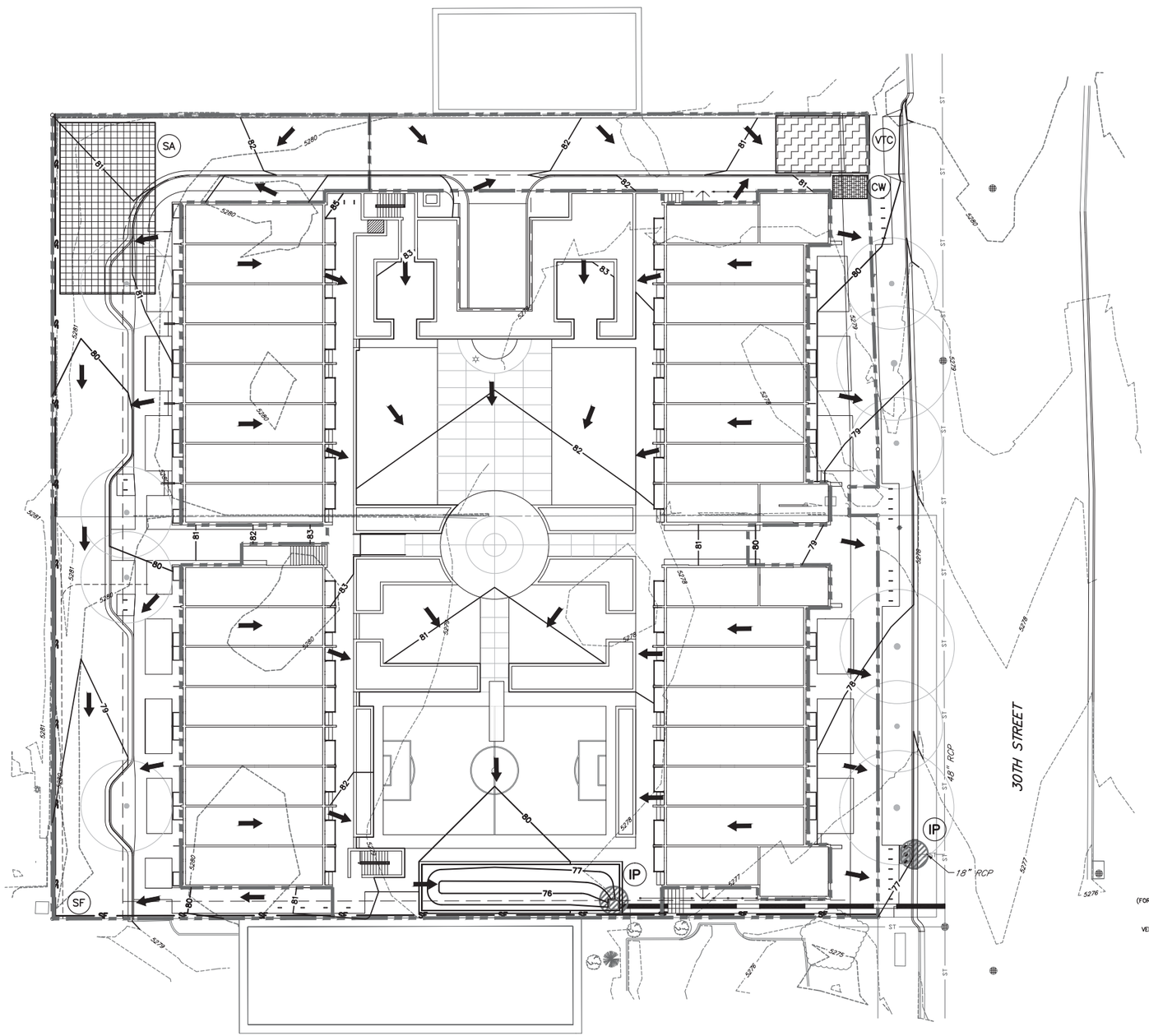
DRAWING SCALE:
HORIZONTAL: 1" = 20'
VERTICAL: N/A

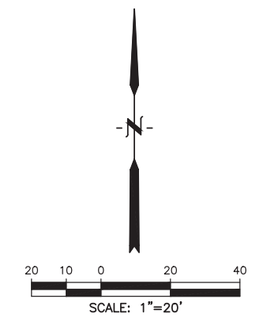
GRADING PLAN (GARAGE LEVEL)

PROJECT NO. 20545-00BLCV

C5.1

SHEET: 7 OF 10





LEGEND

- INLET PROTECTION ..... IP
- SILT FENCE ..... SF
- VEHICLE TRACKING CONTROL ..... VTC
- STORAGE AREAS ..... SA
- CONCRETE WASHOUT ..... CW
- EX. STORM SEWER ..... EX. 18" RCP STORM
- EX. MANHOLE ..... MH
- EX. INTERMEDIATE CONTOUR 5264
- EX. INDEX CONTOUR 5265
- DIRECTION OF FLOW
- PROPOSED STORM SEWER ..... 15" RCP
- PROPOSED INTERMEDIATE CONTOUR 5264
- PROPOSED INDEX CONTOUR 5265
- CONSTRUCTION BOUNDARY

SEQUENCE FOR INSTALLATION & REMOVAL OF BMP'S

	BEFORE GRADING ACTIVITIES BEGIN	DEMOLITION ACTIVITIES	UTILITY INSTALLATION	BUILDING CONSTRUCTION	PAVING OPERATIONS	FINAL STABILIZATION
SILT FENCE						
INLET PROTECTION (FOR EX. FACILITIES)						
INLET PROTECTION (FOR PROPOSED FACILITIES)						
LANDSCAPING						
VEHICLE TRACKING PAD & CONCRETE WASHOUT						

NOTE: PLACE SILT FENCE AROUND PERIMETER OF SITE AND AROUND ANY SOIL STOCKPILES TO REMAIN LONGER THAN 14 DAYS, ADJUST SILT FENCE LOCATION AS NECESSARY PER PROJECT CONDITIONS

PREPARED BY:

DREXEL, BARRELL & CO.
Engineers•Surveyors
1800 38TH STREET
BOULDER, COLORADO 80301
CONTACT: GARRETT LINGREEN, P.E.
(303) 442-4338
BOULDER
COLORADO SPRINGS
GREELEY

OWNER/CLIENT:

THE BOULDER JUNCTION ROWHOUSES, LLC

BOULDER JUNCTION ROWHOUSES

2751 AND 2875 30TH STREET
BOULDER, COLORADO

ISSUE	DATE
LAND USE REVIEW	8/30/2016

DESIGNED BY:	SKG
DRAWN BY:	SKG
CHECKED BY:	GJL
FILE NAME:	20545_C6.0

NOT FOR CONSTRUCTION

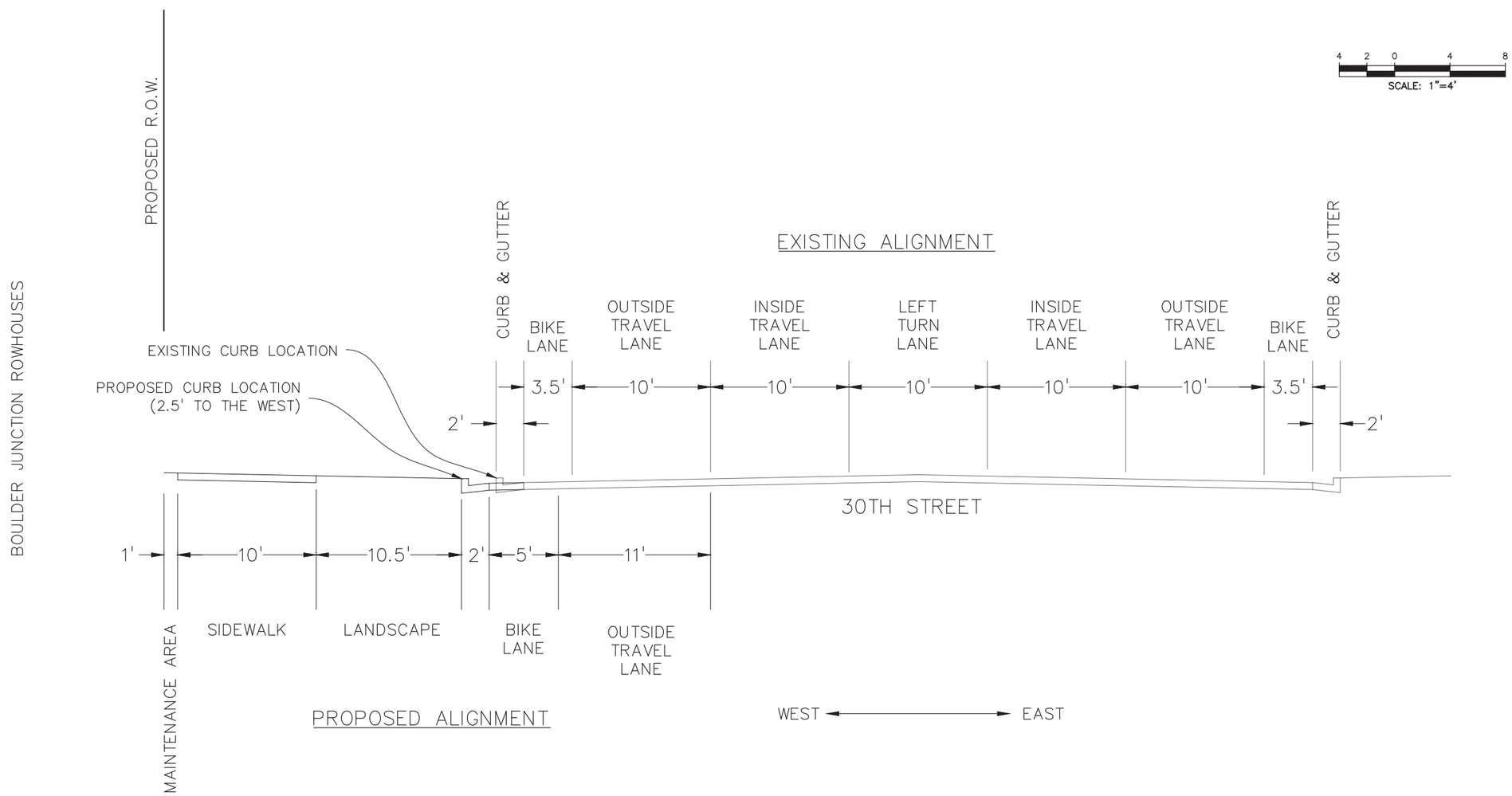
DRAWING SCALE:
HORIZONTAL: 1" = 20'
VERTICAL: N/A

STORM WATER MANAGEMENT PLAN

PROJECT NO. 20545-00BLCV

C6.0

SHEET: 8 OF 10



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2751 AND 2875 30TH STREET
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ISSUE	DATE
LAND USE REVIEW	8/30/2016

DESIGNED BY:	SKG
DRAWN BY:	SKG
CHECKED BY:	GJL
FILE NAME:	20545_C7.0

NOT FOR CONSTRUCTION

DRAWING SCALE:
HORIZONTAL: 1" = 4'
VERTICAL: 1" = 4'

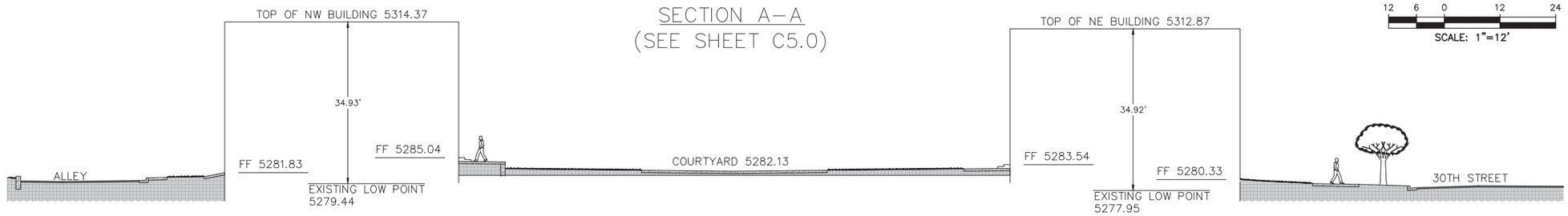
R.O.W. IMPROVEMENTS SECTION

PROJECT NO. 20545-00BLCV

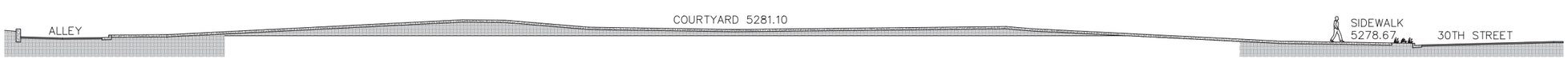
C7.0

SHEET: 9 OF 10

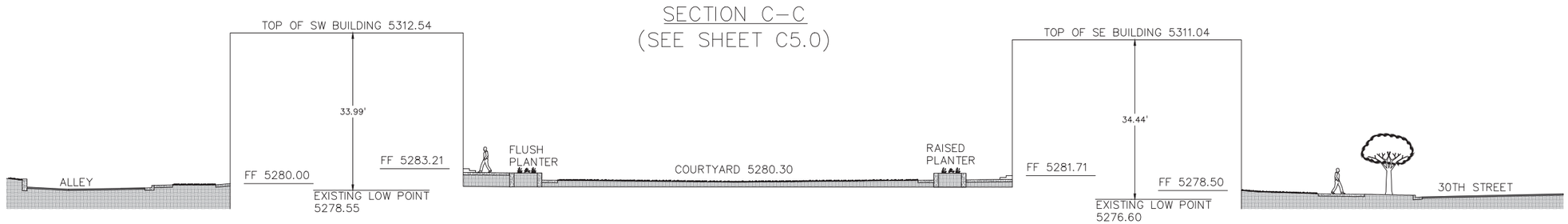
SECTION A–A
(SEE SHEET C5.0)

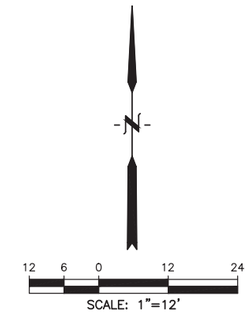


SECTION B–B
(SEE SHEET C5.0)



SECTION C–C
(SEE SHEET C5.0)





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OWNER/CLIENT:

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BOULDER JUNCTION ROWHOUSES

2751 AND 2875 30TH STREET
BOULDER, COLORADO

ISSUE	DATE
LAND USE REVIEW	8/30/2016

DESIGNED BY:	SKG
DRAWN BY:	BMC
CHECKED BY:	GJL
FILE NAME:	20545_C8.0

NOT FOR CONSTRUCTION

DRAWING SCALE:
HORIZONTAL: 1" = 12'
VERTICAL: N/A

SECTIONS
GRADING PLAN
(GROUND LEVEL)

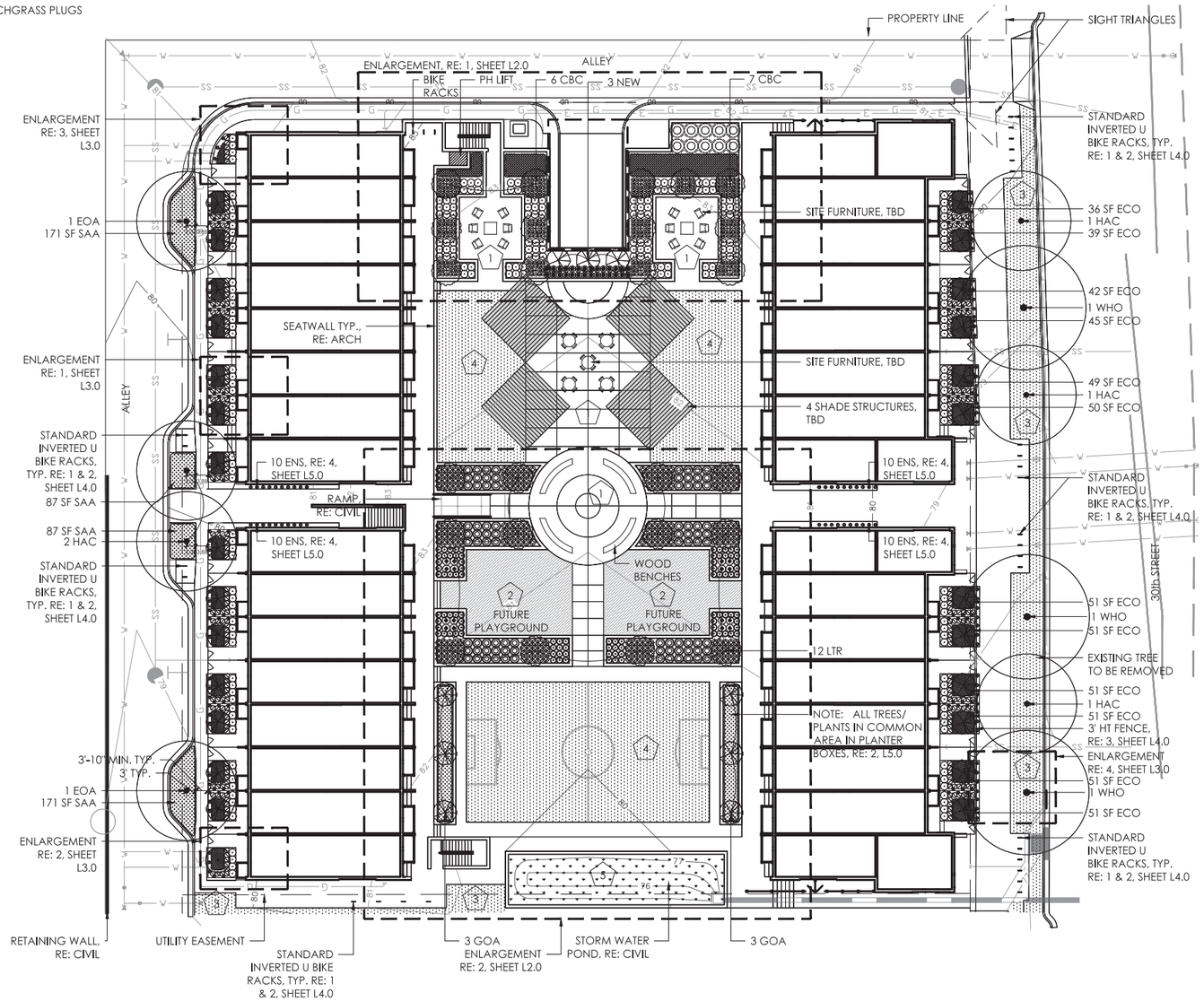
PROJECT NO. 20545–00BLCV

C8.0

SHEET: 10 OF 10

GROUND MATERIALS LEGEND

1. CONCRETE PAVERS
2. PLAY SURFACE
3. SOD AT GROUND LEVEL
4. SOD IN COMMONS (ROOF LEVEL)
5. SWITCHGRASS PLUGS



1 LANDSCAPE LAYOUT PLAN
SCALE: 1"=20'-0"

PLANT MATERIALS SCHEDULE

QUAN.	SYM.	LATIN NAME	COMMON NAME	SIZE	SPACING
DECIDUOUS TREES IN R.O.W.					
3	HAC	CELTIS OCCIDENTALIS	COMMON HACKBERRY	2" CAL.	SEE PLAN
3	WHO	QUERCUS ALBA	WHITE OAK	2" CAL.	SEE PLAN
DECIDUOUS TREES IN ALLEY					
2	HAC	CELTIS OCCIDENTALIS	COMMON HACKBERRY	2" CAL.	SEE PLAN
2	EOA	QUERCUS ROBUR	ENGLISH OAK	2" CAL.	SEE PLAN
DECIDUOUS TREES					
26	ABT	AMELANCHIER CANADENSIS	AUTUMN BRILLIANCE SERVICEBERRY	2" CAL.	SEE PLAN
13	CBC	MALUS CORALCOLE	CORALBURST CRAB	2" CAL.	SEE PLAN
3	NEW	PRUNUS CERASIFERA 'NEWPORT'	NEWPORT PLUM	2" CAL.	SEE PLAN
6	GOA	QUERCUS GAMBELII	GAMBEL OAK	6' CLUMP	SEE PLAN
12	LTR	SYRINGA RETICULATA	JAPANESE LILAC TREE	2" CAL.	SEE PLAN
EVERGREEN SHRUBS					
112	BGM	BUXUS 'GREEN MOUNTAIN'	GREEN MOUNTAIN BOXWOOD	#5 CONT.	27" O.C.
DECIDUOUS SHRUBS					
1	SER	ALMELANCHIER CANADENSIS	SASKATOON SERVICBERRY	#5 CONT.	SEE PLAN
114	AWS	SPIREA JAPONICA 'ANTHONY WATERER'	ANTHONY WATERER SPIREA	#5 CONT.	27" O.C.
10	MKL	SYRINGA PATULA 'MISS KIM'	MISS KIM LILAC	#5 CONT.	54" O.C.
PERENNIALS					
16	GAU	GAURA LINDHEIMERI	WHIRLING BUTTERFLIES	#1 CONT.	30" O.C.
290	JBG	GERANIUM X 'JOHNSON'S BLUE'	JOHNSON'S BLUE GERANIUM	#1 CONT.	15" O.C.
248	DAY	HEMEROCALLIS HYBRIDS	DAYLILY	#1 CONT.	21" O.C.
28	RVL	LAVANDULA ANGUSTIFOLIA 'ROYAL VELVET'	ROYAL VELVET LAVENDER	#1 CONT.	24" O.C.
249	PFB	SCABIOSA CAUCASICA	PINCUSHION FLOWER	#1 CONT.	18" O.C.
ORNAMENTAL GRASSES					
84	DMG	MISCANTHUS SINENSIS 'YAKU JIMA'	DWARF MAIDEN GRASS	#1 CONT.	36" O.C.
90	HFG	PENNISETUM ALOPECUROIDES ' HAMELN'	HAMELN FOUNTAIN GRASS	#1 CONT.	24" O.C.
GROUNDCOVERS					
971 SF	ECO	EUONYMUS FORTUNEI 'COLORATUS'	PURPLELEAF WINTERCREEPER	#1 CONT.	24"-36" O.C.
179	ENS	HEDERA HELIX	ENGLISH IVY	#1 CONT.	SEE PLAN
393 SF	SWW	GALIUM ODORATUM	SWEET WOODRUFF	#1 CONT.	18"-24" O.C.
516 SF	SAA	RHUS TRILOBATA 'AUTUMN AMBER'	AUTUMN AMBER SUMAC	#1 CONT.	36" O.C.
369 SF	VIN	VINCA MINOR 'BOWLES'	VINCA MINOR	#1 CONT.	24"-48" O.C.

HYBRID BLUE GRASS SOD (R.O.W.) (2,168 SF)
BLUE FESCUE SOD

HYBRID BLUE GRASS SOD (ROOF) (5,925 SF)
BLUE FESCUE SOD

TABLE OF LANDSCAPE REQUIREMENTS

REQUIREMENT	QUANTITY	REQUIRED	PROVIDED
1 STREET TREE FOR EVERY 40 LF (30th STREET)	280 LF	7 TREES	6 TREES* *LIMITED BY DRIVE & UTILITIES
1 STREET TREE FOR EVERY 40 LF (ALLEY)	260 LF	7 TREES	4 TREES* *PER CITY STAFF MEETING
1 TREE PER EVERY 1000 SF & 5 SHRUBS PER EVERY 1500 SF OF AREA NOT COVERED BY BLDG OR DRIVE	+/-42,000 SF	42 TREES 140 SHRUBS	64 TREES* 237 SHRUBS *EXCLUDES GOA
SHORT TERM OFF-STREET BIKE PARKING RESIDENTIAL UNIT WITHOUT PRIVATE GARAGE	32 UNITS	25% OF 2 PER UNIT 16 SPACES	22 SPACES AROUND SITE PERIMETER
SHORT TERM OFF-STREET BIKE PARKING COMMERCIAL USE	1,256 SF	75% OF 1 PER 750 SF/ MIN. OF 4 SPACES	40 SPACES IN R.O.W.
TOTAL SHORT TERM BIKE PARKING		20 SPACES	62 SPACES

NOTES:
1. RE: CIVIL FOR LONG-TERM BICYCLE PARKING

ROOF TREE PIT SOIL VOLUMES

TREE	PLANTER SF	NO. OF TREES	PLANTER DEPTH	SOIL VOLUME/ TREE
CBC	883 SF 405 SF 347 SF	7 3 3	30" 30" 30"	315 CF 338 CF 289 CF
GOA	219 SF	3	30"	183 CF
NEW	229 SF	3	30"	191 CF
LTR	246 SF 330 SF 411 SF	2 2 2	30" 30" 30"	308 CF 413 CF 514 CF

NOTES:
1. RECOMMENDED SOIL VOLUME IS 2 CF OF LOAM PER 1 SF OF TREE CANOPY (SOURCE: JAMES URBAN, FASLA)
   - 10' CANOPY: $\pi 5^2$ = 78.5 SF x 2 = 157 CF
   - 12' CANOPY: $\pi 6^2$ = 113 SF x 2 = 226 CF

landscape plan

1" = 20'-0"

2751 and 2875 30th Street
Boulder . Colorado
30 August 2016

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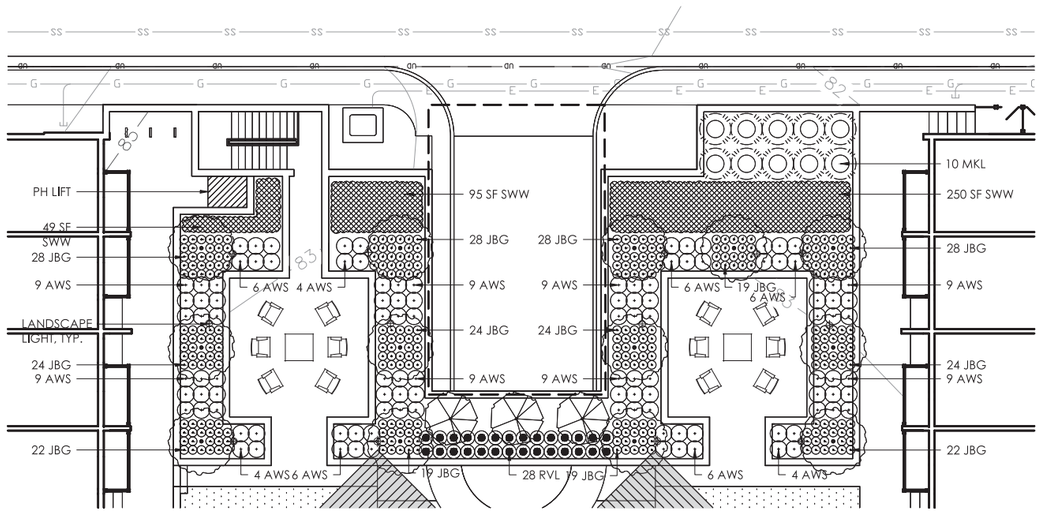
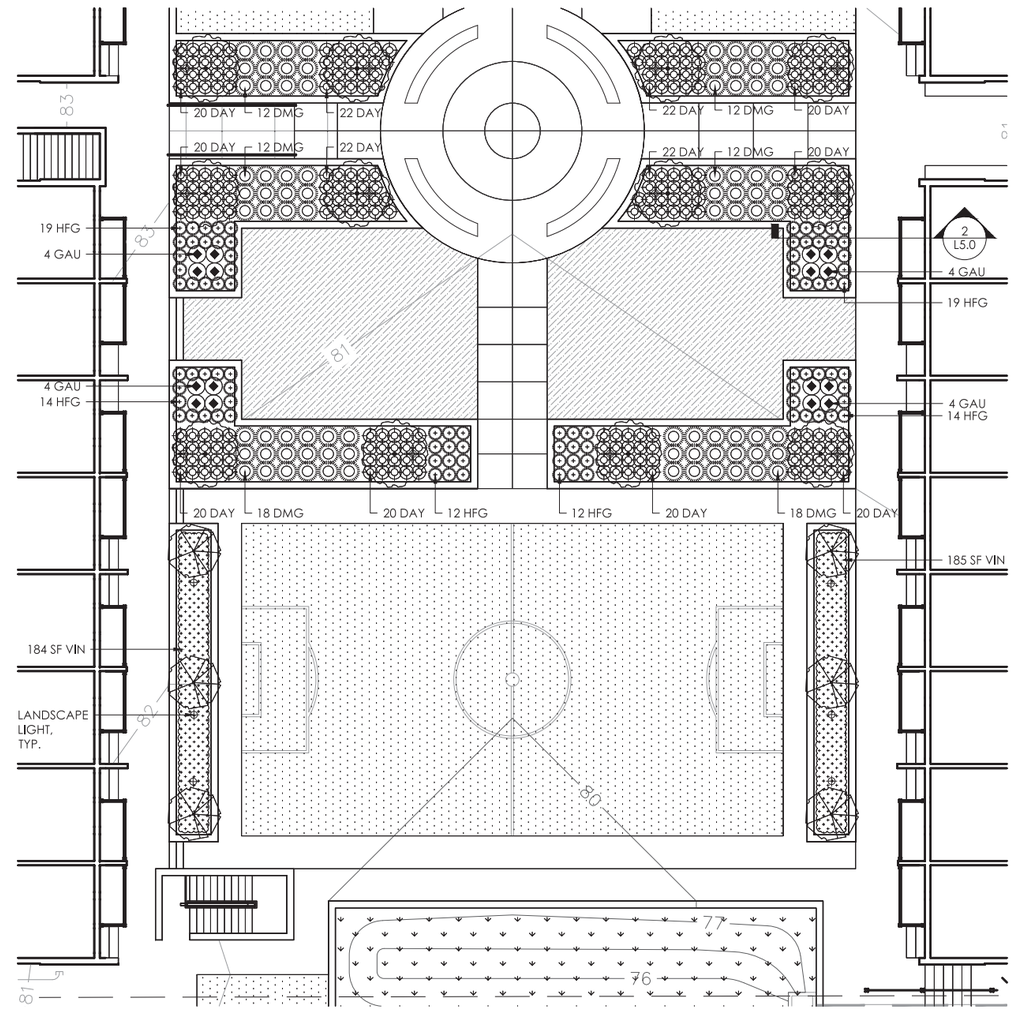


1 LANDSCAPE LAYOUT PLAN
SCALE: 1"=10'-0"

N 0' 5' 10' 20'



2 LANDSCAPE LAYOUT PLAN
SCALE: 1"=10'-0"

N 0' 5' 10' 20'

commons area landscape planting plan

1" = 10'-0"

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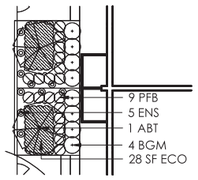
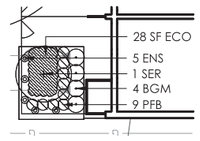
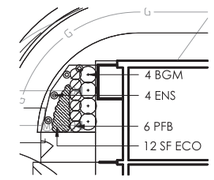


1 TYP. FRONT YARD LANDSCAPE
SCALE: 1"=10'-0"
N 0' 5' 10' 20'



2 SOUTHWEST UNIT FRONT YARD LANDSCAPE
SCALE: 1"=10'-0"
N 0' 5' 10' 20'



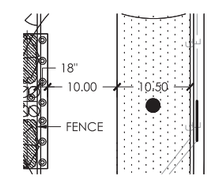
3 NORTHWEST UNIT FRONT YARD LANDSCAPE
SCALE: 1"=10'-0"
N 0' 5' 10' 20'

GENERAL NOTES:

1. CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE STATE AND LOCAL CODES AND REGULATIONS.
2. CONTRACTOR TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO BEFORE DIGGING, INCLUDING BUT NOT LIMITED TO, TRENCHING, SHRUB AND TREE PLANTING PITS. IF UTILITIES OCCUR WITHIN (3) THREE FEET OF PROPOSED FOOTINGS, THE CONTRACTOR SHALL REPORT SUCH CONDITIONS TO THE OWNER.
3. CONTRACTOR IS RESPONSIBLE FOR FULL ON-SITE INVESTIGATIONS AS NEEDED IN ORDER TO GAIN A FULL UNDERSTANDING OF EXISTING CONDITIONS PRIOR TO CONSTRUCTION. FAILURE TO INSPECT THE SITE PRIOR TO CONSTRUCTION SHALL NOT BE CAUSE FOR REQUESTING ADDITIONAL MONIES BY THE CONTRACTOR.
4. THE CONTRACTOR SHALL OBTAIN, AT HIS EXPENSE, ALL PERMITS WHICH ARE NECESSARY TO PERFORM THE PROPOSED WORK.
5. THE LANDSCAPE ARCHITECT IS NOT RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR FOR SAFETY PRECAUTIONS OR PROBLEMS UTILIZED IN CONNECTION WITH THE WORK, AND HE/SHE WILL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
6. VERIFY ALL CONDITIONS AT THE JOB SITE AND NOTIFY LANDSCAPE ARCHITECT AND THE OWNER'S REP. IMMEDIATELY OF ANY DIMENSIONAL ERRORS, OMISSIONS OR DISCREPANCIES PRIOR TO ANY DEMOLITION OR CONSTRUCTION.

LANDSCAPE NOTES:

1. PLANT MATERIAL AND BED LOCATIONS TO BE STAKED BY THE LANDSCAPE CONTRACTOR FOR REVIEW BY THE OWNER'S REPRESENTATIVE OR LANDSCAPE ARCHITECT. ALL ADJUSTMENTS SHALL BE MADE BY THE CONTRACTOR. THE CONTRACTOR SHALL NOT DIG PLANT PITS UNTIL LOCATIONS ARE APPROVED.
2. ROUGH GRADING TO PLUS OR MINUS ONE TENTH OF A FOOT BY GENERAL CONTRACTOR. LANDSCAPE CONTRACTOR TO PROVIDE FINISH GRADING IN ALL LANDSCAPE AREAS. LANDSCAPE CONTRACTOR TO APPROVE ROUGH GRADES PRIOR TO MOBILIZATION. MOBILIZATION ON THE PART OF THE LANDSCAPE CONTRACTOR WILL INDICATE THAT ROUGH GRADING IS ACCEPTABLE TO THE LANDSCAPE CONTRACTOR, AND THEREFORE BE RESPONSIBLE FOR PROVIDING ALL FINISHED GRADES TO MEET THE CIVIL GRADING PLANS.
3. NOTIFY LANDSCAPE ARCHITECT IN ORDER TO TAG TREES AT THE NURSERY MINIMUM EARLY SPRING PRIOR TO INSTALLATION. SHRUBS WILL BE INSPECTED ON-SITE. LANDSCAPE PLANT MATERIALS MAY BE REJECTED AT ANY TIME DUE TO ISSUES OF QUALITY.
4. ALL NEW LANDSCAPE AREAS SHALL BE IRRIGATED BY A COMMERCIAL GRADE, FULLY AUTOMATIC UNDERGROUND IRRIGATION SYSTEM.CONTRACTOR IS RESPONSIBLE FOR GENERATING AN IRRIGATION PLAN FOR REVIEW AND AN AS BUILT PLAN AS REQUIRED.
5. ALL PLANT MATERIAL SHALL MEET OR EXCEED CURRENT AMERICAN STANDARD FOR NURSERY STOCK ANSI Z60.1 AND THE COLORADO NURSERY ACT AND ACCOMPANYING RULE AND REGULATIONS.
6. TRUNK-WRAP TAPE: TWO LAYERS OF CRINKLED PAPER CEMENTED TOGETHER WITH BITUMINOUS MATERIAL, 4 INCHES (102 MM) WIDE MIN.
7. WRAPPING TREE TRUNKS: WRAP TREES WITH TRUNK-WRAP TAPE. START AT BASE OF TRUNK AND SPIRAL COVER TRUNK TO HEIGHT OF FIRST BRANCHES. OVERLAP WRAP, EXPOSING HALF THE WIDTH, AND SECURELY ATTACH WITHOUT CAUSING GIRDLING. FINAL WRAP SHALL BE SECURED WITH TAPE IN AT LEAST THREE PLACES. DO NOT USE STAPLES. INSPECT TREE TRUNKS FOR INJURY, IMPROPER PRUNING, AND INSECT INFESTATION AND TAKE CORRECTIVE MEASURES REQUIRED BEFORE WRAPPING. DO NOT WRAP ROUGH BARK, POPULUS OR GLEDITSIA TREES. REMOVE WRAP IN SPRING.
   - 7.1. ALL DECIDUOUS TREES SHALL BE WRAPPED BY THE CONTRACTOR NOVEMBER 1 - 15 OF THE YEAR IN WHICH THEY ARE PLANTED.
   - 7.2. THE CONTRACTOR SHALL RETURN TO THE SITE AND REMOVE THE WRAP FROM APRIL 1 - 15 OF THE FOLLOWING SPRING. THE CONTRACTOR SHALL NOTIFY THE CITY AT LEAST 1 WEEK PRIOR TO WRAP REMOVAL.
   - 7.3. CONTRACTOR SHALL BE RESPONSIBLE FOR WRAPPING AND UNWRAPPING TREES DURING THE WARRANTY PERIOD.
8. WOOD CHIP MULCH SHALL BE CLEAN WOOD CHIPS FREE OF SOIL OR MAN MADE DEBRIS SHREDDED INTO COARSE PIECES RANGING IN SIZE FROM 1 - 3 INCHES. ALL PLANTING BED LANDSCAPE PLANTINGS SHALL BE MULCHED WITH 4 - 6 INCHES OF WOOD CHIPS AND NO WEED BARRIER FABRIC SHALL BE USED.



4 WALK & ROW AT 30th STREET
SCALE: 1"=10'-0"
N 0' 5' 10' 20'

front yard planting plan

1" = 10'-0"

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30 August 2016

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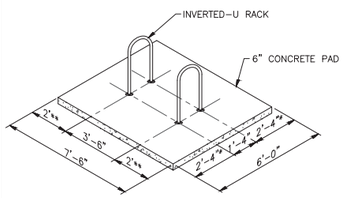
L3.0

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.

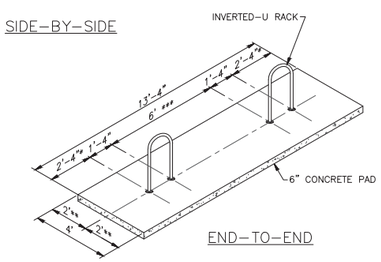


* 3'–4" MINIMUM WHEN INSTALLED PERPENDICULAR TO A WALL OR CURB.

** 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.

SIDE–BY–SIDE



END–TO–END

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

1 BIKE RACK SPACING
SCALE: N.T.S.

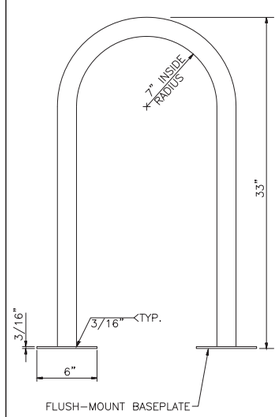
NOTES:

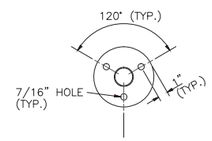
DIMENSIONS:

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)

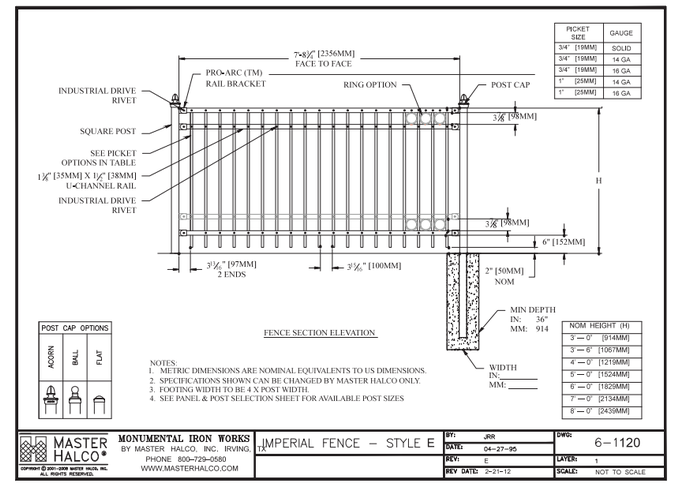




BASEPLATE DETAIL

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

2 BIKE RACK
SCALE: N.T.S.



3 ORNAMENTAL FENCE
SCALE: N.T.S.

4 VINES ON WIRE CABLES
SCALE: N.T.S.

landscape details

n.t.s.

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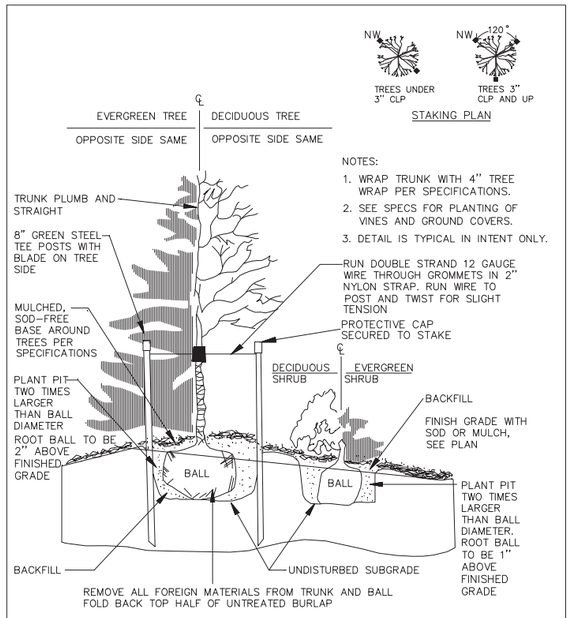
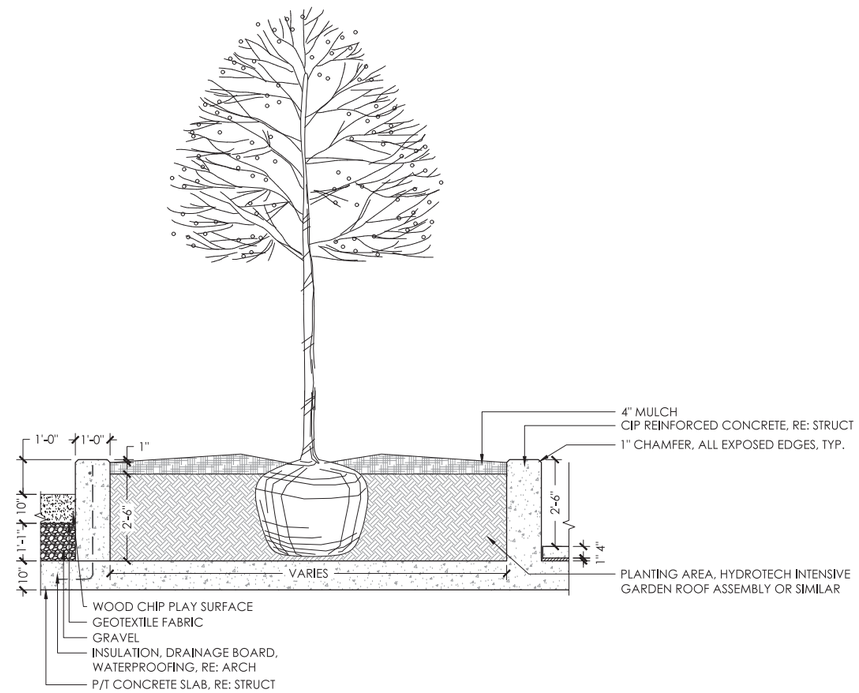
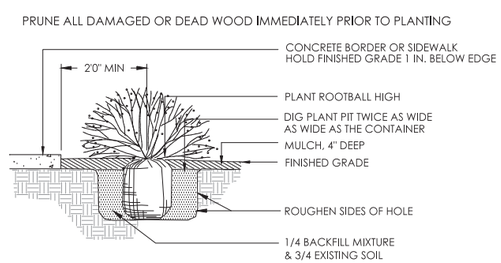


DRAWN BY: JSH CHECKED BY: SRW APPROVED BY: DIRECTOR OF PUBLIC WORKS	CITY OF BOULDER, COLORADO TREES AND SHRUBS PLANTING DETAIL	ISSUED: JULY 2, 1998 REVISED: OCT. 17, 2000 DRAWING NO. 3.02

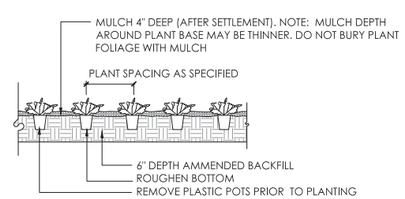
1 DECIDUOUS TREE PLANTING
SCALE: N.T.S.



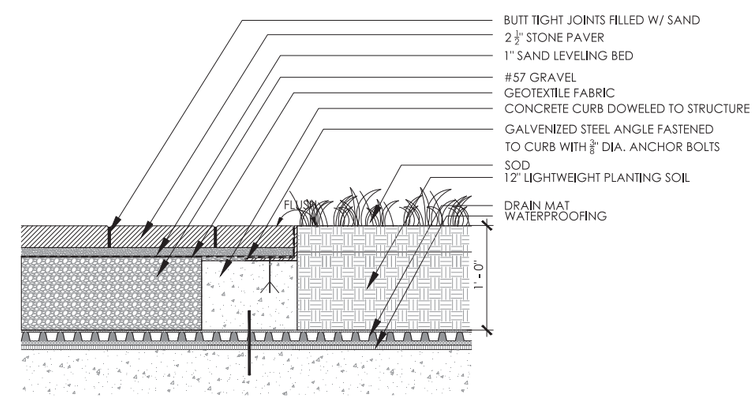
2 PLAY SURFACE AND TREE PIT AT ROOF - SECTION
SCALE: N.T.S.



3 SHRUB PLANTING
SCALE: N.T.S.



4 PERENNIAL PLANTING
SCALE: N.T.S.



NOTES:
1. THE LANDSCAPE CONSTRUCTION PLANS AND SPECIFICATIONS DO NOT DETAIL OR MAKE ANY WATERPROOFING RECOMMENDATIONS. SEE ARCHITECTURE PLANS AND SPECIFICATIONS FOR ALL WATERPROOFING, SUGGESTED TERMINATIONS & FLASHINGS.
2. SEE ARCHITECTURE DETAILS FOR EDGE CONDITION AT STRUCTURE.

5 FLUSH PLANTING ON STRUCTURE
SCALE: N.T.S.

landscape details

n.t.s.

2751 and 2875 30th Street

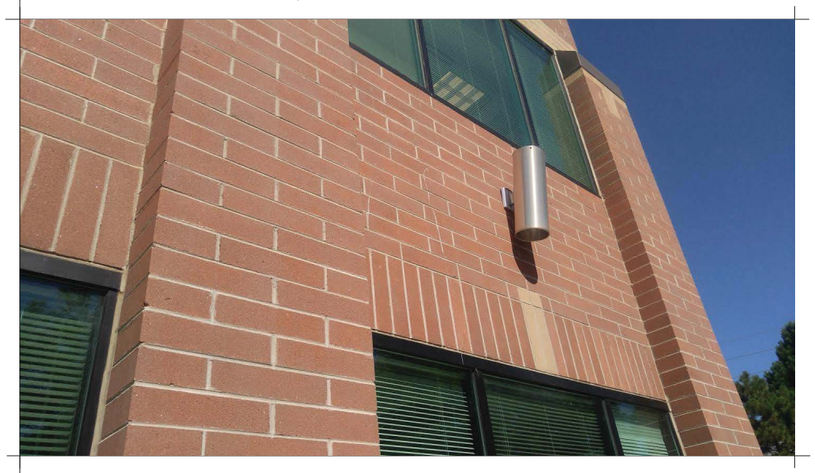
Boulder . Colorado
30 August 2016

three sixty design
1830 platte street
denver, co 80202
p) 720.360.0080
e) info@sitedrivendesign.com

L5.0

Architectural Documents
Boulder Junction
rowhouses

NRG Block
same face dimensions as
'MONARCH' size brick



4770 and 4800 Baseline Road . Boulder
same size block as proposed for Boulder Junction Rowhouses
use photographs for referencing block size only
see ELEVATIONS - Boulder Junction Rowhouses for details including proposed window installation details

solar electric

Energy Features

Energy efficient design, including solar panels, is about saving money through lower utility bills. It is a fantastic coincidence that in saving money, you are also doing a great deal to help the environment by causing far less pollution, and increasing your comfort, health, safety, and even our national security.

Our rowhouse dwellers will save hundreds of dollars per year on their utility bills due to several features, including:
NRG Block: Our exteriors will be built out of an insulated block, some in brick size shapes, which is far superior to any lumber/insulation combination. There will be virtually no air loss or heat exchange through our walls.

Greenius Screens: We will install our own interior magnetic window screens (patent pending) which will block most air loss and heat exchange at the windows.

Solar Panels: A PV system will provide much of the electricity for our units. The units will still be "grid" tied and will draw electricity from the grid whenever necessary.

Terrazzo concrete floors: You really don't want to know what you breath in from your carpeting or coated hardwood everyday. Our floors will be time tested, eternal poured concrete. Residents can place area rugs atop and replace them when needed if they like, but our flooring will not significantly off-gas or retain dirt.

Ceiling Fans: These use a lot less energy than air conditioners in the summer. User friendly Programmable Thermostats.

LED and CFL lighting: Some of our light bulbs will last ten years or more and use 1/15 the energy of yesterdays bulbs.

Front loading washing machines: These use a lot less water than top loading washers.

EV Outlets
EV outlets throughout garage for electric cars

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30 August 2016

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Architectural Documents

Boulder Junction
rowhouses

inspirations

used for the concept and design of Boulder Junction Rowhouses

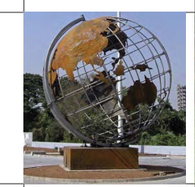
... variety of housing types from urban townhomes (rowhouses) to stacked flats ...
Transit Village Area Plan . "land Use"

Rowhouses a well loved urban home style found throughout history ...

an alternative to apartment living where residents have a sense of home and access to the outdoors
start with the historic design . massing . rhythm . details
add . energy efficiency . healthy construction methods and materials . and excellent planning and design

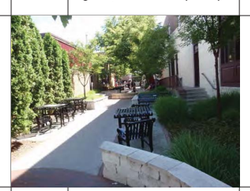
Front Yards
a pause between the public sidewalk and the private residence . a green space enjoyed by all

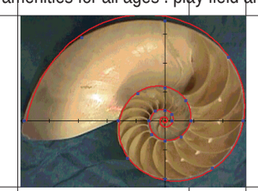
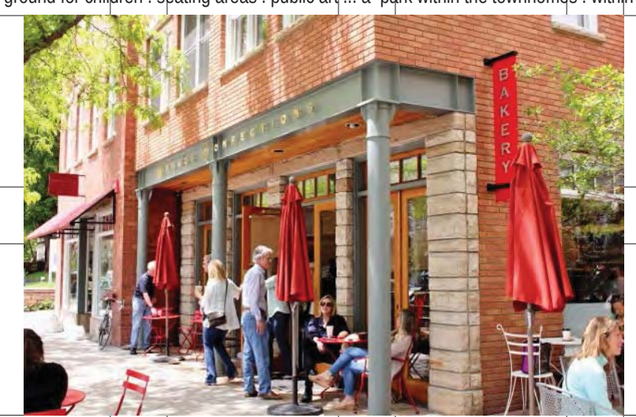
Hotel Boulderado an architectural gem . an icon of Boulder Colorado



A 'Central park' . A 'Town Square' . A "Commons" accessible from each residence . accessible to the community
... usable open space . well-designed, functional open spaces with trees, quality landscaping and art, access to sunlight and places to sit comfortably ...
Transit Village Area Plan . "land Use"

a pleasant place to pass through or to spend time . an outdoor space to spend time . to pause
amenities for all ages . play field and play ground for children . seating areas . public art ... a park within the townhomes . within the City

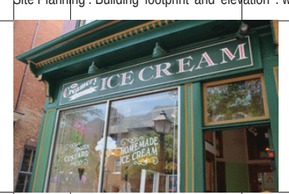


A 'break' between buildings . A Paseo .
a welcoming entrance to the 'Commons' . a connection between the storefronts and the park

Paseo . between Row Houses

Golden Ratio
Site Planning . Building 'footprint' and 'elevation' . window size . 'Commons' planning



provide enough distance between the street and the buildings to allow for public uses . sitting . dining . meeting friends for coffee
Ample pedestrian space, storefronts, furnishings and street trees can make streets living spaces
Transit Village Area Plan . "land Use"

provide space for small food service . coffee . confections . ice cream ...

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Architectural Documents
Boulder Junction
rowhouses

rendering . site plan

Please see other pages for specific materials and dimensions. Also, the commercial spaces are not yet leased and we do not know at this time who the tenants will be. Any commercial signage / floor plan / tables shown in this submittal is for graphic presentation only. We will seek all necessary approvals for retail uses / signage / outdoor tables at the proper time. The signage / tables shown are not part of this site review approval.

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rendering . 30th street elevation

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rendering . 29 1/2 - alley elevation

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A5.0

rendering . commons . view 1

The center sculpture has yet to be commissioned. The artwork shown is for graphic representation only.

The playground equipment is for graphic representation only. We have yet to choose specific pieces of equipment.

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A6.0

rendering . commons . view 2

The playground equipment is for graphic representation only. We have yet to choose specific pieces of equipment.

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Architectural Documents

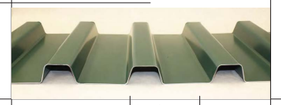
Boulder Junction

rowhouses

materials

and plants

PV panels

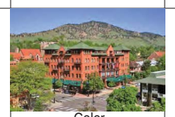


Metals
coping and wall panels

Leader Box
downspout

Solar Canopy
tie back

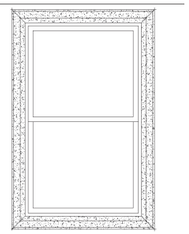
Solar Canopy



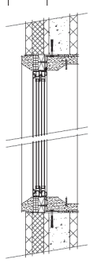
Color
Inspiration

NRG- energy efficient
appearance of brick

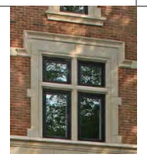
same size brick
Boulder Library - Meadow Branch



cast stone
window surround



Window
Cast Stone Surround



Inspiration

masonry building
dark window frame
limestone surround

fiberglass Window
Bronze

Door Canopy
Integral Address

Proposed Signage
pending necessary approvals

inspirations

decorative fence

trees

ABT Autumn
Brilliance
Serviceberry

CBC
Coralburst
Crab

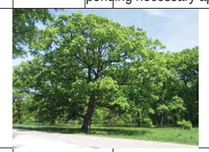
EOA
English Oak

GOA
Gambel Oak

HAC
Common Hackberry

LTR
Japanese Lilac Tree

NEW
Newport Plum



WHO
White Oak

shrubs

AWS
Anthony Waterer
Spirea

MKL
Miss Kim
Lilac

SER
Saskatoon Serviceberry

BGM
Green Mountain Boxwood

ornamental grasses

DMG
Dwarf
Maiden Grass

HFG
Hameln Fountain Grass

sod

Blue Fescue Sod

Garden Wall(s)

concrete
landscape wall
note: walls will include 1" chamfer along a edges

groundcover

ECO
Purple Leaf
Wintercreeper

ENS
English Ivy

SAA
Autum Amber
Sumac

SWW
Sweet Woodruff

VIN
Vinca Minor

Perennials

DAY
Daylily

GAU
Whirling Butterflies

JBG
Johnson's Blue
Geranium

PFB
Scabiosa
Caucasica

RVL
Royal Velvet
Lavender

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30 August 2016

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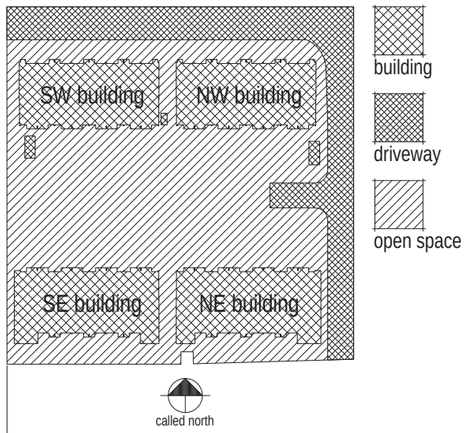
Architectural Documents

Boulder Junction

rowhouses

open space required / provided

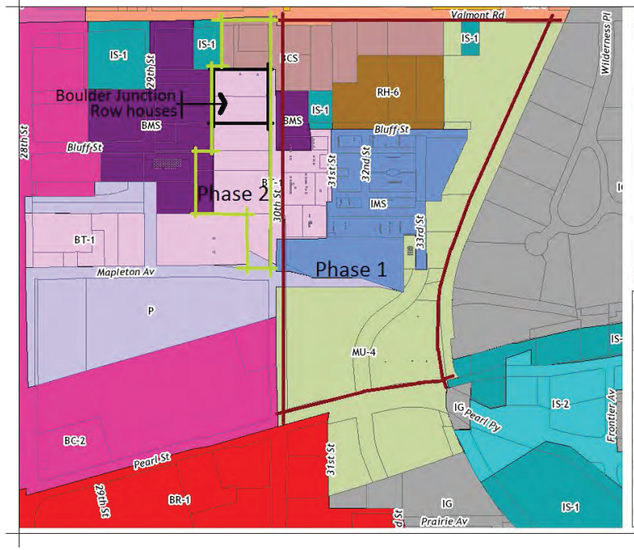


site plan at grade

site plan at grade	80,704
	square feet (typical)
exclude:	
driveway	-14,052
building footprint(s)*	-25,142
*including exterior stairs	
*including window wells	
after exclusions:	41,510
add:	
balconies	+2,160
total open space provided:	43,670
required open space:	
32 units x 1,200 sq.ft. per =	38,400
provided:	1.14% required

Zoning

City of Boulder Colorado Zoning Map



Phasing

Transit Village (Boulder Junction) Area Plan

parking required / provided

count	unit	spaces	required	unit location(s)
16	3 bed-rm	2	32	29 ½ Street
12	4 bed-rm	3	36	30th Street
4	2 bed-rm	1.5	6	above commercial
2	comm	2	4	north and south ends
2	comm	1	2	either side - Paseo
			80	spaces required
after 25% reduction			60	spaces required
			60	provided

Our site, 2751 30th and 2875 30th, is zoned BT-1
As Mr. Ferro stated in the Concept Plan hearing (please see Minutes)
the language of the TVAP Implementation Plan is intentional
and designed to emphasize the build out of Phase I before Phase II is implemented.
And, as the TVAP Implementation Plan states,
Phase II properties that wish to redevelop could do
so under current zoning.
Therefore we are applying for Site Plan
approval under the current BT-1 zoning.

BT-1 Zoning:

Per Table 6-1 Use Table:
Attached dwellings are an allowed use.
Offices are an allowed use.
Restaurants and brewpubs and taverns
(no larger than 1,500 square feet in area,
which may have meal service on an outside patio
not more than ½ the floor area, and which close no later than 11:00 pm)
, are allowed with a use review.

Per Table 7-1 Form and Bulk Standards:
Front setback: 20'*
Side Yards: Floors 1 and 2: 0'
3rd Floor: 12'**
Rear setback: 20'
Height: 35'
Stories: 3
* Please note: Per our Concept Plan Hearing,
we added retail spaces along 30th Street.
In order to place these 'on the sidewalk', we are asking for an exception
to the front setback requirement.

** Also, again per our Concept Plan Hearing, we have minimalized the distance on the South property line, so our setback for the third floor is less than the 12' required.

Per Table 8-1 Intensity Standards:
Open Space Per Dwelling Unit: 1,200 square feet
32 rowhouses x 1,200 sf = 38,400 sf of open space required.
We meet (and exceed) the open space requirement.

Per Table 9-1 Residential Parking Requirements By Zoning District and Unit Type:
Minimum number of off street parking spaces for an attached dwelling unit:
1.5 for a 2 bedroom unit
2 for a 3 bedroom unit
3 for a 4 or more bedroom unit

Per Table 9-3 Nonresidential Parking requirements by Zoning District:
Minimum number of off street parking spaces per square foot of floor area
for nonresidential uses and their accessory uses:
1 per 300 square feet
We are required to have 80 spaces, and provide 60*.
We are asking for a 25% reduction (please see calculations).
*pH ('handicap') and 'loading' spaces (a total of 3 pH and 1 loading = 4 spaces)
are not included
in the 'provided' count of 60.

BRJ

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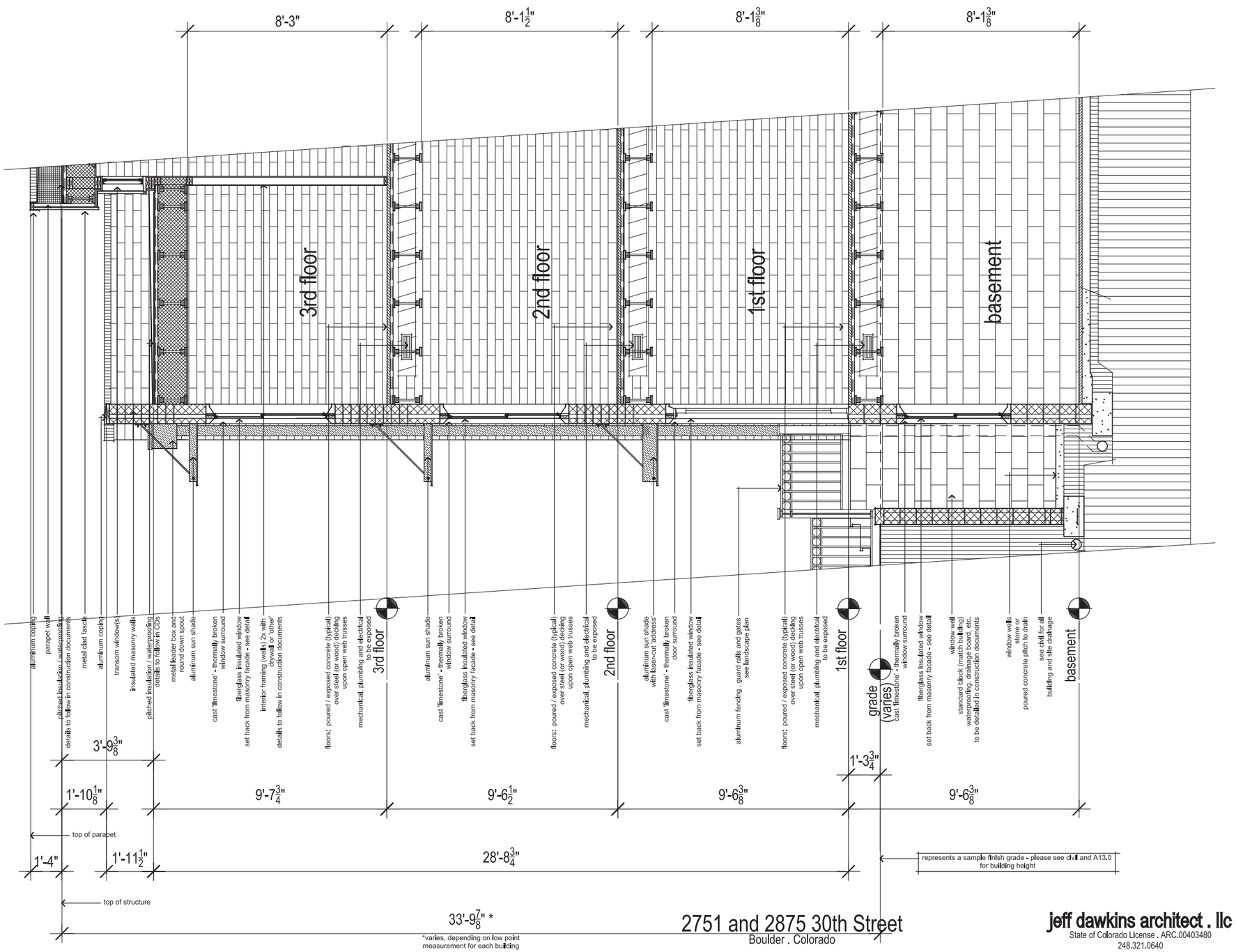
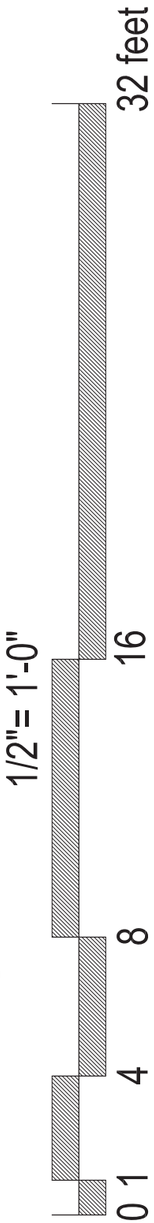
Architectural Documents
Boulder Junction
rowhouses



typ. wall section

1/2"= 1'-0"



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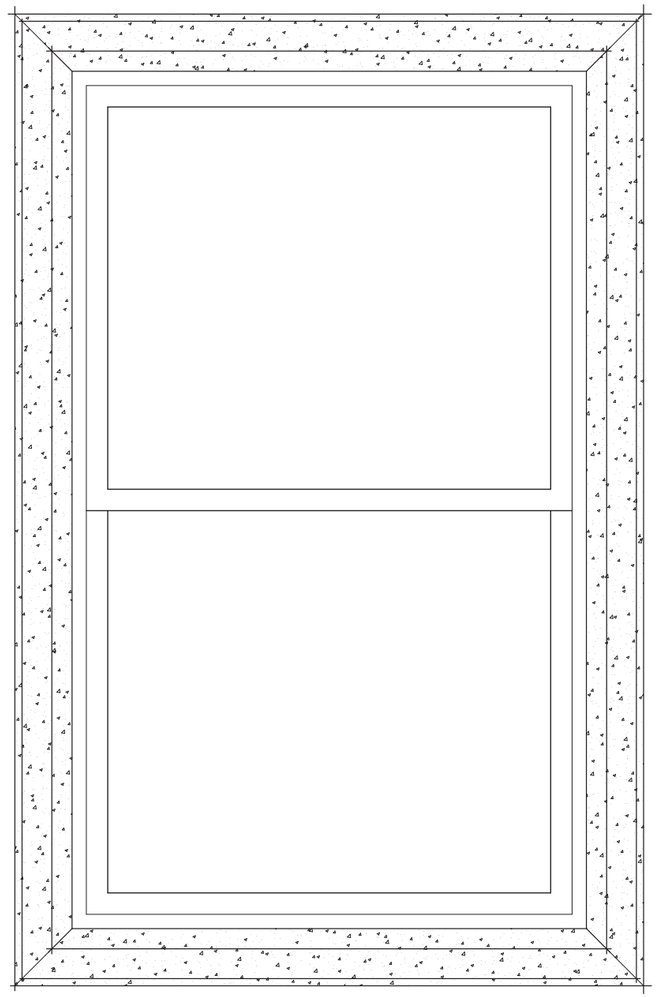
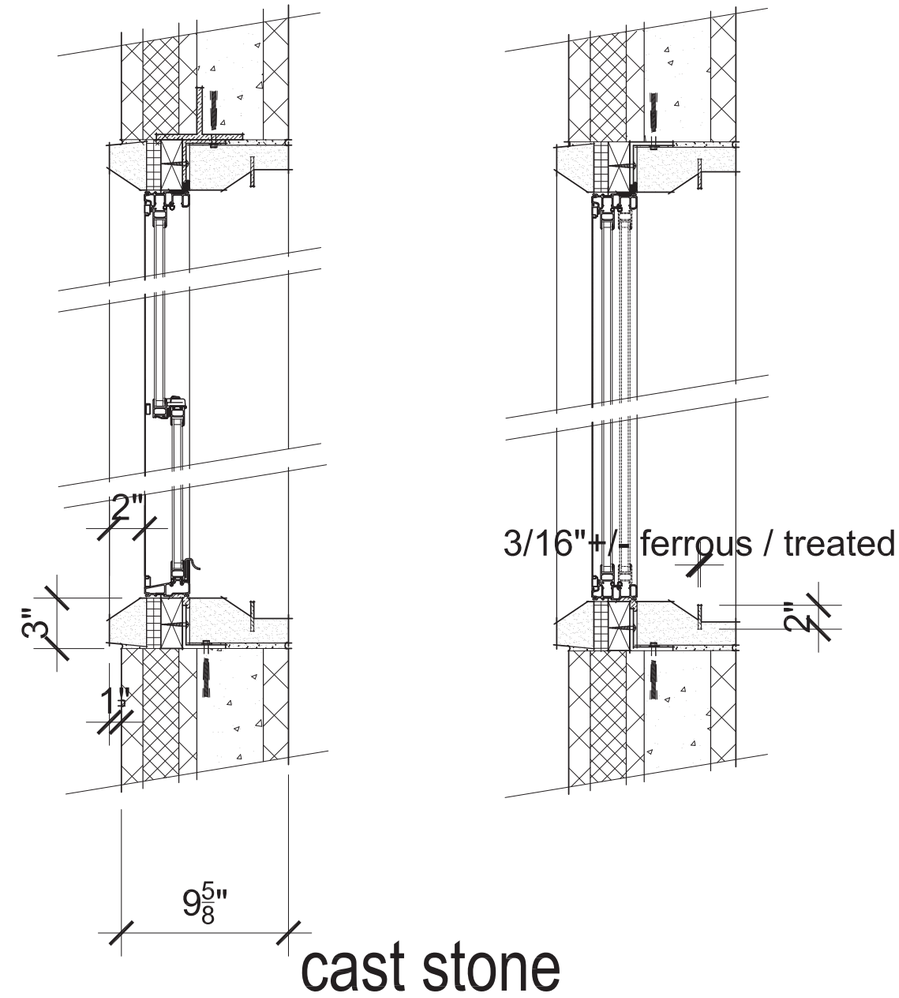
Architectural Documents
Boulder Junction
rowhouses



cast stone
window surround



cast stone

window head + sill
3"= 1'-0"

window jamb
3"= 1'-0"

typical window
installation details

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Architectural Documents
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rowhouses

The commercial spaces are not yet leased and we do not know at this time who the tenants will be.
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We will seek all necessary approvals for retail uses at the proper time.
The signage /tables shown are not part of this site review approval.
We will seek all necessary permits for our commercial users under a separate application in the future.

typical 29 1/2 Alley Elevation

typical 30th Street Elevation

elevations from:

DREXEL, BARRELL & CO.
Engineers • Surveyors

0 1 4 8 16 32 feet

1/8" = 1'-0"
grades / elevations vary
see CIVIL

typical Street and Alley Elevations

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Architectural Documents
Boulder Junction
rowhouses

0 1 4 8 16 32 feet
3/16" = 1'-0"

grades / elevations vary
see CIVIL

typical rear elevation and underground parking section

2751 and 2875 30th Street
Boulder . Colorado

30 August 2016

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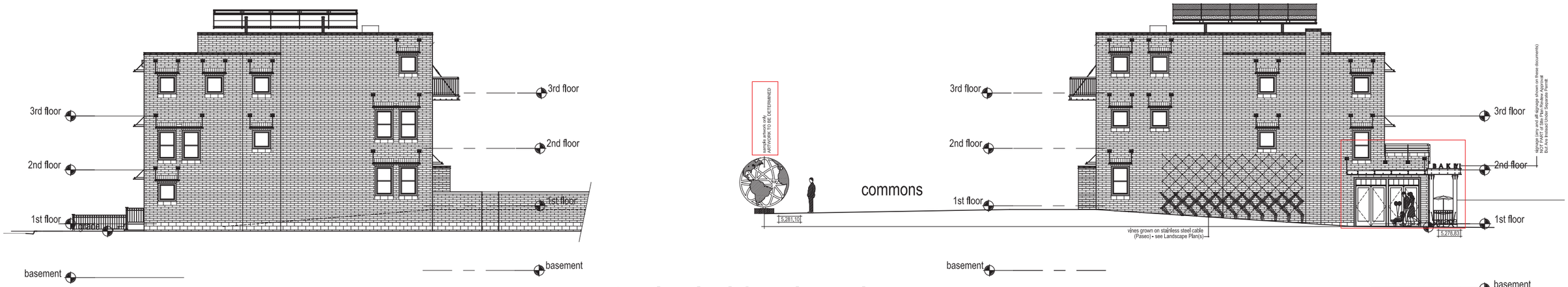
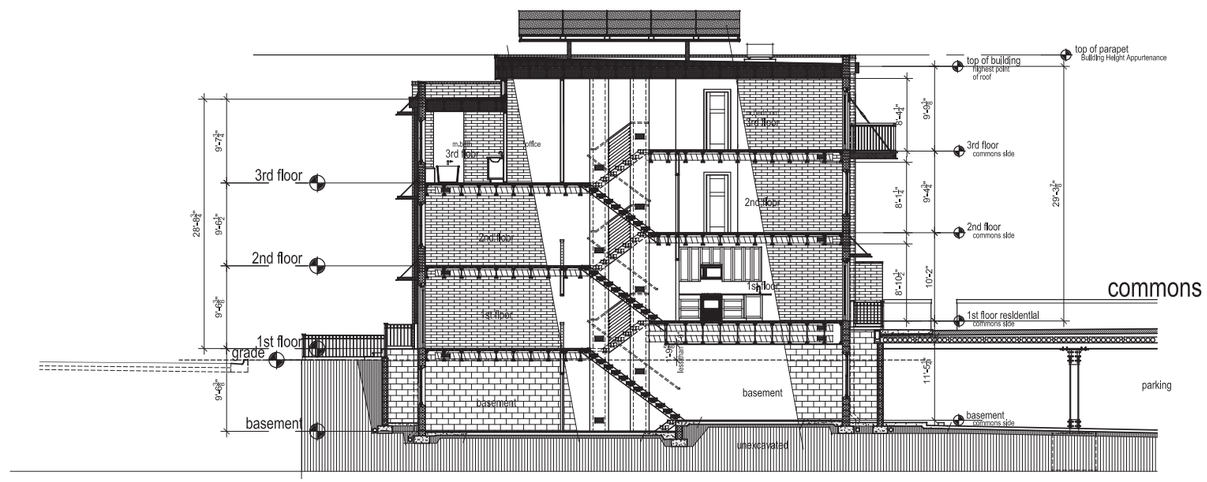
A13.0

Architectural Documents
Boulder Junction
rowhouses

The commercial spaces are not yet leased and we do not know at this time who the tenants will be.
Any commercial signage / floor plan / tables shown in this submittal is for graphic presentation only.
We will seek all necessary approvals for retail uses at the proper time.
The signage /tables shown are not part of this site review approval.
We will seek all necessary permits for our commercial users under a separate application in the future.



typical side elevations



typical site section

0 1 4 8 16 32 feet
1/8" = 1'-0"

grades / elevations vary
see CIVIL

typical side elevation(s) and building section

2751 and 2875 30th Street
Boulder . Colorado

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Architectural Documents
Boulder Junction
rowhouses

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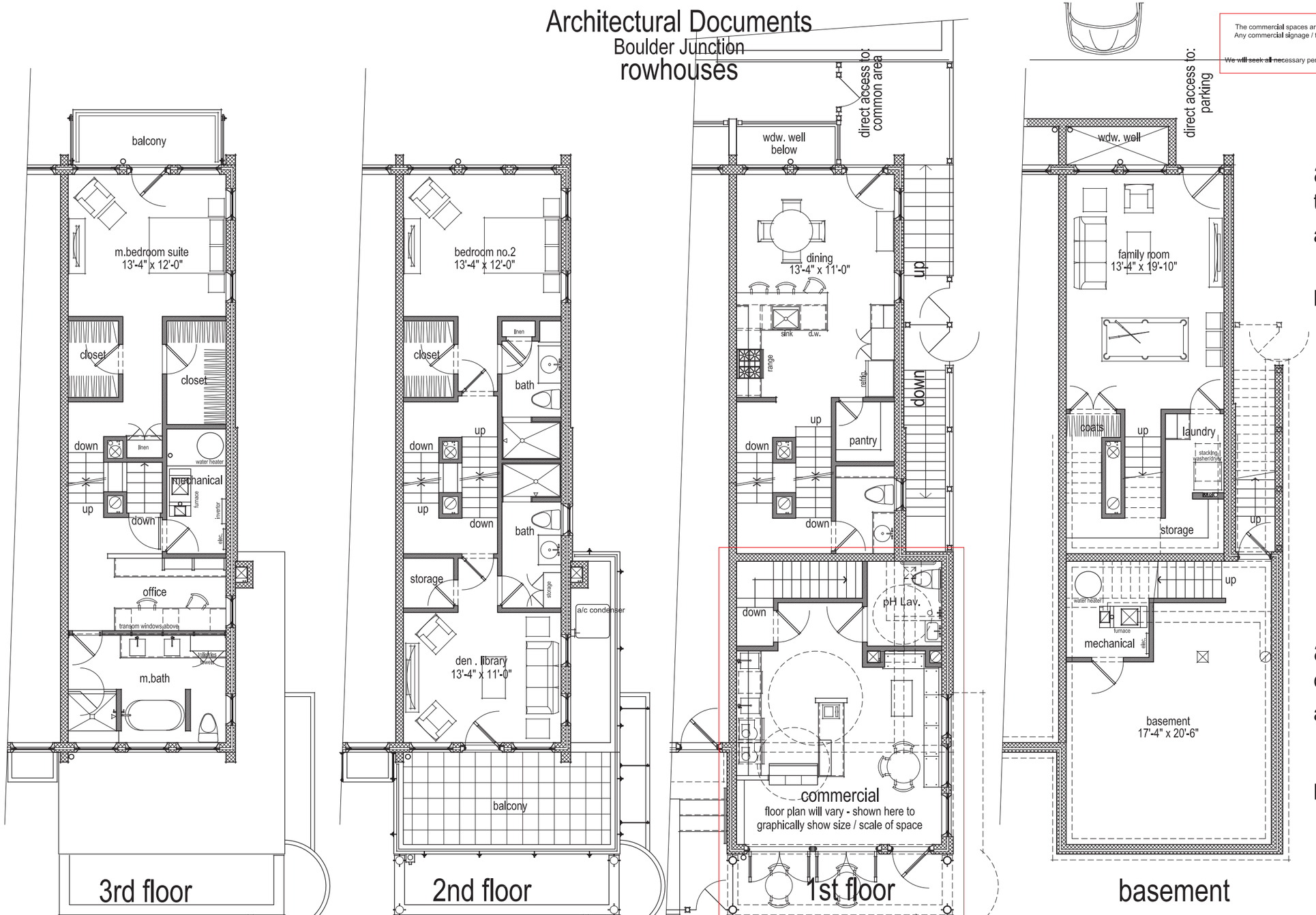

area
typ. 2 bedroom unit

above grade
1,916 square feet

basement
482 square feet

area
commercial - end unit

above grade
473 square feet
(355 s.f. net)

basement
473 square feet

typical floor plans . end unit(s) . 2 bedroom . + commercial 30th . 2 such

1/4" = 1'-0"

0 1 4 8 16 32 feet

2751 and 2875 30th Street
Boulder . Colorado
30 August 2016

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A15.0

Architectural Documents
Boulder Junction
rowhouses

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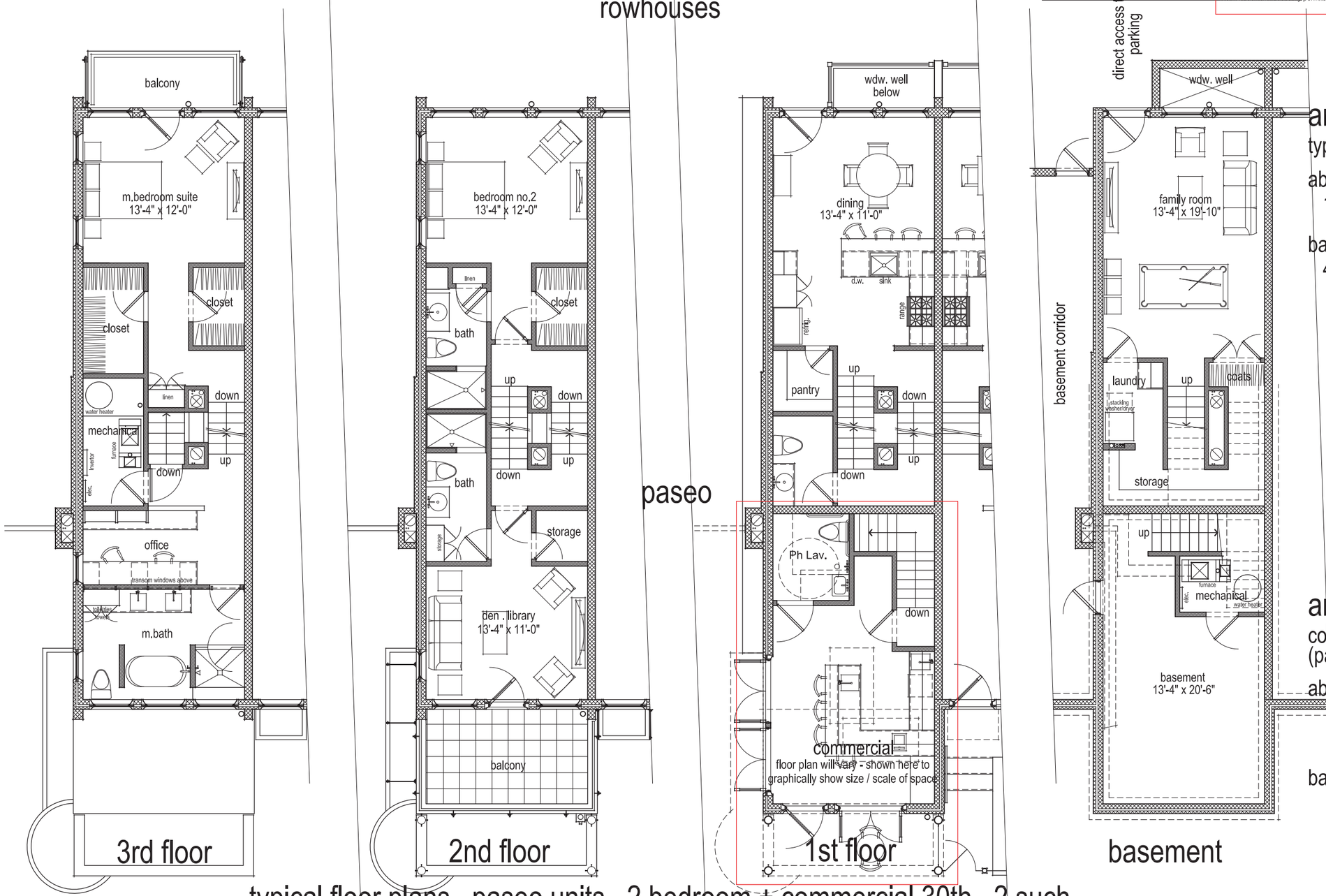
The signage /tables shown are not part of this site review approval.
We will seek all necessary permits for our commercial users under a separate application in the future.



area
typ. 2 bedroom unit

above grade
1,916 square feet

basement
482 square feet

area
commercial - end unit
(paseo)

above grade
366 square feet
(273 s.f. net)

basement
366 square feet

typical floor plans . paseo units . 2 bedroom + commercial 30th . 2 such

1/4" = 1'-0"

0 1 4 8 16 32 feet

2751 and 2875 30th Street
Boulder . Colorado
30 August 2016

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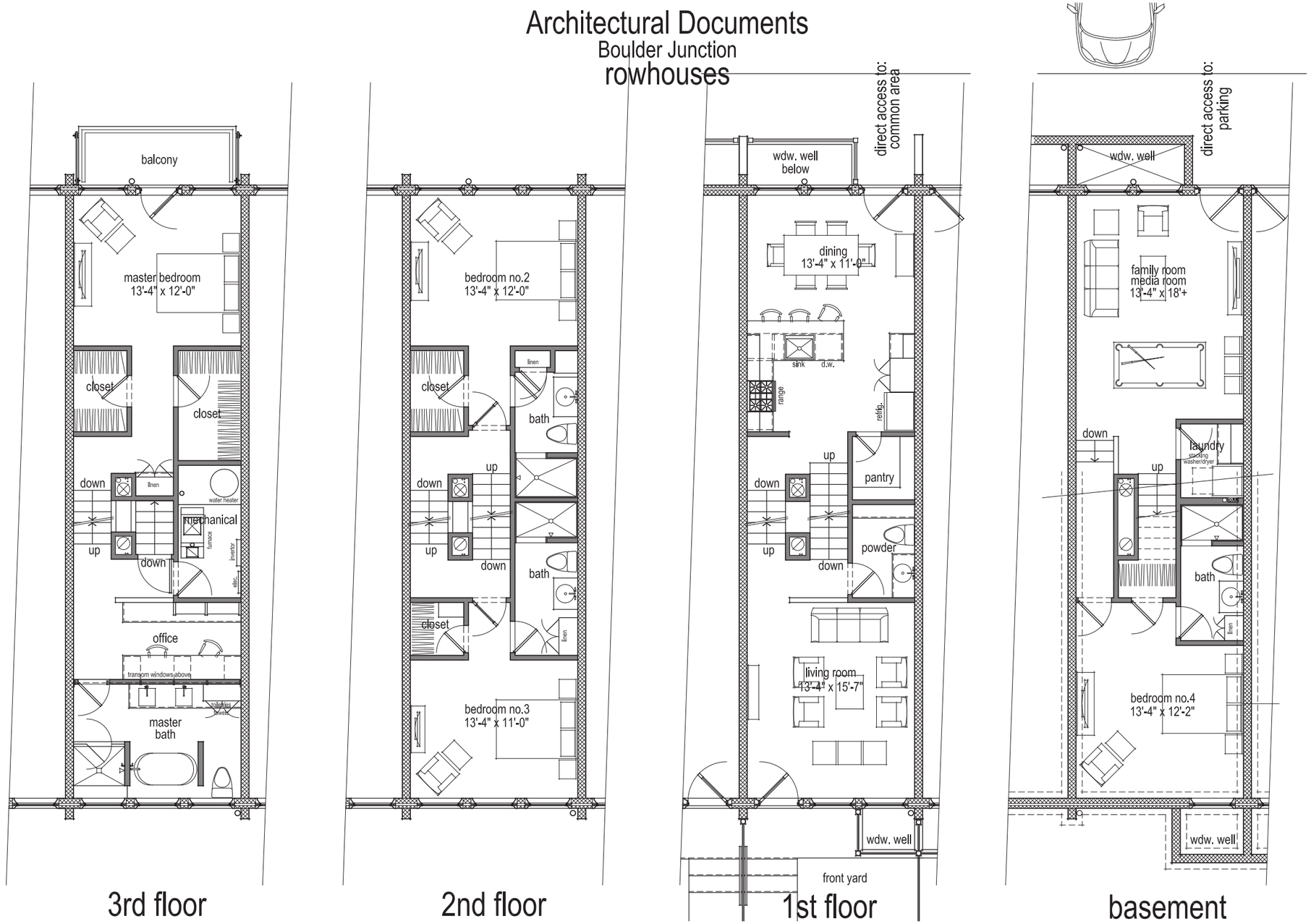
A16.0

Architectural Documents

Boulder Junction

rowhouses



3rd floor

2nd floor

1st floor

basement

typical floor plans . 4 bedroom . 30th . 12 such

1/4" = 1'-0"

area

typ. 4 bedroom unit
30th

above grade
2,079 square feet

basement
693 square feet

0 1 4 8 16 32 feet

2751 and 2875 30th Street
Boulder . Colorado
30 August 2016

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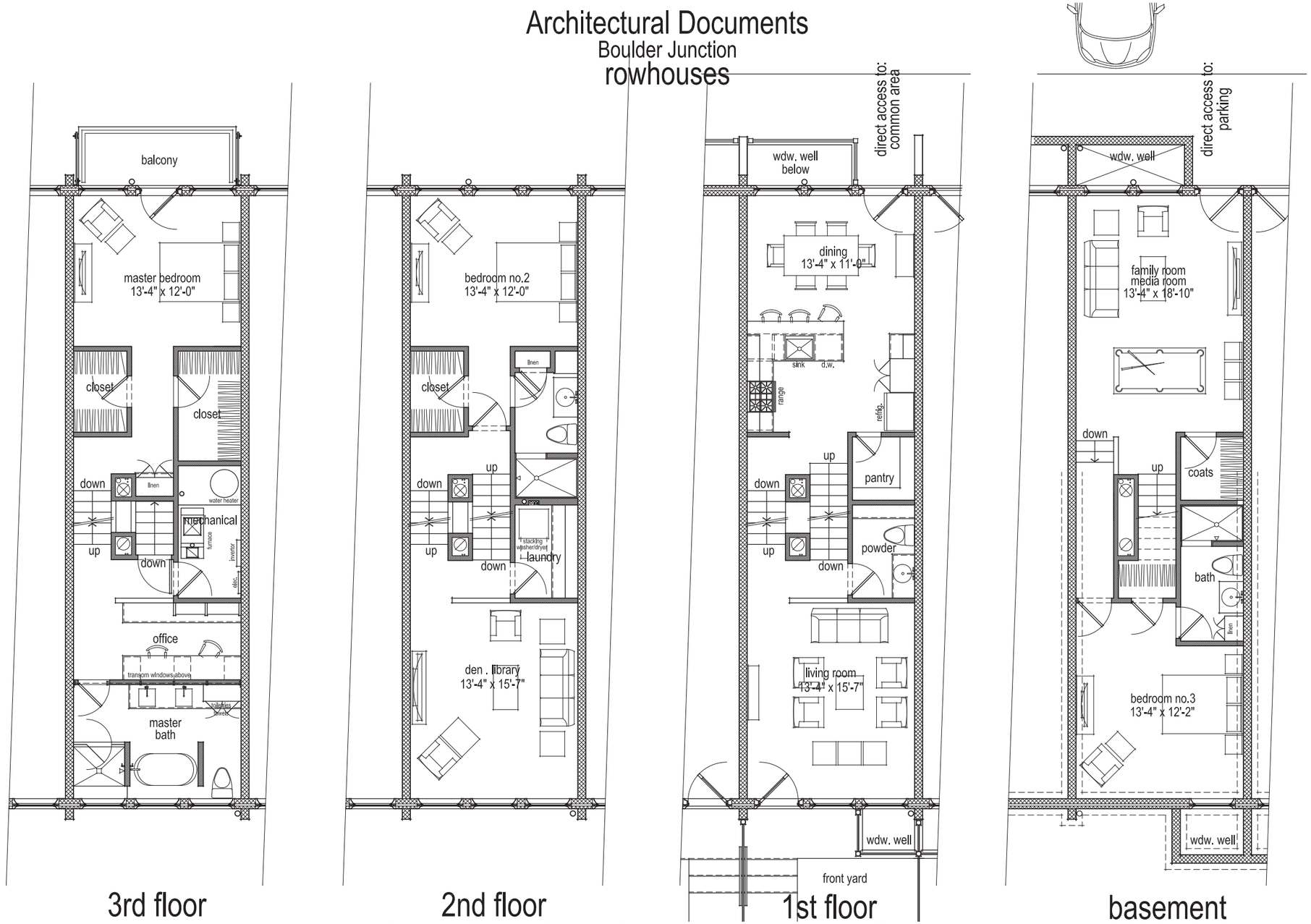
A17.0

Architectural Documents

Boulder Junction

rowhouses



typical floor plans . 3 bedroom . Alley . 16 such

1/4" = 1'-0"

area

typ. 3 bedroom unit
$29\frac{1}{2}$

above grade
2,079 square feet

basement
693 square feet

0 1 4 8 16 32 feet

2751 and 2875 30th Street
Boulder . Colorado
30 August 2016

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A18.0

C I T Y O F B O U L D E R
PLANNING BOARD AGENDA ITEM
MEETING DATE: October 6, 2016

AGENDA TITLE:
Public hearing and consideration of a Floodplain Development Permit (LUR2016-00035) and a Stream, Wetland, and Water Body Permit (LUR2016-00034) for a rehabilitation and enhancement project for the Civic Area along Boulder Creek, between 9th Street and Broadway within the conveyance zone, high hazard zone, stream, and buffer zones.

Applicant/Owner: City of Boulder Parks and Recreation Department

REQUESTING DEPARTMENT:
Public Works
Maureen Rait, Executive Director of Public Works
Edward Stafford, Development Review Manager – Public Works
Jessica Stevens, Floodplain and Wetland Administrator

OBJECTIVE:
1. Hear staff and applicant presentations
2. Hold public hearing
3. Planning Board discussion
4. Planning Board take action to approve, approve with conditions or deny

SUMMARY:

Proposal: The applicant is applying for a Floodplain Development Permit and a Stream, Wetland, and Water Body Permit for a rehabilitation and enhancement project for the Boulder Civic Area within the conveyance zone, high hazard zone, stream, and buffer zones of Boulder Creek.

Staff finds that the applicant has met the requirements outlined in B.R.C., Section 9-3-4, "Regulations Governing the Conveyance Zone, Section 9-3-5 "Regulations Governing the High Hazard Zone and Section 9-3-6, "Floodplain Development Permits." Staff recommends the approval of the Floodplain Development Permit.

Staff finds that the applicant has met the requirements outlined in B.R.C., Section 9-3-9, "Stream, Wetlands, and Water Body Protection". Staff recommends the approval of the Stream, Wetland, and Water Body Permit.

Project Name: Boulder Civic Area Park Development
Location: Along Boulder Creek, between 9th Street and Broadway

KEY ISSUES:

1. **Is the proposed Floodplain Development Permit consistent with the Floodplain Development Permit criteria set forth in Section 9-3-4, 9-3-5, and 9-3-6 B.R.C. 1981?**

2. **Is the proposed Stream, Wetland, and Water Body Permit consistent with the Stream, Wetland, and Water Body Permit criteria set forth in Section 9-3-9(e)(4), B.R.C. 1981?**

BACKGROUND:

Project Description
The Boulder Civic Area includes a multi-phased master plan with multiple projects, including the East Bookend and West Bookend developments, the incorporation of a complete street along Canyon Boulevard, an improved underpass at Arapahoe Avenue and a park at the core. The Phase I Park Development includes the area along Boulder Creek, between 9th Street and Broadway (see Park Development Plan, Attachment A). The park development proposes to create a more vibrant and active urban park and civic area, including recreational amenities, connections and pedestrian circulation improvements to and through the Civic Area. The project includes separating pedestrians and bicyclists on the multi-use path and replacement of the current pedestrian crossing with a longer spanning bridge along the 11th Street spine. The bridge expansion allows for a wider terrace of diverse riparian vegetation near the creek and reduces the potential for blockage of flood waters. The proposal also includes the addition of educational nature-play areas, an increase in native vegetation, enhancement of the ecological value of the site, and the creation of a green valley community space. The community space will provide recreational, art and cultural opportunities and include creek terraces that provide defined access points along the banks of the creek, minimizing disturbance of the riparian corridor.

A Community and Environmental Assessment Process was completed for the Park Development in order to consider the impacts of this public development project as it relates to the community policies and goals outlined in the Boulder Valley Comprehensive Plan (BVCP) and relevant master plans. The results of the assessment process were presented to the Planning Board on September 17, 2015, the Parks and Recreation Advisory Board on September 28, 2015, and City Council on November 10, 2015.

Permit Process
The Civic Area Park is located within the flood conveyance zone, high hazard zone and the stream and buffer zones of Boulder Creek. The Parks and Recreation Department applied for a Floodplain Development Permit (Attachment B) and a Stream, Wetland, and Water Body Permit (Attachment C) on May 3, 2016. Public Works staff contracted with a third party consultant to complete the review of the hydraulic analysis for the project. Both permits were approved by Public Works staff on September 6, 2016. The staff level decisions associated with the Floodplain Development Permits and the Stream, Wetland, and Water Body Permits are subject to call-up by the Planning Board or by the public within 14 days of staff's decision. A member of the Planning Board called up the staff level decisions associated with both permits on September 15, 2016.

FLOODPLAIN DEVELOPMENT PERMIT ANALYSIS:

In reviewing a Floodplain Development Permit for projects within the flood conveyance zone and high hazard zone, the criteria of Section 9-3-6 "Floodplain Development Permits", Section 9-3-3 "Regulations Governing the One Hundred-Year Floodplain", Section 9-3-4 "Regulations Governing the Conveyance Zone" and Section 9-3-5 "Regulations Governing the High Hazard Zone" B.R.C. are considered.

The criteria for the consideration of a Floodplain Development Permit and the staff's rationale and findings as to why those standards have been satisfied for this application are listed below:

The application has to meet the intent of the floodplain regulations prescribed by Section 9-3-2(a), B.R.C. 1981:

> Legislative Intent: The purpose of this chapter is to regulate certain areas of the city subject to flooding in order to protect the public health, safety, and welfare by:
>
> 1. Restricting or prohibiting certain uses that are hazardous to life or property in time of flood;
>
> 2. Restricting the location of structures intended for human occupancy and regulating the manner in which such structures may be built in order to minimize danger to human life within and around such structures;
>
> 3. Requiring that those structures allowed in the floodplain be expanded or enlarged, and equipment and fixtures be installed or replaced, in a manner designed to prevent their being washed away and to assure their protection from severe damage;
>
> 4. Regulating the method of construction and replacement of water supply and sanitation systems in order to prevent disease, contamination, and unsanitary conditions;
>
> 5. Maintaining for public inspection available maps delineating areas subject to such provisions in order to protect individuals from purchasing or using lands for purposes that are not suitable;
>
> 6. Protecting and preserving the water-carrying and water-retention characteristics and capacities of watercourses used for conveying and retaining floodwaters; and
>
> 7. Obtaining and maintaining the benefits to the community of participating in the National Flood Insurance Program.

In considering whether the intent prescribed by Section 9-3-2(a), B.R.C. 1981, has been met, the following factors are considered:

Section 9-3-6 "Floodplain Development Permits" Criteria:

1. **The effects upon the efficiency or capacity of the conveyance zone and high hazard zone;** A hydraulic analysis (Attachment F) of the proposed 11th Street bridge and enhancements in the Civic Area was completed by Anderson Consulting Engineers, Inc. The analysis has confirmed that the project will have no adverse impact to the efficiency or capacity of the conveyance zone or high hazard zone.

2. **The effects upon lands upstream, downstream, and in the immediate vicinity;**
   The hydraulic analysis discussed above has confirmed that the project will have no adverse impact to the efficiency or capacity of the conveyance zone or high hazard zone and will not result in a rise in the one hundred-year flood profile over existing conditions. Therefore, the project will not adversely affect lands upstream, downstream or in the immediate vicinity as compared to the existing conditions.

3. **The effects upon the one hundred-year flood profile;**
   If the capacity of a flood channel is reduced, the result is an increase in the flood water elevation, which corresponds to an impact to the one hundred-year flood profile. The hydraulic analysis discussed above has confirmed that the project will not result in any rise in the one hundred-year flood profile as compared to the existing conditions.

4. **The effects upon any tributaries to the main stream, drainage ditches, and any other drainage facilities or systems;**
   There are no tributaries to Boulder Creek in the project area. A stormwater plan and report that addresses impacts to drainage facilities and systems has been reviewed by Public Works staff and found to be in compliance with Chapter 7 "Stormwater Design" of the Design and Construction Standards. The design engineer has demonstrated that the project will have no adverse impact on tributaries, drainage ditches or any other drainage facilities or systems.

5. **Whether additional public expenditures for flood protection or prevention will be required;**
   No additional public expenditures will be required for flood protection or prevention as a result of the Boulder Civic Area Park Development Plan.

6. **Whether the proposed use is for human occupancy;**
   The project does not propose any new structures intended for human occupancy.

7. **The potential danger to persons upstream, downstream, and in the immediate vicinity;**
   The hydraulic analysis discussed above has confirmed that the project will have no adverse impact to the efficiency or capacity of the conveyance zone or high hazard zone and will not result in a rise in the one hundred-year flood profile. Therefore, the project will not increase the potential danger to persons upstream, downstream or in the immediate vicinity of the project.

8. **Whether any proposed changes in a watercourse will have an adverse environmental effect on the watercourse, including, without limitation, stream banks and streamside trees and vegetation;**
   The project will not adversely impact the watercourse of Boulder Creek. The banks of Boulder Creek are heavily disturbed throughout the project area, and generally consist of compacted bare ground. Areas of the streambank will be improved through stabilization to minimize erosion and the buffer areas will be enhanced with native plantings.

   Much of the vegetation which has been proposed to be removed has been determined to be in fair to poor condition, or a concern to public safety. The removal of vegetation within the buffer zones will be mitigated through the planting of native species in accordance with the

City of Boulder Wetland Protection Program Best Management Practices Revegetation Rules.

9. **Whether any proposed water supply and sanitation systems and other utility systems can prevent disease, contamination, and unsanitary or hazardous conditions during a flood;**
   The water supply system for the nature play area will be connected to the water service for the library building. The water service to the library structure has been retrofitted to include a backflow preventer. Therefore, this project will have no adverse impact on the water utility system during a flood. No sanitation systems have been proposed.

10. **Whether any proposed facility and its contents will be susceptible to flood damage and the effect of such damage;**
    The project is located within the conveyance zone and high hazard zone of Boulder Creek. These areas are intended to convey flows in the event of a flood and will have high depths of flow and high flow velocities. The Civic Area was impacted by the 2013 floods and it is likely that the site will be impacted by future flooding. The project proposes park uses which will minimize the potential for adverse impacts and allow the conveyance of flood flows. The proposed bridge has been designed with the low chord above the one hundred-year flood elevation, improvements have been anchored to withstand flood forces, and equipment has been elevated to prevent damage.

11. **The relationship of the proposed development to the Boulder Valley Comprehensive Plan and any applicable floodplain management programs;**
    The project was determined to be consistent with the goals and policies of the Boulder Valley Comprehensive Plan through the Community and Environmental Assessment Process. The proposed plan will restore and enhance habitat areas, meet all current flood related codes and regulations, and provide streambank restoration.

12. **Whether safe access is available to the property in times of flood for ordinary and emergency vehicles;**
    The project is located within the conveyance zone and high hazard zone of Boulder Creek. These areas are intended to convey flows in the event of a flood and will have high depths of flow and high flow velocities. Safe access is not currently available for vehicles in this area. The project will not impact the current vehicular access to the Civic Area.

13. **Whether the applicant will provide flood warning systems to notify floodplain occupants of impending floods;**
    There are existing flood sirens on structures located within the Civic Area. No additional warning systems have been proposed and no additional occupants have been added to the floodplain by this project.

14. **Whether the cumulative effect of the proposed development with other existing and anticipated uses will increase flood heights; and**
    The hydraulic analysis discussed above has confirmed that the project will not result in any rise in the elevation of the one hundred-year flood profile as compared to the existing conditions. Additional hydraulic analysis will be required for any future uses within the Civic Area or on private properties within the Boulder Creek conveyance zone.

15. **Whether the expected heights, velocities, duration, rate of rise, and sediment transport of the floodwaters expected at the site will adversely affect the development or surrounding property.**
The project is located within the conveyance zone and high hazard zone of Boulder Creek. These areas are intended to convey flows in the event of a flood and will have high depths of flow and high flow velocities. The Civic Area was impacted by the 2013 floods and it is likely that the site will be impacted by future flooding. The project proposes park uses which will minimize the potential for adverse impacts and provide for the continued conveyance of flood flows. The proposed bridge has been designed with the low chord above the one hundred-year flood elevation, improvements have been anchored to withstand flood forces, and equipment has been elevated to prevent damage. During high flows improvements in this area could be impacted by sediment scour and deposition, requiring repair and maintenance.

Section 9-3-4 "Regulations Governing the Conveyance Zone" Criteria:

a. **The provisions of Section 9-3-3, "Regulations Governing the One Hundred-Year Floodplain," B.R.C. 1981.**
The criteria of **Section 9-3-3** have been addressed in Attachment D

b. **The provisions of Section 9-3-5, "Regulations Governing the High Hazard Zone," B.R.C. 1981, if the land is also located in the high hazard zone.**
The criteria of **Section 9-3-5** "Regulations Governing the High Hazard Zone," B.R.C. 1981 have been provided below.

c. **All uses allowed under the provisions of Section 9-3-3, "Regulations Governing the One Hundred-Year Floodplain," B.R.C. 1981, if they are not prohibited by the underlying zoning district or any ordinance of this city, may be established, except that no person shall establish or change any use that results in any rise in the elevation of the one hundred-year flood.**
The Civic Area is zoned Public, park and recreation uses are allowable within the zone. The hydraulic analysis discussed above has confirmed that the project will not result in any rise in the elevation of the one hundred-year flood profile as compared to the existing conditions.

d. **All structures allowed under Section 9-3-3, "Regulations Governing the One Hundred-Year Floodplain," B.R.C. 1981, may be established except that no person shall:**

    1. **No person shall place any structure in the conveyance zone that will result in any rise in the elevation of the one hundred-year flood.**
    The hydraulic analysis discussed above has confirmed that the project will not result in any rise in the elevation of the one hundred-year flood profile as compared to the existing conditions.

    2. **No person shall place any obstruction in the conveyance zone, except a device reasonably necessary for flood management if the device is designed and constructed to minimize the potential hazards to life and property.**
    Section 9-16 "Definitions" B.R.C. defines an obstruction as *any item or material not constituting a moveable object in, along, across, or projecting into the floodplain that might impede, retard, or change the direction of a flow of water, either by itself or by*

catching or collecting debris carried by such water, in a way that the city manager determines would increase the flood hazard to adjacent properties. (Floodplain)

The proposed bridge was analyzed in the hydraulic model, with the assumption that debris would be collected during flooding conditions. The results of the analysis found that there would be no increase in the elevation of the one hundred-year flood profile, therefore there will be no increase in the flood hazard to adjacent properties as compared to the existing conditions.

e. **No person shall carry out any other development that results in any rise in the elevation of the one hundred-year flood.**
The hydraulic analysis discussed above has confirmed that the project will not result in any rise in the elevation of the one hundred-year flood as compared to the existing conditions.

f. **Localized rises within flood channels or on a specific parcel that is being developed are permissible if there is no adverse impact on nearby properties and there is no increase in the average water surface elevations along the cross sections of the floodplain.**
The hydraulic analysis discussed above has confirmed that the project will not result in any rise in the elevation of the one hundred-year flood as compared to the existing conditions

g. **Localized rises on land owned or controlled by a government or government subdivision or agency, or within public drainage or flood control easements, are permissible if the following requirements have been satisfied:**

    1. **The applicant has necessary property interests or permission to use land to allow the increase in any water surface elevation or there is no adverse impact to such land;**
    2. **There are no insurable structures under the FEMA National Flood Insurance Program affected by the localized rise;**
    3. **The applicant minimizes the amount of the localized rise in a flood elevation; and**
    4. **The applicant complies with all necessary FEMA requirements, including, without limitation, obtaining a Conditional Letter of Map Revision (CLOMR) prior to development and a Letter of Map Revision (LOMR) upon completion of a project causing a localized rise in flood elevation.**

The hydraulic analysis discussed above has confirmed that the project will not result in any rise in the elevation of the one hundred-year flood as compared to the existing conditions

Section 9-3-5 "Regulations Governing the High Hazard Zone" Criteria:

a. **The provisions of Section 9-3-3, "Regulations Governing the One Hundred-Year Floodplain," B.R.C. 1981.**
The criteria of **Section 9-3-3** have been addressed in Attachment D

b. **The provisions of Section 9-3-4, "Regulations Governing the Conveyance Zone," B.R.C. 1981, if the land is also located in the conveyance zone.**
The criteria of **Section 9-3-4** have been addressed above.

c. **All uses allowed under the provisions of Section 9-3-3, "Regulations Governing the One Hundred-Year Floodplain," B.R.C. 1981, if they are not prohibited by the underlying zoning district or any other ordinance of the city, may be established, except that no person shall:**

   1. **Change the use of an existing structure intended for human occupancy from a nonresidential use to a residential use or use as a school, daycare center, group home, residential care facility, or congregate care facility.**
      No change of use of existing structures has been proposed.

   2. **Establish any new parking lot for motor vehicles.**
      No new parking lots have been proposed. The project has proposed the removal of 21 parking spaces from the Canyon Street parking lot, located in the high hazard zone.

   3. **Establish any campground.**
      No campgrounds have been proposed.

d. **All structures allowed under the provisions of Section 9-3-3, "Regulations Governing the One Hundred-Year Floodplain," B.R.C. 1981, may be established, except that no person shall:**

   1. **Construct or place any new structure intended for human occupancy.**
      Section 9-16 "Definitions" B.R.C. defines intended for human occupancy as *capable of and likely to be used for residential habitation, or for commercial, industrial, or governmental occupation by persons on a regular basis. (Floodplain)*

      No new structures intended for human occupancy have been proposed.

   2. **No person shall expand, enlarge, or make a substantial modification or substantial improvement to any existing structure intended for human occupancy in the high hazard zone.**
      The project has not proposed any modifications to any existing structures intended for human occupancy.

e. **Unconditioned, unenclosed building elements such as balconies, awnings, and roof overhangs may extend up to four feet into the high hazard zone if completely located above the flood protection elevation and the remainder of the structure complies with this chapter.**
   No balconies, awning, or roof overhangs have been proposed.

Standard professional practice and FEMA guidance for floodplain analysis includes reviewing the current regulatory flood model and available additional information. In this permit detailed survey data obtained for the project, existing grade control structures that had not previously been included in the model, and the identification of an area downstream of the library that does not effectively convey flood flows, were added to the hydraulic modeling for Boulder Creek. The updated model identified that the existing one hundred-year floodplain elevation for the reach of Boulder Creek within the Civic Area is higher than indicated in the current regulatory model. This means that some properties that are not currently mapped within the

regulatory floodplain have a greater risk during a 100-year storm than was previously identified. These increases are a result of the additional information described above, not of the proposed project design. The applicant has indicated that they plan to coordinate with their engineer to revise the model and the project design in an effort to minimize the impacts of the updated hydraulic modeling.

Based on discussions of the Civic Area park development plan with City Council, the applicant is also intending to preserve one of the five silver maple trees south of the Canyon Boulevard parking lot. These silver maple trees are not located within the wetland permit area, but are located within the floodplain and the area considered in the hydraulic analysis. Additional analysis has been undertaken by the applicant in an effort to preserve one of these trees.

Changes to the plans to accommodate the preservation of one of the Silver Maple trees and minimize the impacts of the updated hydraulic modeling would require the applicant to submit a revision to the Floodplain Development Permit, including the hydraulic analysis associated with the grading modifications. A condition of approval has been added to the Floodplain Development Permit requiring that, subject to review and approval of the city manager, any such changes meet the standards of Section 9-3-6, Floodplain Development Permits, B.R.C. 1981, and do not alter the basic intent of the approved plans.

As a condition of the Floodplain Development Permit the applicant will be required to submit as-built drawings to Planning and Development Services and shall receive approval of a Letter of Map Revision (LOMR) to reflect the final floodplain limits and elevations or shall cause such approval to occur as part of or in coordination with a LOMR application for later phases of the Civic Area redevelopment.

Staff's conclusion is that the applicant has satisfied the requirements of Section 9-3-6 "Floodplain Development Permits", Section 9-3-3 "Regulations Governing the One Hundred-Year Floodplain", Section 9-3-4 "Regulations Governing the Conveyance Zone" and Section 9-3-5 "Regulations Governing the High Hazard Zone" B.R.C. and recommends that the Planning Board approve the Floodplain Development Permit, subject to the conditions of approval listed in the permit (Attachment B).

STREAM, WETLAND, AND WATER BODY PERMIT ANALYSIS:
In reviewing a Stream, Wetland, and Water Body Permit for projects within the stream and buffer zones, the criteria of Section 9-3-9(e) "Stream, Wetland and Water Body Permit Application Review" B.R.C. are considered.

The criteria for the consideration of a Stream, Wetland, and Water Body Permit and the staff's rationale and findings as to why those standard have been satisfied for this application are listed below:

Section 9-3-9(e)(4) "Criteria for Standard Review":

Criteria for Standard Review: In addition to the standards in paragraph (e)(3) of this section, the applicant shall demonstrate that the stream, wetland or water body permit application meets the following criteria:

The criteria of Section 9-3-9(e)(3) have been provided in Attachment E.

A. **Minimization: Any direct or indirect adverse impact on a stream, wetland or water body and its associated buffer area has been minimized to the maximum extent feasible**

through a reduction in the size, scope or density of the project or a change of project configuration or design;
The project proposes to use existing trails for construction access where possible, limit the use of concrete and grout, and leave the root structure of trees and willows in place to allow for quick regeneration. Construction within the creek has been proposed during the low flow season in order to minimize direct impacts to the creek.

B. **Minimal Impact: The activity will result in minimal impact or impairment to any stream, wetland or water body function;**
The banks of Boulder Creek are heavily disturbed throughout the project area, and generally consist of compacted bare ground with exposed roots and rocks. The project has been proposed as a restoration and enhancement to the existing stream and buffer zones and will result in an increase in native and natural turf areas, create habitat restoration areas and defined creek access points to minimize disturbance to the riparian corridor.

C. **Protection of Species: The activity will not jeopardize the continued existence of habitat for the following species:**
    i. **Plant, animal or other wildlife species listed as threatened or endangered by the United States Fish and Wildlife Service;**
    ii. **Plant, animal or other wildlife species listed by the State of Colorado as rare, threatened or endangered, species of special concern;**
    iii. **Plant, animal or other wildlife species listed in the Boulder County Comprehensive Plan as critical; and**
    iv. **Plant, animal or other wildlife species listed in the Boulder Valley Comprehensive Plan as a Species of Local Concern**.

ERO Resources Corporation submitted a Threatened and Endangered Species Habitat Assessment (Attachment H) of the project area for suitable habitat for threatened, endangered, and candidate species potentially found in Boulder County or potentially affected by projects in Boulder County to the U.S. Fish and Wildlife Service. The Service concurred with ERO's findings that the proposed project would have no effect on any threatened or endangered species in Boulder County.

D. **Mitigation Demonstration: Unavoidable direct and indirect impacts can be successfully mitigated based on the submission of a mitigation plan in conformance with the standards outlined in subsection (f) of this section.**
The proposed mitigation and restoration plan includes native seed mixes, trees, shrubs and live stakes in accordance with the City of Boulder Wetland Protection Program Best Management Practices Revegetation Rules. Five years of mitigation monitoring has been required as a condition of the Stream, Wetland and Water Body Permit (Attachment C).

Staff's conclusion is that the applicant has satisfied the requirements of Section 9-3-9(e) "Stream, Wetland and Water Body Permit Application Review" B.R.C. and recommends that the Planning Board approve the Stream, Wetland, and Water Body Permit, subject to the conditions of approval listed in the permit (Attachment C).

PUBLIC COMMENT AND PROCESS:

Published notice of the Planning Board hearing was provided not less than ten days prior to the hearing. All notice requirements of Section 9-4-3, B.R.C. 1981 have been met. Public comments regarding the Floodplain Development Permit may also be received through public hearing. No public comment was provided during the September 15, 2016 Planning Board meeting.

Stream, Wetland and Water Body Permits require that written notification is mailed to all property owners within 300 feet of the subject property a minimum of 10 days before final action and a sign is posted on the property for at least 10 days. All notice requirements of Section 9-4-3, B.R.C. 1981 have been met. Public comments regarding the Stream, Wetland, and Water Body Permit may also be received through public hearing. No public comment was provided during the September 15, 2016 Planning Board meeting.

STAFF FINDINGS AND RECOMMENDATION:

Public Works staff finds that the application meets the requirements of the Boulder Revised Code, City of Boulder Design and Construction Standards and other ordinances of the city, subject to the conditions of approval shown in Attachments B and C.

Therefore, staff recommends that Planning Board approve the Floodplain Development Permit #LUR2016-00035 and Stream, Wetland, and Water Body Permit #LUR2016-00034 attached to this memorandum as Attachments B and C, subject to the conditions of approval shown on such permits and adopt this memorandum as findings of fact.

Approved By:

Maureen Rait
Executive Director of Public Works

ATTACHMENTS:

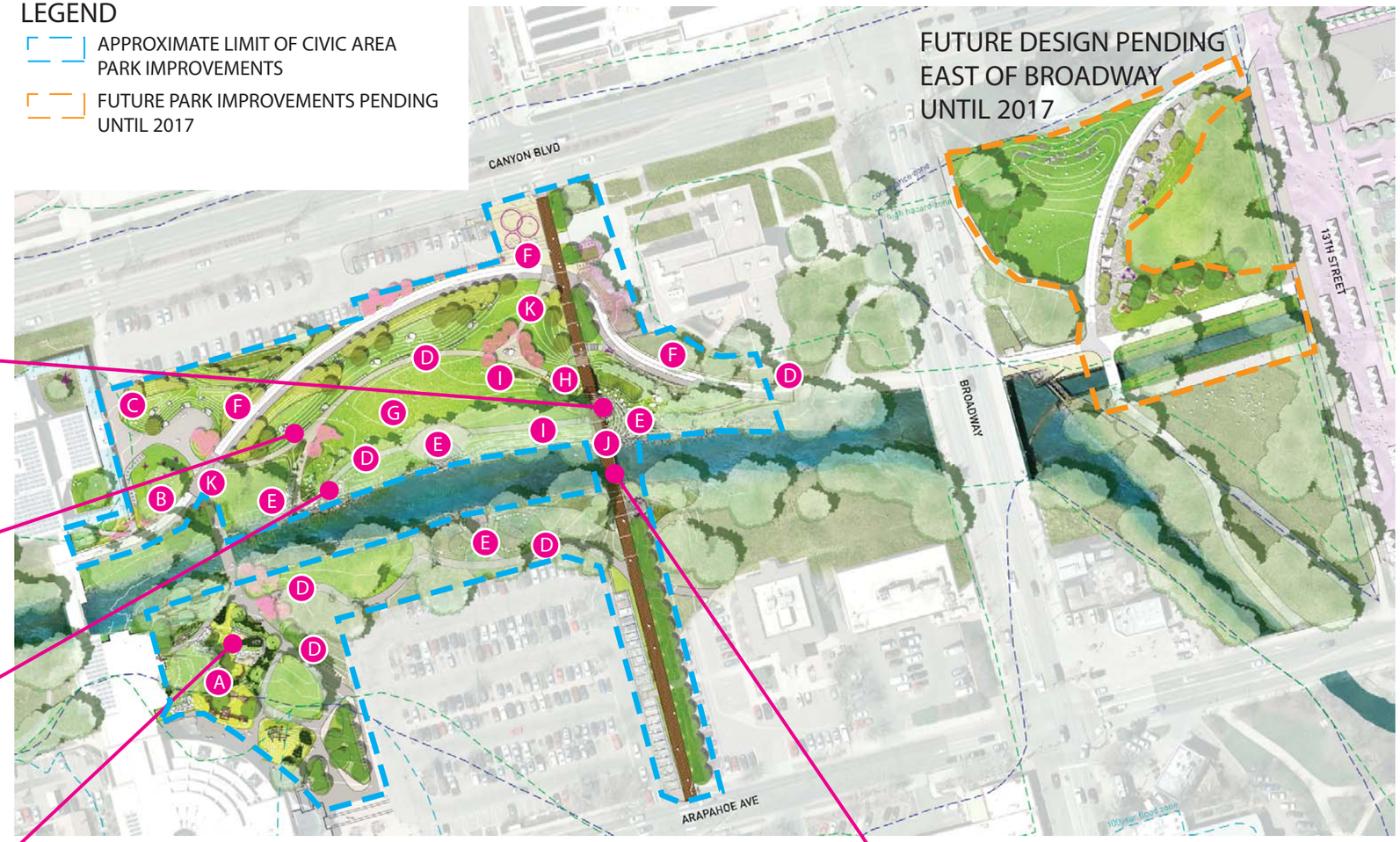
A. Boulder Civic Area Park Development Plan
B. Floodplain Development Permit
C. Stream, Wetland, and Water Body Permit
D. Section 9-3-3 "Regulations Governing the One Hundred-Year Floodplain"
E. Section 9-3-9(e)(3) "Criteria for Review"
F. Flood Hazard Analysis and Hydraulic Design of Erosion Countermeasures for the Boulder Civic Area Project
G. Wetland Permit Application Report
H. Threatened and Endangered Species Habitat Assessment

BOULDER CIVIC AREA PARK DEVELOPMENT

ATTACHMENT A

LEGEND

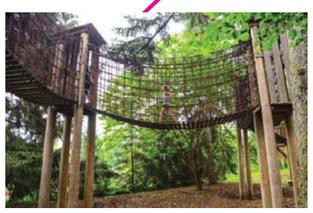
- APPROXIMATE LIMIT OF CIVIC AREA PARK IMPROVEMENTS
- FUTURE PARK IMPROVEMENTS PENDING UNTIL 2017



ACCESS PATHS TO CREEK

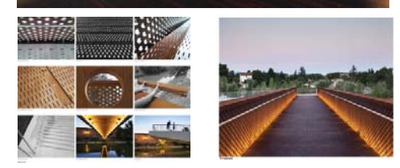
CHORD WOOD SITTING WALLS

SITTING BOULDERS



NATURE PLAY

NATURE PLAY - WATER THEMING



11th SPINE BRIDGE

- A NATURE PLAY
- B CAFE TERRACE
- C PERFORMANCE HILL
- D PEDESTRIAN PATH
- E CREEK ACCESS POINT
- F BIKE CREEK PATH
- G GREEN VALLEY
- H PEDESTRIAN UNDERPASS
- I RESTORED RIPARIAN BANKS
- J 11TH ST. BRIDGE
- K PEDESTRIAN CROSSING ZONE

COMMUNITY CULTURE & SAFETY

www.BoulderCivicArea.com

CITY OF BOULDER
Planning and Development Services

1739 Broadway, Third Floor • P.O. Box 791, Boulder, CO 80306-0791
phone 303-441-1880 • fax 303-441-4241 • web boulderplandevelop.net

Land Use Review Floodplain Development Permit

Date Issued:

Expiration Date:
(Pursuant to Subsection 9-3-6(e), B.R.C. 1981)

Permit Number: LUR2016-00035

Contact Information

DOUG GODFREY
3198 BROADWAY
BOULDER, CO 80304

Project Information

Location: 1777 BROADWAY

Legal Description: BLKS 11 & 12 & TRACK ADJACENT TO BLK 11 ON THE WEST - BOULD ER O T & PT LOT 9 SMITHS ADDIT ION TO BOULDER & VAC RIVERSIDE ST & 10TH ST & 11TH ST

Description of Work: Floodplain Review with Analysis

Type of Floodplain Permit: Floodplain Review W/ Analysis

Creek Name: Boulder

Flood Protection Elevation:

Conditions of Approval

- The proposed project/activity is approved on the basis that it satisfies applicable requirements of Chapter 9-3-3, "Floodplain Regulations," Boulder Revised Code 1981. Other floodplain requirements as set forth in Chapter 9-3-3 which are not specifically outlined in the conditions of approval below remain applicable to this project/activity.
- Improvements shall be constructed in accordance with the plans submitted as part of the floodplain development permit application.
- All crossings of natural and improved drainageways and irrigation ditches shall meet City of Boulder standards, and shall be coordinated with the City of Boulder Utilities Division.
- The fence shall be securely anchored to resist damage and washing away as debris during flooding events. The construction fence installation must be in accordance with the details provided within the approved floodplain development permit materials.
- Certification by a Colorado Registered Professional Engineer that the development has been completed in compliance with the approved permit application and that all conditions have been fulfilled must be submitted to the City of Boulder prior to scheduling final inspections.
- The applicant shall obtain a site inspection and approval from the City of Boulder Floodplain and Wetlands Coordinator upon completion of the projects.
- The applicant is required to submit as-built drawings and written documentation certifying that the improvements have been constructed in conformance with all applicable flooplain regulations and this floodplain development permit.

- Once the proposed work is completed, the applicant shall submit final as-built drawings to Planning and Development Services and shall apply for and receive approval of a Letter of Map Revision (LOMR) to modify the regulatory floodplain or shall cause such application and approval to occur as part of or in coordination with a LOMR application for later phases of the civic area redevelopment.
- Permit approval, if not called up by City Council, the permit will be final 30 days after the Planning Board decision. Or as otherwise provided in section 9-4-4 B.R.C., 1981.
- As required by section 9-3-3(a)(3) of the Boulder Revised Code, 1981 the improvements must be constructed with all electrical equipment and other service facilities designed and located so as to prevent water from entering or accumulating within the components during conditions of flooding.
- Storage of equipment and materials will be limited to the extents shown within the approved floodplain development permit materials.
- The following permits will be required prior to commencement of construction;
  -State of Colorado Construction Stormwater Permit
  -Erosion Control
  -Right-of-Way Permit
  -Grading Permit
  -Fence and Wall Permits
  -Accessory Structure Permit for Bridge
  -Wetland Permit
- If the applicant submits revised plans to preserve any of the existing five silver maple trees south of the Canyon Boulevard Parking lot and to minimize impacts of the corrected modeling, such plans shall, subject to review and approval of the city manager, be consistent with the standards of Section 9-3-6, "Floodplain Development Permit," B.R.C. 1981, and not alter the basic intent of the approved flood plain development permit plans.

Inspections

To schedule an inspection, call 303-441-3280 and refer to your permit number (LUR2016-00035).

CITY OF BOULDER
Planning and Development Services

1739 Broadway, Third Floor • P.O. Box 791, Boulder, CO 80306-0791
phone 303-441-1880 • fax 303-441-4241 • web boulderplandevelop.net

Wetland Permit

Date Issued:

Expiration Date:
(Pursuant to Subsection 9-3-9(k), B.R.C. 1981)

Permit Number: LUR2016-00034

Contact Information

DOUG GODFREY
3198 BROADWAY
BOULDER, CO 80304

Project Information

Location: 1777 BROADWAY

Legal Description: BLKS 11 & 12 & TRACK ADJACENT TO BLK 11 ON THE WEST - BOULD ER O T & PT LOT 9 SMITHS ADDIT ION TO BOULDER & VAC RIVERSIDE ST & 10TH ST & 11TH ST

Description of Work: Standard wetlands permit application

Conditions of Approval

- The proposed project/activity is approved on the basis that it satisfies applicable requirements of Chapter 9-3-9, "Wetlands Protection," Boulder Revised Code 1981. Other wetland requirements as set forth in Chapter 9-3-9 which are not specifically outlined in the conditions of approval below remain applicable to this project/activity.

- The improvements shall be constructed to minimize and mitigate impacts to the existing wetlands in conformance with the conditions of the City of Boulder Wetland Permit issued for this project.
- The applicant shall obtain a site inspection and approval from the City of Boulder Floodplain and Wetlands Coordinator upon completion of the projects.
- The wetland mitigation site shall be monitored annually for five years. Monitoring reports shall be submitted to the city of Boulder Planning and Development Services prior to September 1st of each year. If it is determined that the mitigation is not successful, then corrective measures will need to be established and implemented to ensure a successful wetland mitigation project.
- The following success criteria shall be used for the wetland mitigation:
  At least 80% native vegetative cover
  Invasive species on the Colorado Noxious Weed Inventory list-A shall be 100% eradicated.
  Invasive species on the Colorado Noxious Weed Inventory list-B shall encompass no more than 10% of the total cover of the restoration area.
  Tree and shrub survival shall be 100%.
- Best management practices shall be applied to all phases of the project and shall conform to the requirements of the "City of Boulder Wetlands Protection Program: Best Management Practices" adopted July, 1995; and "City of Boulder Wetlands Protection Program: Best Management Practices - Revegetation Rules" adopted July, 1998.

- The following permits will be required prior to commencement of construction;
  -State of Colorado Construction Stormwater Permit
  -Erosion Control
  -Right-of-Way Permit
  -Grading Permit
  -Fence and Wall Permits
  -Accessory Structure Permit for Bridge
  -Floodplain Development Permit
- Permit approval, if not called up by City Council, the permit will be final 30 days after the Planning Board decision. Or as otherwise provided in section 9-4-4 B.R.C., 1981.

Inspections

To schedule an inspection, call 303-441-3280 and refer to your permit number (LUR2016-00034).

Section 9-3-3 "Regulations Governing the One Hundred-Year Floodplain" Criteria:

1. **Floodplain Development Permit: Except as specified in Subsection 9-3-6(a), "Activities Exempt from Floodplain Development Permit Requirement," B.R.C. 1981, no development in the one hundred-year floodplain may occur prior to the issuance of a floodplain development permit pursuant to Section 9-3-6, "Floodplain Development Permits," B.R.C. 1981.**
   The applicant has applied for a Floodplain Development Permit (LUR2016-00035)

2. **Anchoring:**
   A. **All new construction and substantial improvements or substantial modifications shall be anchored to prevent flotation, collapse, or lateral movement of the structure and be capable of resisting the hydrostatic and hydrodynamic loads.**
   B. **All manufactured homes must be elevated and anchored to resist flotation, collapse, or lateral movement and capable of resisting the hydrostatic and hydrodynamic loads. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties connecting to permanent ground anchors, in addition to any anchoring requirements for resisting wind forces and any tie-down requirements of Chapter 10-12, "Mobile Homes," B.R.C. 1981. Requirements shall include, without limitation, the following:**
      i. **Over-the-top ties shall be provided at each of the four corners of the manufactured homes. For manufactured homes fifty feet or longer, two additional ties per side are required at intermediate locations. For manufactured homes less than fifty feet long, one additional tie per side is required;**
      ii. **Frame ties shall be provided at each of the four corners of the manufactured homes. For manufactured homes fifty feet or longer, five additional ties per side are required at intermediate points. For manufactured homes less than fifty feet long, four additional ties per side are required;**
      iii. **All components of the anchoring system shall be capable of carrying a force of four thousand eight hundred pounds; and**
      iv. **Any additions to manufactured homes shall be similarly anchored.**

   The project has not proposed any new construction, substantial improvements or substantial modifications to existing structures intended for human occupancy or the placement of manufactured homes. All improvements have been anchored to withstand flood forces.

3. **Construction Materials and Methods:**
   A. **All new construction, substantial improvements, and substantial modifications shall be constructed with materials and utility equipment resistant to flood damage as outlined in the most current FEMA Technical Document on Flood-Resistant Materials Requirements.**
   B. **All new construction, substantial improvements, and substantial modifications shall be constructed using methods and practices that minimize flood damage.**
   C. **All new construction, substantial improvements, and substantial modifications shall be constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed and located (by elevating**

orfloodproofing the components) so as to prevent water from entering or accumulating within the components during flooding conditions.

The project has not proposed any new construction, substantial improvements or substantial modifications to existing structures intended for human occupancy. All equipment has been elevated to prevent flood damage.

4. **Utilities:**
   A. **All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems.**
   B. **All new and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharge from the systems into floodwaters.**
   C. **On-site waste disposal systems shall be located to avoid impairment or contamination during flooding.**

   The water supply system for the nature play area will be connected to the water service for the library building. The water service to the library structure has been retrofitted to include a backflow preventer. Therefore, this project will have no adverse impact on the water utility system during a flood. No sanitation systems have been proposed.

5. **Subdivision Proposals:**
   A. **All subdivision proposals shall demonstrate efforts to minimize flood damage.**
   B. **All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.**
   C. **All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage.**
   D. **Base flood elevation data shall be provided for subdivision proposals and other proposed development.**
   E. **No subdivision proposal shall create a lot which is unbuildable pursuant to this section.**

   The project has not proposed a subdivision.

6. **Floodproofing: Whenever this section requires a building or structure to be floodproofed, the standards in Subsection 9-3-2(h), "Floodproofing," B.R.C. 1981, shall be met.**
   The project has not proposed any new floodproofed buildings or structures.

7. **Hazardous Substances: No person shall store a hazardous substance at or below the flood protection elevation for the area of the floodplain in which it is located, except for the storage of fuel in existing and replacement underground tanks in existing fueling service stations and service garages, which tanks are designed to prevent infiltration and discharge into floodwaters and which are adequately anchored and shielded against rupture. For purposes of this paragraph, *existing* means in place and in use on January 1, 1989.**
   The project has not proposed the storage of hazardous materials.

8. **Automobile Parking: Notwithstanding other provisions of this title, no person shall establish an area for automobile parking in any portion of the floodplain where flood depths exceed eighteen inches.**

No new automobile parking been proposed. The project has proposed the removal of 21 parking spaces from the Canyon Street parking lot, located in the high hazard zone.

9. **Flood Warning System: No owner of a hotel, a motel, a dormitory, a rooming house, a hostel, a school, a bed and breakfast, a daycare center, a group home, or a residential or congregate care facility located in the Boulder Creek one hundred-year floodplain shall fail to provide a flood warning system approved by the city manager that is connected to a point of central communication in the building with twenty-four-hour monitoring. No such person shall fail to maintain such a flood warning system.**
   The project has not proposed a hotel, motel, dormitory, rooming house, hostel, school, bed and breakfast, daycare center, group home, or residential or congregate care facility.

10. **Rental Property: No owner of property that is located in a one hundred-year floodplain and subject to a city rental license under Chapter 10-3, "Rental Licenses," B.R.C. 1981, shall fail to post on the exterior of the premises at the entrance a sign approved by the city manager stating that the property is subject to flood hazard and containing such further information and posted at such other locations inside the building as the city manager may require.**
    The project has not proposed a rental property.

11. **Manufactured Housing: All manufactured homes placed in the city after July 1, 1989, and all manufactured homes which are substantially improved or substantially modified shall be elevated on a permanent foundation so that the lowest floor of the manufactured home is at or above the flood protection elevation and is securely anchored to an adequately anchored foundation system, and shall meet the anchorage and tie-down requirements of Paragraph (a)(2) of this section.**
    Section 9-16 "Definitions" B.R.C. defines a manufactured home as *a structure, transportable in one (1) or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. The term manufactured home does not include a recreational vehicle. (Floodplain)*

    The proposed construction trailer has been designed with a tie-down anchoring system.

12. **Recreational Vehicles: In order to reduce debris and hazard potential, recreational vehicles shall either: a) be in the one hundred-year floodplain for fewer than one hundred eighty consecutive days, b) be fully licensed and ready for highway use, or c) meet the permit requirements and elevation and anchoring requirements for manufactured homes.**
    The project has not proposed recreational vehicles.

13. **Structure Orientation: In order to minimize the obstruction to flow caused by buildings, to the extent consistent with other city policies regarding solar access, new structures shall be placed with their longitudinal axes parallel to the predicted direction of flow of floodwaters or be placed so that their longitudinal axes are on lines parallel to those of adjoining structures.**
    Section 9-16 "Definitions" B.R.C. defines a structure as *a building or other roofed construction, a basement, a wall, a fence, a manufactured home, or a storage tank. (Floodplain)*

All structures within the proposed project have been oriented to minimize the obstruction of flow.

14. **Existing Uses: The use of any land or structure that was lawful before the application of this section or any amendment thereto but that does not conform to the requirements of this section may be continued subject to the requirements of this section. If such a use not conforming to the requirements of this section is discontinued for twelve consecutive months, no person shall use the land or structure thereafter unless such use conforms to the requirements of this section.**
    The Civic Area is zoned Public, park and recreation uses are allowable within the zone.

15. **New Uses: All uses allowed by the underlying zoning district may be established, subject to the requirements of this section, except for the outdoor or uncontained storage of moveable objects below the flood protection elevation.**
    The Civic Area is zoned Public, park and recreation uses are allowable within the zone.

16. **Existing Structures: Any structure in existence before the enactment of this section or any amendment thereto that does not conform to the requirements of this section may remain or may undergo rehabilitation subject to the requirements of this section. Further, any such structure may be otherwise improved as follows:**
    A. **Any person making an expansion or an enlargement to an existing residential structure shall elevate the lowest floor, including the basement, of the expanded or enlarged portion to or above the flood protection elevation.**
    B. **Any person making an expansion or an enlargement to an existing nonresidential structure shall floodproof or elevate the lowest floor, including the basement, of the expanded or enlarged portion to or above the flood protection elevation except that any lodging units within the expanded or enlarged portion of such structure shall be elevated to or above the flood protection elevation.**
    C. **Any person making an expansion or an enlargement to an existing mixed-use structure shall floodproof or elevate the lowest floor, including the basement, of the expanded or enlarged portion to or above the flood protection elevation and shall elevate the residential lodging units within the expanded or enlarged portion to or above the flood protection elevation.**
    D. **Any person making a substantial modification or a substantial improvement to any existing nonresidential structure shall floodproof or elevate the lowest floor, including the basement, of the entire structure to or above the flood protection elevation except that any lodging units within the expanded or enlarged portion of such structure shall be elevated to or above the flood protection elevation.**
    E. **Any person making a substantial modification or a substantial improvement to any existing residential structure shall elevate the lowest floor, including the basement, of the entire residential structure to or above the flood protection elevation.**
    F. **Any person making a substantial modification or a substantial improvement to an existing mixed-use structure shall floodproof or elevate the lowest floor, including the basement, of the entire structure and shall elevate all residential and lodging units within the structure to or above the flood protection elevation.**

    The project has not proposed modifications to any existing structures.

17. **New Structures: Construction of new structures shall meet the following requirements:**

A. **Any person constructing a new residential structure shall elevate the lowest floor, including the basement, to or above the flood protection elevation;**
B. **Any person constructing a new mixed-use structure shall floodproof or elevate the lowest floor, including the basement, of the entire structure, and shall elevate all residential and lodging units within the structure to or above the flood protection elevation;**
C. **Any person constructing a new nonresidential structure shall elevate all lodging units within the structure to or above the flood protection elevation and shall floodproof in a manner requiring no human intervention or elevate the lowest floor, including the basement, to or above the flood protection elevation with the following exceptions:**
   i. **Open air carwashes;**
   ii. **Unheated pavilions;**
   iii. **Unfinished or flood-resistant building entryways or access areas;**
   iv. **Garden storage sheds;**
   v. **Sidewalks, paving, or asphalt, concrete, or stone flatwork;**
   vi. **Fences; and**
   vii. **Poles, lines, cables, or other transmission or distribution facilities of public utilities.**
D. **Any person constructing a new structure on a property removed from the one hundred-year floodplain through a FEMA Letter of Map Revision Based on Fill (LOMR-F) shall protect the lowest floor, including the basement, to or above the flood protection elevation that existed before placement of fill, as follows:**
   i. **Residential structures: by elevating the structure; or**
   ii. **Nonresidential structures: by elevating or floodproofing the structure.**

   Solely for the purposes of this Subparagraph (D), previously designated floodplain areas that have been removed from the one hundred-year floodplain through a LOMR-F shall be considered to be within the floodplain. No person shall construct a new structure subject to this Subparagraph (D) prior to the issuance of a floodplain development permit pursuant to Section 9-3-6, "Floodplain Development Permits," B.R.C. 1981.

The project has not proposed any new structures intended for human occupancy.

18. **Enclosures: Enclosures below the lowest floor that are unfinished or flood resistant, usable solely for parking of vehicles, crawl spaces, building access or storage, in an area that is not a basement, and that are not floodproofed as set forth in this section shall meet the following requirements:**
    A. **Compliance with the provisions of Paragraphs (a)(2), (a)(3), and (a)(4) of this section; and**
    B. **Design and construction that automatically equalizes hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters.**
       i. **Designs for meeting this requirement shall meet or exceed the following minimum criteria: a minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided. The bottom of all openings shall be no higher than one foot above grade. Openings may be equipped with screens, louvers,**

valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

ii. Any designs not in conformance with Subparagraph (B)i. above shall be certified by a registered professional engineer or licensed architect and shall conform with the most current FEMA Technical Bulletin on Openings in Foundation Walls.

C. Fully enclosed areas below the lowest floor subject to this provision include the following:

i. Residential garages placed at or above grade;

ii. Enclosures or vestibules that are attached to structures and that are utilized for storage or entryways;

iii. Crawl spaces; and

iv. Outdoor pavilions and patio enclosures with removable walls not located in the high hazard zone.

The project has not proposed any enclosures.

19. Below Grade Crawl Space Construction: New construction, expansion or enlargement, substantial improvement and substantial modification of any below grade crawl space shall meet the following requirements:

A. Interior grade elevation that is below the base flood elevation shall be no lower than two feet below the lowest adjacent grade;

B. The height of the below grade crawl space measured from the interior grade of the crawl space to the top of the foundation wall shall not exceed four feet at any point;

C. Adequate drainage systems shall allow floodwaters to drain from the interior area of the crawl space following a flood; and

D. The provisions of Paragraphs (a)(2), (a)(3), (a)(4), and (a)(18) of this section shall be complied with.

The project has not proposed below grade crawl space construction.

20. Critical Facilities and Lodging Facilities: The requirements of Subsection 9-3-2(i), "Standards for Critical Facilities and Lodging Facilities in the Five Hundred-Year Floodplain," B.R.C. 1981, apply to critical facilities and lodging facilities in the one hundred-year floodplain. Where a conflict exists between the requirements of this section and the provision of Subsection 9-3-2(i), the most restrictive requirements apply.

Section 9-16 "Definitions" B.R.C. defines a critical facility as *any structure or related infrastructure, the loss of which may result in severe hazards to public health and safety or may interrupt essential services and operations for the community at any time before, during, and after a flood. Critical facilities are classified as follows: (1) essential services facility, (2) hazardous material facility, and (3) at-risk population facility. (Floodplain)*

The project has not proposed any critical or lodging facilities.

Section 9-3-9(e)(3) "Stream, Wetland and Water Body Permit Application Review" Criteria:

Criteria for Review: For an activity requiring conditional use or standard review, the applicant shall demonstrate that the stream, wetland or water body permit application meets the following criteria:

A. Criteria for all zones: In all zones, the following criteria apply:

i. Any activity requiring review shall not result in a significant change to the hydrology affecting the stream, wetland or water body. Percolation of storm runoff on-site through vegetated swales, permeable paving materials or other similar methods to slow and clean runoff being discharged directly into the wetland, stream or water body may be required as part of the permit.

The proposed project will not modify the hydrology affecting the stream. The project proposes the construction of three rain gardens north of Boulder Creek to provide water quality treatment of runoff from impervious surfaces located outside of the buffer zone.

ii. Minimization: The applicant shall demonstrate that the activity is designed and located to minimize direct or indirect impacts to the adjacent wetland, stream or water body.

The project proposes to use existing trails for construction access where possible, limit the use of concrete and grout, and leave the root structure of trees and willows in place to allow for quick regeneration. Construction within the creek has been proposed during the low flow season in order to minimize direct impacts to the creek.

iii. Mitigation: If required, the applicant shall demonstrate that unavoidable direct and indirect impacts to vegetation, pervious surface or hydrology affecting the adjacent stream, wetland or water body can be successfully mitigated through design of the activity or by compensating for the impact.

The banks of Boulder Creek are heavily disturbed throughout the project area, and generally consist of compacted bare ground with exposed roots and rocks. The project has been proposed as a restoration and enhancement to the existing stream and buffer zones and will result in an increase in native and natural turf areas, create habitat restoration areas and defined creek access points to minimize disturbance to the riparian corridor.

iv. Restoration of Temporary Impacts: The applicant shall demonstrate that direct, temporary impacts to a wetland, stream water body, or buffer area will be successfully restored.

As indicated above, impacts will be restored through enhancement of the existing stream and buffer zones. Staff has reviewed the applicant's construction documents and finds that the proposed restoration is likely to be successful.

v. **Application of Best Management Practices: The applicant shall demonstrate compliance, at a minimum, with all applicable city rules concerning best management practices as described in chapter 9-16, "Definitions," B.R.C. 1981.**

Section 9-16 "Definitions" B.R.C. defines best management practices as *economically feasible conservation practices, and land and water management measures that avoid or minimize adverse impacts to the chemical, physical, or biological characteristics of wetlands. These practices may be further described in rules promulgated by the city manager, which may be amended from time to time, pursuant to Chapter 1-4, "Rulemaking," B.R.C. 1981. Such practices include, without limitation, avoiding wetlands whenever practicable; controlling soil loss; reducing water quality degradation; appropriate use of native wetland plant material; and minimizing the impacts on hydrologically connected surface and ground water and on the plants and animals that it supports. The rules presently used are "City of Boulder Wetlands Protection Program: Best Management Practices" adopted July, 1995; and "City of Boulder Wetlands Protection Program: Best Management Practices - Revegetation Rules" adopted July, 1998. (Wetlands).*

The proposed project will conform with the city rules concerning best management practices. Compliance with the Wetland Protection Program: Best Management Practices has been required as a condition of the Stream, Wetland and Water Body Permit (Attachment C). In addition, a State of Colorado Construction Stormwater Permit and a City of Boulder Erosion Control Permit have been required as permit conditions.

B. Criteria for the Outer Buffer Zone: In the outer buffer zone, the following criteria shall apply:

i. **The provisions of subparagraph 9-3-9(e)(3)(A).**

The criteria of Section9-3-9(e)(3)(A) have been provided above.

ii. **Impervious surface coverage: Any new building or attached structure, expansion of an existing building or attached structure, new surfacing or expansion of an existing surface that would result in a cumulative total of twenty percent or more impervious surface in the outer zone on the property shall provide for the loss of pervious surface.**

The project proposes a reduction in the area of impervious surfaces within the buffer zones. Proposed paths within the buffer area will consist of a stabilized decomposed granite surface in lieu of pavement.

C. Criteria for the Inner Buffer Zone: In the inner buffer zone, the following criteria shall apply:

i. **The provisions of Section 9-3-9(e)(3)(A).**

The criteria of Section 9-3-9(e)(3)(A) have been provided above.

ii. **The provisions of Section 9-3-9(e)(3)(B).**

The criteria of Section 9-3-9(e)(3)(B) have been provided above.

iii. **Channel bank protection or stabilization shall utilize, to the extent feasible, techniques that involve landscaping with appropriate native plants rather than rock or artificially hardened structures.**

The project has limited the extents of rock structures for stream bank stabilization. Vegetated riprap has been proposed to provide 79% of the stream bank stabilization. The vegetated riprap will be planted with native live stake shrubs, native trees and seeded with native grass groundcover.

iv. **All new plant material adjacent to wetlands or water bodies or along the banks of a stream shall be consistent with all applicable city rules concerning best management practices. Mitigation monitoring for restoration projects may be required by the city manager.**

The proposed restoration plan includes native seed mixes, trees, shrubs and live stakes in accordance with the City of Boulder Wetland Protection Program Best Management Practices Revegetation Rules. Five years of mitigation monitoring has been required as a condition of the Stream, Wetland and Water Body Permit (Attachment C).

v. **"Vegetation removal - major" shall only be allowed to prevent noxious weed infestation, provide for native habitat restoration or for other permitted projects. Major removal of vegetation shall be mitigated within the inner buffer.**

Much of the vegetation which has been proposed to be removed has been determined to be in fair to poor condition, or a concern to public safety. The removal of vegetation within the buffer zones will be mitigated through the planting of native species in accordance with the City of Boulder Wetland Protection Program Best Management Practices Revegetation Rules.

vi. **New steps, paths or other minor access to or over a stream on private property will be permitted if there is no more than one access on an individual property, the path or steps are designed to have minimal impact to the wetland, stream or water body, and the path and the area of impact does not exceed four feet in width.**

The project is proposed on public property. The project has proposed to limit access points to the stream and minimize disturbance to the riparian corridor through the creation of defined creek access points.

D. **Criteria for the Wetland, Stream or Water Body: In the wetland, stream, or water body, the following criteria shall apply:**

i. **The provisions of Section 9-3-9(e)(3)(A).**

The criteria of Section 9-3-9(e)(3)(A) have been provided above.

ii. **The provisions of Section 9-3-9(e)(3)(B).**

The criteria of Section 9-3-9(e)(3)(B) have been provided above.

iii. **The provisions of Section 9-3-9(e)(3)(C).**
The criteria of Section 9-3-9(e)(3)(C) have been provided above.

iv. **Replacement or repair of an existing fence shall be generally in the same location and not result in additional impacts to the wetland, stream, or water body.**
Fences have not been proposed within the stream or buffer zones.

v. **Utility line or drop structure maintenance or repair shall not impact the existing functions of the wetland, stream, or water body.**
Repair to existing utilities will not impact the functions of the wetland, stream, or water body.

vi. **Activities conducted solely for the purpose of removing stream sediment shall not alter the flood capacity as shown on the adopted floodplain maps. Vegetated channel bottoms shall be restored and stabilized.**
Removal of sediment has not been proposed.

FLOOD HAZARD ANALYSIS AND HYDRAULIC DESIGN OF EROSION COUNTERMEASURES FOR THE BOULDER CIVIC AREA PROJECT

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This report is a summary of the hydraulic investigation performed for the Boulder Civic Area (BCA) along Boulder Creek intended to support a Floodplain Development Permit Application for the City of Boulder. This portion of the BCA is located along the Boulder Creek corridor extending from the Boulder Public Library on the west to downstream of the existing 11th Street pedestrian bridge. The evaluation documented in this report was conducted to demonstrate that the proposed 11th Street bridge and enhancements in the BCA will not adversely affect the Boulder Creek 100-year floodplain, conveyance zone (CZ) and High Hazard Zone (HHZ). A vicinity map of the study area is presented in Figure 1.

I. BACKGROUND

The City of Boulder targeted this portion of the BCA as an area of open-air improvements along Boulder Creek. In the fall and winter of 2015, Tom Leader Studio (TLS) and JVA with the help of Anderson Consulting Engineers (ACE), developed an enhancement plan for the BCA. The enhancement effort for the BCA consists of: (a) improving access to Boulder Creek; (b) adding picnic, play and open areas to improve public appeal; and (c) increasing the overall aesthetics of the area. To achieve these goals TLS proposed: (a) adding a nature play area along the right bank east of the library; (b) regrading the left bank area between Boulder Creek and the parking lot south of Canyon Blvd.; (c) removing the existing 11th Street pedestrian bridge; and (d) adding a new pedestrian bridge that is more closely aligned with 11th Street. Selected design drawings showing the proposed physical improvements related to site grading and landscaping are included in Appendix A attached to this report.

II. DATA COLLECTION

The HEC-RAS Version 4.0, Boulder Creek hydraulic model used as the basis for this study was completed by ACE in September 2013. This model has been reviewed and approved by FEMA and represents the best available information with respect to flood hazards along the creek through the City of Boulder. Consequently, the ACE model was utilized to analyze potential impacts of the proposed BCA improvements. The subject property is located within the 100-year Floodplain, CZ and HHZ associated with Boulder Creek. It is noted that the 100-year discharge of 12,100 cfs through the project area, as identified in both the ACE and previously effective studies, results in a widespread 100-year floodplain for this reach of the creek.

Existing 1-foot topography of the BCA was collected by Boulder Land Consultants, Inc. in October 2015. In addition, a proposed 1-foot topographic grading plan for the BCA was prepared by TLS, in collaboration with JVA and ACE. Certified survey drawings showing all of the field survey data collected by Boulder Land Consultants for this project is in Appendix B.

III. EFFECTIVE CONDITION

For this study, the 2013 Boulder Creek model was truncated below Cross Section 22666 (upstream of 30th Street), and only the portion of the model upstream of this point was used for this evaluation. Downstream boundary conditions at Cross Section 22666 were taken from the 2013 model. The 100-year

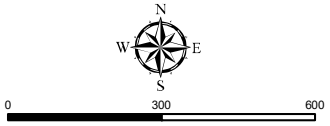

Figure 1 - Boulder Civic Area Vicinity Map

water surface elevation of 5275.39 ft, NAVD was used for the floodplain and HHZ analyses, while the "surcharged" water surface elevation of 5275.39 ft, NAVD (this cross section did not exhibit a rise in 100-year WSEL) was used for the CZ analysis. The effective hydraulic model is located on the disk attached to this report.

IV. CORRECTED EFFECTIVE ANALYSIS

A corrected effective analysis was conducted to more accurately model flood hazards through this portion of the BCA. Utilizing the existing topography provided by TLS, ACE updated the Effective Boulder Creek Hydraulic Model through the current project area (from Cross Sections 31302 to 30635) creating two corrected effective models, both a floodplain model and a CZ model. For the 2013 Boulder Creek Floodplain Study, the existing pedestrian bridge just downstream of 11th Street was assumed to be a breakaway bridge; consequently, it is not included in either the effective or corrected effective models. The corrected effective models removed effective Cross Section 30759, which roughly aligns with 11th Street, and added five new cross sections (Nos. 30674, 30430, 30753, 30795, and 30953) to better define hydraulic conditions through the BCA, particularly in the vicinity of 11th Street. In addition to the cross section and topographic changes, ineffective flow areas downstream of the library were adjusted to more accurately model the ineffective flow shadow due to the library.

Manning's n values in the corrected effective model remained unchanged at effective cross sections, while Manning's n values for the added cross sections were based on values from the surrounding effective cross sections. Manning's n values range from 0.02 for parking lots and roads to 0.04 for in channel and park areas. The corrected effective model is provided on the disc attached to this report.

Table 1 provides a comparison of effective and corrected effective 100-year water surface elevations (WSELs). Throughout the BCA corrected effective WSELs were higher than effective WSELs by up to 0.93 feet, with the exception of Cross Section 31025 where the corrected effective WSEL is 0.23 feet lower than the effective WSEL. Only minor differences in geometry are observed when comparing effective and corrected effective cross section geometry data; therefore, the increased WSELs in the upstream portion of the BCA is primarily due to the updated ineffective flow area east of the library and accounting for drop structures at the downstream end of the BCA. Flood hazard work maps, located in Appendix C.1, indicate that the plan form of the 100-year floodplain changed minimally from the effective to corrected effective conditions.

A CZ analysis was performed utilizing the corrected effective model. Encroachment locations were left unchanged except where they were adjusted to reflect the updated ineffective flow boundaries. Corrected effective CZ results are presented in Table 2 which demonstrates the surcharges remain equal to or less than 0.5 feet. In addition, corrected effective CZ widths decreased as much as 100 feet from the effective CZ widths throughout the project area. As illustrated on the flood hazard work maps in Appendix C.1, the south side of the CZ downstream of the library has generally moved closer to the creek due to the revised ineffective flow areas. Due to the decreased conveyance south of the creek,

encroachments along the north side were shifted away from the creek slightly to meet surcharge requirements. As shown in the table, overall CZ widths are narrower for the corrected effective condition, relative to the effective condition. Also of note, the northern corrected effective CZ boundary remains within public right-of-way along Canyon Blvd (i.e., no private properties are adversely affected moving from the effective condition to the corrected effective condition.

Table 1. Effective vs Corrected Effective 100-Year Water Surface Elevation Comparison.

Cross Section	100-Yr WSEL (ft, NAVD) Effective	100-Yr WSEL (ft, NAVD) Corrected Effective	ΔWSEL (feet) CE - Effective	Location
30635	5350.08	5350.27	0.19	
30674	*5350.77**	5351.04	0.27	
30730	*5351.75*	5352.25	0.50	DS Face of Proposed 11th Street Bridge
30753	*5352.15*	5352.50	0.35	US Face of Proposed 11th Street Bridge
30759	5352.26	*5352.62*	0.36	
30795	*5352.43*	5353.36	0.93	
30953	*5353.19*	5353.41	0.22	
31025	5353.54	5353.31	-0.23	
31102	5354.55	5354.58	0.03	DS Pedestrian Bridge
31132	5356.27	5356.48	0.21	US Pedestrian Bridge
31206	5356.33	5356.51	0.18	
31269	5356.11	5356.43	0.32	Downstream of Library
31302	5358.82	5358.94	0.12	Downstream of Library
31400	5359.18	5359.35	0.17	
31632	5359.40	5359.55	0.15	Downstream of 9th Street

*Note: Italicized values were interpolated.

Results of the HHZ analysis are shown in Table 3, which indicate that the computed HHZ widths are narrower throughout the BCA, comparing corrected effective and effective conditions; corrected effective HHZ widths decreased as much as 95 feet from the effective widths. The narrower corrected effective HHZ is primarily due to the adjusted ineffective flows along the south side of Boulder Creek downstream of the library. It should be noted based on modeling results that the right boundary of the CE HHZ would contract at Cross Sections 30730 and 30753. However, in order to avoid displaying the relatively small deviation in the HHZ mapping and to remain consistent with the effective HHZ mapping the right HHZ boundary at Cross Sections 30730 and 30753 for the corrected effective condition were plotted along the right ineffective boundary. The one location where the CE HHZ boundary is slightly wider than in the effective condition, right side of Cross Section 31025, is contained entirely on city owned property, shown on the work map provided in Appendix C.1.

Table 2. Effective vs Corrected Effective Conveyance Zone Comparison.

Cross Section	Effective			Corrected Effective			Encroached Width (ft)		ΔWidth (feet) CE-Effective	Location
	Un-Encroached WSEL (ft, NAVD)	Encroached WSEL (ft, NAVD)	ΔWSEL (feet)	Un-Encroached WSEL (ft, NAVD)	Encroached WSEL (ft, NAVD)	ΔWSEL (feet)	Effective	Corrected Effective		
30635	5350.08	5350.58	0.50	5350.27	5350.47	0.20	780	680	-100	
30674	---	---	---	5351.02	5351.21	0.19	---	683	---	
30730	---	---	---	5352.25	5352.34	0.09	---	671	---	DS Face of Proposed 11th Street Bridge
30753	---	---	---	5352.50	5352.57	0.07	---	660	---	US Face of Proposed 11th Street Bridge
30759	5352.26	5352.29	0.03	---	---	---	775	---	---	
30795	---	---	---	5353.34	5353.45	0.09	---	639	---	
30953	---	---	---	5353.41	5353.51	0.10	---	576	---	
31025	5353.54	5353.57	0.03	5353.31	5353.31	0.00	547	543	-4	
31102	5354.55	5354.61	0.06	5354.58	5354.70	0.12	493	475	-18	DS of Pedestrian Bridge
31132	5356.27	5356.55	0.28	5356.48	5356.69	0.21	480	465	-15	US of Pedestrian Bridge
31206	5356.33	5356.43	0.10	5356.51	5356.55	0.04	450	424	-26	
31269	5356.11	5356.59	0.48	5356.43	5356.75	0.32	423	423	0	DS of Library
31302	5358.82	5359.19	0.37	5358.94	5359.42	0.48	425	425	0	US of Library
31400	5359.18	5359.52	0.34	5359.35	5359.81	0.46	467	467	0	
31632	5359.40	5359.74	0.34	5359.55	5359.99	0.44	453	453	0	Downstream of 9th Street

Table 3. Effective vs Corrected Effective High Hazard Zone Comparison.

Cross Section	High Hazard Zone Width (ft) Effective	High Hazard Zone Width (ft) Corrected Effective	ΔWidth (feet) CE - Effective	Location
30635	785	727	-58	
30674	---	716	---	
30730	---	598[1]	---	DS Face of Proposed 11th Street Bridge
30753	---	459[1]	---	US Face of Proposed 11th Street Bridge
30759	774	---	---	
30795	---	653	---	
30953	---	576	---	
31025	528	492	-36	
31102	519	501	-18	DS of Pedestrian Bridge
31132	513	487	-26	US of Pedestrian Bridge
31206	565	470	-95	

Table 3. Effective vs Corrected Effective High Hazard Zone Comparison (continued).

Cross Section	High Hazard Zone Width (ft) Effective	High Hazard Zone Width (ft) Corrected Effective	ΔWidth (feet) CE - Effective	Location
31269	453	453	0	Downstream of Library
31302	464	464	0	Upstream of Library
31400	526	526	0	
31632	506	506	0	Downstream of 9th Street

[1] Computed HHZ widths differ from mapped widths, mapped widths for Cross Sections 30730 and 30753 are 688 and 677 feet, respectively. HHZ was mapped to prevent a scallop at Cross Sections 30730 and 30753 per City of Boulder's direction.

V. PROPOSED CONDITION ANALYSIS

The proposed condition evaluation was performed to demonstrate that the proposed enhancements for the BCA would not adversely impact 100-year WSELs, the conveyance zone, and HHZ. Through the project area, Cross Sections 31269 through 30635 were modified to reflect the proposed BCA grading. In addition, Manning's n value regions were adjusted across cross sections to reflect the proposed BCA grading and anticipated land use. The proposed 11th Street Bridge, located between Cross Sections 30730 and 30753, was modeled utilizing methods discussed below.

The proposed enhancements call for the existing 11th Street pedestrian bridge to be removed and replaced with a new bridge that would be in line with 11th Street, upstream of the existing bridge. The proposed 11th Street bridge will be a two-span bridge; one over the creek and one north of creek which would span a new swale-like secondary conveyance corridor. In order to meet floodplain regulations, the new bridge and BCA grading is required to show no rise in 100-year WSELs, and no adverse impact with respect to CZ and HHZ footprints, relative to the corrected effective condition. ACE evaluated several options for modeling the proposed 11th Street Bridge, including modeling the bridge as a permanent structure and as a breakaway structure. Results were checked with respect to changes in 100-year WSELs, as well as CZ and HHZ widths.

Pursuant to direction provided by City Staff, ACE initially attempted to model the proposed bridge as a permanent structure. For this proposed condition, the bridge was modeled as a multiple opening structure, with typical bridge expansion and contraction coefficients, and 15% blockage of each bridge opening to account for potential debris accumulation during flood events. The 15% debris blockage was defined utilizing the same method for determining debris blockage in the 2013 Boulder Creek model, as documented in Appendix D. Even with revised grading to smoothly transition flow through the 11th Street corridor (shown in Appendix A and Appendix C.2), and minimize exposure of bridge elements to active flow (illustrated in Appendix A), modeling the proposed bridge as a permanent structure resulted in a rise in 100-year WSEL upstream of the bridge. After numerous attempts at various grading and permanent bridge configurations, it was determined that the proposed bridge would need to be considered as a breakaway bridge in order to meet floodplain regulations. Anticipating that modeling of the BCA

improvements may eventually need to be reviewed and accepted by FEMA/UDFCD, it is recommended that the bridge be designed as a breakaway bridge in order to avoid including the proposed bridge in the hydraulic model. This approach of designing and modeling the proposed bridge as a breakaway bridge was discussed with both City Staff and UDFCD Staff. It was concluded, through telephone and email communication, that the UDFCD would accept the design and modeling of the proposed bridge as a breakaway structure and, consequently, City Staff would also accept this approach. Pertinent email communications regarding this discussion are included in Appendix E.

Given the height of the proposed bridge, it is acknowledged that the bridge would only breakaway during large flood events when sufficient debris had accumulated on the upstream face of the bridge. Consequently, even without modeling the proposed structure at 11th Street as a true bridge, the potential for obstruction due to debris was considered. Therefore, at Cross Sections 30754 and 30730, upstream and downstream of the proposed structure respectively, blocked obstructions were placed at the edge of the proposed bridge openings to account for 15% debris obstruction during flooding events. To minimize expansion and contraction losses through the 11th Street area, proposed grading within the BCA was revised to smoothly transition water through the secondary "swale" and back to Boulder Creek. In addition, the vertical portions of the proposed bridge abutments for the northern span were placed above the 100-year WSEL of 5352.3 feet, NAVD; the vertical portions of the abutments for the southern span would be exposed to approximately the top 1.7 feet of the 100-year flow. By accounting for the proposed bridge in this manner (as a breakaway structure without typical bridge modeling elements, but accounting for potential debris blockage) proposed condition 100-year WSELs are equal to or lower than corrected effective 100-year WSELs through the BCA, as summarized in Table 4. The maximum drop in 100-year WSELs of 0.40 feet is located at Cross Section 30674.

A CZ analysis was performed utilizing the proposed condition model. All encroachment locations were left unchanged relative to the corrected effective CZ model. Proposed condition CZ results are presented in Table 5 which shows that all surcharges remain equal to or less than 0.5 feet. All proposed condition CZ widths are identical to those associated with the corrected effective condition. Consequently, this footprint of the proposed condition CZ is identical to that defined for the corrected effective condition.

Table 4. Corrected Effective vs Proposed Condition 100-Year Water Surface Elevation Comparison.

Cross Section	100-Yr WSEL (ft, NAVD) Corrected Effective	100-Yr WSEL (ft, NAVD) Proposed Condition	ΔWSEL (feet) Proposed – CE	Location
30635	5350.27	5350.27	0.00	
30674	5351.04	5350.64	-0.40	
30730	5352.25	5351.97	-0.28	DS Face of Proposed 11th Street Bridge
30753	5352.50	5352.30	-0.20	US Face of Proposed 11th Street Bridge
30795	5353.36	5353.29	-0.07	
30953	5353.41	5353.34	-0.07	
31025	5353.31	5353.29	-0.02	

Table 4. Corrected Effective vs Proposed Condition 100-Year Water Surface Elevation Comparison (continued).

Cross Section	100-Yr WSEL (ft, NAVD) Corrected Effective	100-Yr WSEL (ft, NAVD) Proposed Condition	ΔWSEL (feet) Proposed – CE	Location
31102	5354.58	5354.58	0.00	DS of Pedestrian Bridge
31132	5356.48	5356.43	-0.05	US of Pedestrian Bridge
31206	5356.51	5356.48	-0.03	
31269	5356.43	5356.34	-0.09	Downstream of Library
31302	5358.94	5358.94	0.00	Upstream of Library
31400	5359.35	5359.35	0.00	
31632	5359.55	5359.55	0.00	Downstream of 9th Street

Table 5. Corrected Effective vs Proposed Condition Conveyance Zone Comparison.

Cross Section	Corrected Effective			Proposed Condition			Encroached Width (ft)		ΔWidth (feet) Proposed - CE	Location
	Un-Encroached WSEL (ft, NAVD)	Encroached WSEL (ft, NAVD)	ΔWSEL (feet)	Un-Encroached WSEL (ft, NAVD)	Encroached WSEL (ft, NAVD)	ΔWSEL (feet)	Corrected Effective	Proposed Condition		
30635	5350.27	5350.47	0.20	5350.27	5350.44	0.17	680	680	0	
30674	5351.02	5351.21	0.19	5350.64	5350.73	0.09	683	683	0	
30730	5352.25	5352.34	0.09	5351.97	5352.10	0.13	671	671	0	DS Face of Proposed 11th Street Bridge
30753	5352.50	5352.57	0.07	5352.30	5352.41	0.11	660	660	0	US Face of Proposed 11th Street Bridge
30795	5353.34	5353.45	0.09	5353.29	5353.38	0.09	639	639	0	
30953	5353.41	5353.51	0.10	5353.34	5353.47	0.13	576	576	0	
31025	5353.31	5353.31	0.00	5353.33	5353.45	0.12	543	543	0	
31102	5354.58	5354.70	0.12	5354.58	5354.70	0.12	475	475	0	DS of Pedestrian Bridge
31132	5356.48	5356.69	0.21	5356.43	5356.63	0.20	465	465	0	US of Pedestrian Bridge
31206	5356.51	5356.55	0.04	5356.48	5356.53	0.05	424	424	0	
31269	5356.43	5356.75	0.32	5356.34	5356.65	0.31	423	423	0	DS of Library
31302	5358.94	5359.42	0.48	5358.94	5359.43	0.49	425	425	0	US of Library
31400	5359.35	5359.81	0.46	5359.35	5359.81	0.46	467	467	0	
31632	5359.55	5359.99	0.44	5359.55	5359.99	0.44	453	453	0	Downstream of 9th Street

The HHZ analysis was conducted using the proposed condition modeling results. Table 6 provides a comparison of the corrected effective and proposed condition HHZ boundary stations. The table indicates that the HHZ top width would decrease by 47 feet at Cross Sections 30730 and increase by 175

feet and 4 feet at Cross Sections 30753 and 31025, respectively, due to the enhancements to the BCA. At all other locations, the HHZ boundaries would be unchanged.

Table 6. Corrected Effective vs Proposed Condition High Hazard Zone Comparison.

Cross Section	High Hazard Zone Width (ft) Corrected Effective	High Hazard Zone Width (ft) Proposed Condition	ΔWidth (feet) Proposed – CE	Location
30635	727	727	0	
30674	716	716	0	
30730	598[1]	551[1]	-47	
30753	459[1]	634[1]	175	
30795	653	653	0	US of Proposed 11th Street Bridge
30953	576	576	0	
31025	492	496	4	
31102	501	501	0	DS of Pedestrian Bridge
31132	487	487	0	US of Pedestrian Bridge
31206	470	470	0	
31269	453	453	0	Downstream of Library
31302	464	464	0	Upstream of Library
31400	526	526	0	
31632	506	506	0	Downstream of 9th Street

[1] Computed HHZ widths differ from mapped widths, mapped widths for Cross Sections 30730 and 30753 are 688 and 677 feet, respectively. HHZ was mapped to prevent a scallop at Cross Sections 30730 and 30753 per City of Boulder's direction.

Appendix C.2 contains the proposed condition flood hazard work maps. Despite lower 100-year WSEL's throughout the project area, the plan form of the proposed condition 100-year floodplain remains essentially unchanged from the corrected effective 100-year floodplain; with the exception of the north floodplain at Cross Section 30674, where the floodplain width decreases. As mentioned previously, the proposed condition CZ is identical to the corrected effective CZ. The HHZ width at Cross Section 31025 would increase with the left HHZ station moving 4.1 feet to the north. Even with this minor HHZ station shift, the HHZ boundary would remain within public right-of-way along Canyon Blvd, thereby not impacting private properties. Similar to the corrected effective analysis the proposed condition modeling results indicate that the right boundary of the proposed condition HHZ would contract at Cross Sections 30730 and 30753. However, to remain consistent with the corrected effective mapping the HHZ will be plotted at the right edge of effective flow, therefore the right HHZ boundary will be unchanged from the corrected effective to proposed condition.

VI. EROSION CONTROL MEASURES

As part of the current study, erosion control measures through the project area were designed to mitigate scour and bank erosion for events up to and including the 100-year flood. Through the project area, Boulder Creek is a generally straight reach and not susceptible to bend scour. To minimize scour at

the proposed 11th Street bridge, the grading was designed to smoothly transition water through the bridge while the abutments were designed to have minimal exposure to the 100-year flood. Consequently, a scour analysis was not warranted at the bridge.

Riprap Design

Riprap bank protection was designed throughout this portion of the BCA for areas that would be susceptible to bank erosion, such as, areas of general regrading, tree removal and in the vicinity of bridge abutments and the trail. Areas identified as being susceptible to bank erosion are as follows: (a) the Nature Play Area extending from the downstream side of the library to just downstream of the existing pedestrian bridge, (b) the upstream end of the north swale, (c) in the vicinity of the proposed 11th Street bridge abutments, and (d) the confluence of the north swale with Boulder Creek. Federal Highway Administration (FHWA) methodology was utilized for riprap sizing through use of the FHWA Hydraulic Toolbox Version 4.2 computer program. Riprap size/gradation requirements were determined based on current FHWA riprap design criteria; results of the riprap sizing effort are provided in Appendix G. Riprap sizing evaluations were utilized to determine the extents of riprap installations, thickness of riprap protection, and toe down depths of riprap below the channel bed. For riprap design analyses, a factor of safety equal to 1.5 was utilized, along with an assumed specific gravity of stone equal to 2.65.

Hydraulic conditions at the upstream end of the north swale indicate a maximum D_{50} of 12.5 inches, which is approximately equivalent to Class 12 riprap. In the Nature Play Area the calculated D_{50} is 9.5 inches; however, in order to be conservative and consistent with the north swale riprap installation, it is recommended that Class 12 riprap be utilized for the Nature Play Area. For the downstream areas, in the vicinity of the 11th Street bridge and at the north swale confluence, hydraulic conditions indicate a maximum D_{50} of 15.5 inches, however, since there is not a standard riprap class with a D_{50} equal to 16 inches Class 18 riprap is recommended for this area. which is approximately equivalent to Class 18 riprap. In general, it was recommended that riprap be installed to a depth of no less than two times the median diameter; (i.e., 2 feet for the upstream areas and 3 feet at the downstream locations). However, a minimum installed depth of 4 feet is recommended at the confluence of the north swale and Boulder Creek, due to complex flow patterns and potential for erosion. In addition, to the thickened riprap installation at this location, a staggered boulder trail along the top of the channel bank was designed to provide additional protection at the confluence. Riprap sizing results can be found in Appendix F.1. Erosion countermeasure layout and installation details shown on selected construction drawings are included in Appendix F.2.

VII. REFERENCES

Anderson Consulting Engineers, Inc., "Hydrology Verification Report for Boulder Creek," prepared for the City of Boulder, October 2009.

Anderson Consulting Engineers Inc., "Boulder Creek Floodplain Mapping Study," prepared for the City of Boulder, September 2013.

Chow, Ven Te, “Open-Channel Hydraulics,” McGraw-Hill Book Company, New York, 1959.

City of Boulder, Colorado “Boulder, Colorado - Municipal Code Supplement 127 Update 2,” February 29, 2016.

Federal Highway Administration, “FHWA Hydraulic Toolbox,” Version 4.2, August 2014.

U.S. Army Corps of Engineers, Hydrologic Engineering Center, “HEC-RAS River Analysis System,” Version 4.0.0, March 2008.

APPENDIX A

SELECT BOULDER CIVIC AREA DESIGN DRAWINGS

CONSULTING ENGINEERS

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www.jvajva.com

September 28, 2016

Mr. Erik Prince, RLA
TLS Landscape Architecture
1015 Camelia Street
Berkeley, CA 94710

RE: Civic Area Park Development Plan, Boulder, CO
Flood Forces at Breakaway Bridge
JVA Project # 17873.3

Dear Erik:

At your request JVA, Inc. has investigated the flood forces that would be required for the bridge to break away from its bearing and also from the abutments. In our calculations, we utilized water elevations and velocities from flood cross sections supplied by Anderson Consulting Engineers (ACE), specifically cross section 30753. The 100 year floodplain elevation is at 5352.30 at this location. The estimated 500 year water surface elevation is at 5353.6. The low chord of the bridge is at 5352.77.

The force required to dislodge the long span of the bridge from its bearing is the self-weight of the bridge, about 118 kips, multiplied by the friction factor between the steel base plate and the neoprene bearing pad, calculated as 0.17. This results in a force of 20 kips being required to move the bridge off of its bearing. The force required to move the bridge off of the abutment completely would be larger, as the friction factor between the steel and concrete is larger, and has been calculated as 50 kips. The shorter span of bridge has a self-weight of about 55 kips, and the forces to move it off its bearings and off the abutment completely are 9.5 kips and 23 kips respectively.

The event that would be required to generate those forces is difficult to predict. With the bridge structure completely above the 100 year floodplain, it would still be possible for floating debris to impact the bottom chord of the bridge. The formula for debris impact force is given in FEMA P-936, and for the velocity of 7.47 feet/second given by ACE for this cross section, the weight of the debris to cause a 20 kip impact load would be approximately 10.2 kips. For reference, this would be a roughly spherical granite boulder with a diameter of 4.8 feet that was located at the top of the flood elevation.

We are not aware of velocities having been calculated for flood events of other mean recurrence intervals, but as a point of reference if the velocity was increased to 14 feet/second the weight of the debris required to dislodge the bridge would need to be 5.5 kips. At the 500 year flood plain level, the bottom chord of the bridge would begin to be loaded by the hydrodynamic pressure of the flood waters, which would decrease the required weight of debris to dislodge the bridge. For the bridge to be moved off of its bearing solely by water pressure, the height of the flood waters would need to be approximately 6 feet above the low chord of the bridge.

Please contact us if you have questions or concerns.

Sincerely,

JVA, Inc.

By:
Brett A. Robinson, P.E.
Senior Project Manager

COLORADO LICENSED
BRETT ALAN ROBINSON
43079
PROFESSIONAL ENGINEER
09-28-2016

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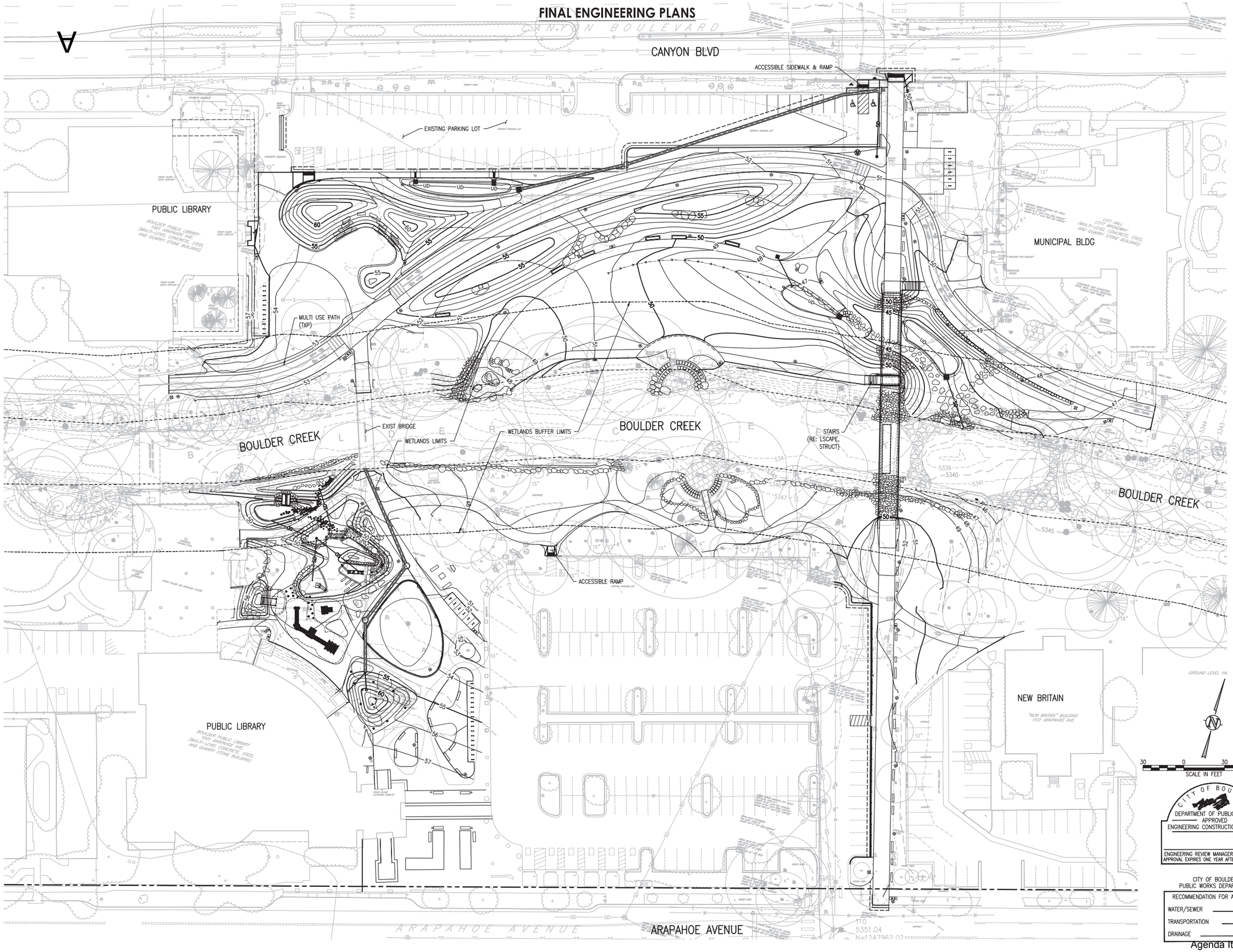

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DRAINAGE

CIVIC AREA PARK DEVELOPMENT PLAN
Boulder, CO

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T[illegible]303.413.[illegible]233

TOM LEADER STUDIO
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08.31.2016	100% CD ISSUED [illegible]OR CONSTRUCTION		

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COLORADO REGISTERED
CHARLES R. HAGER, JR.
37146
PROFESSIONAL ENGINEER

Key Plan

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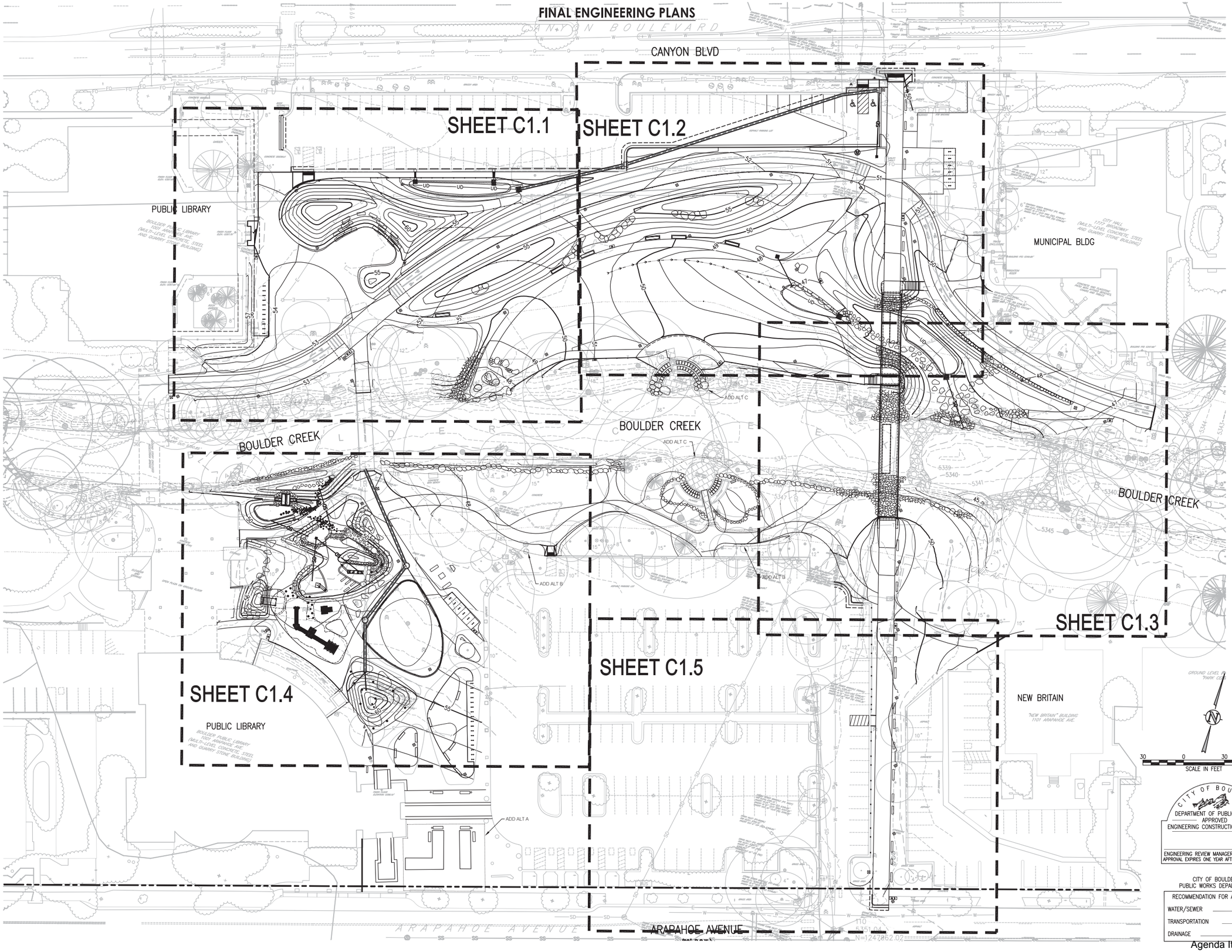

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Boulder, CO

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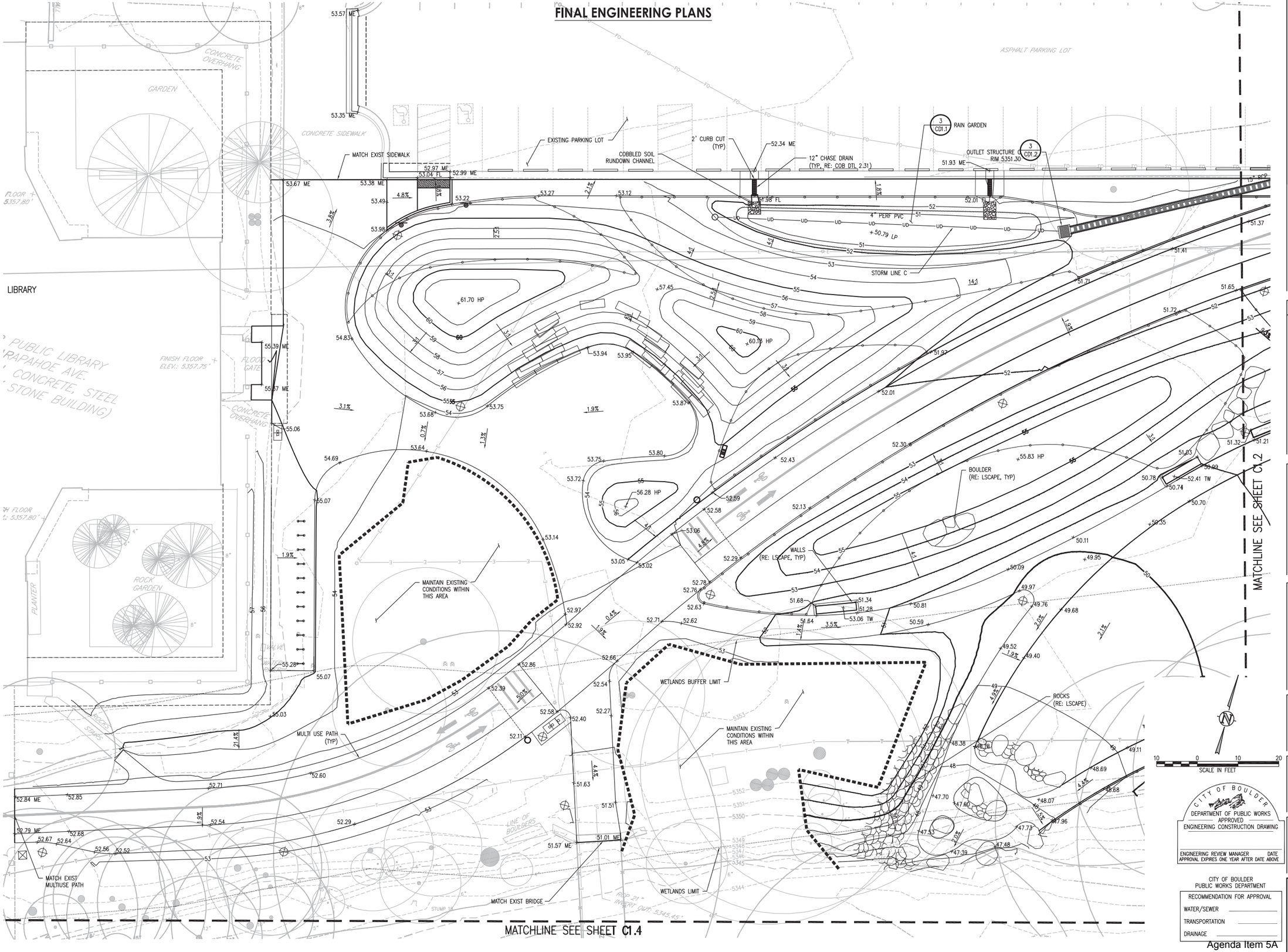

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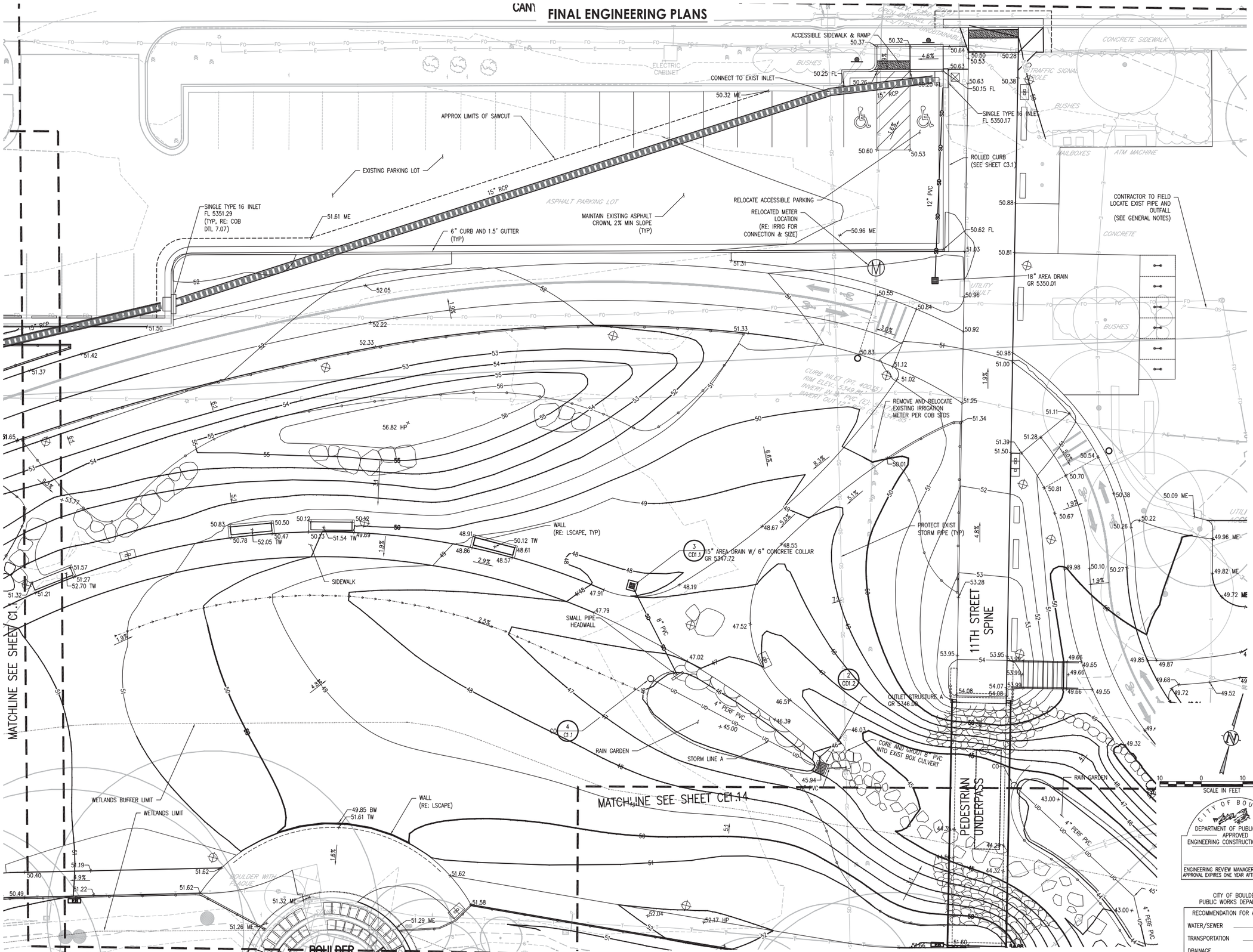

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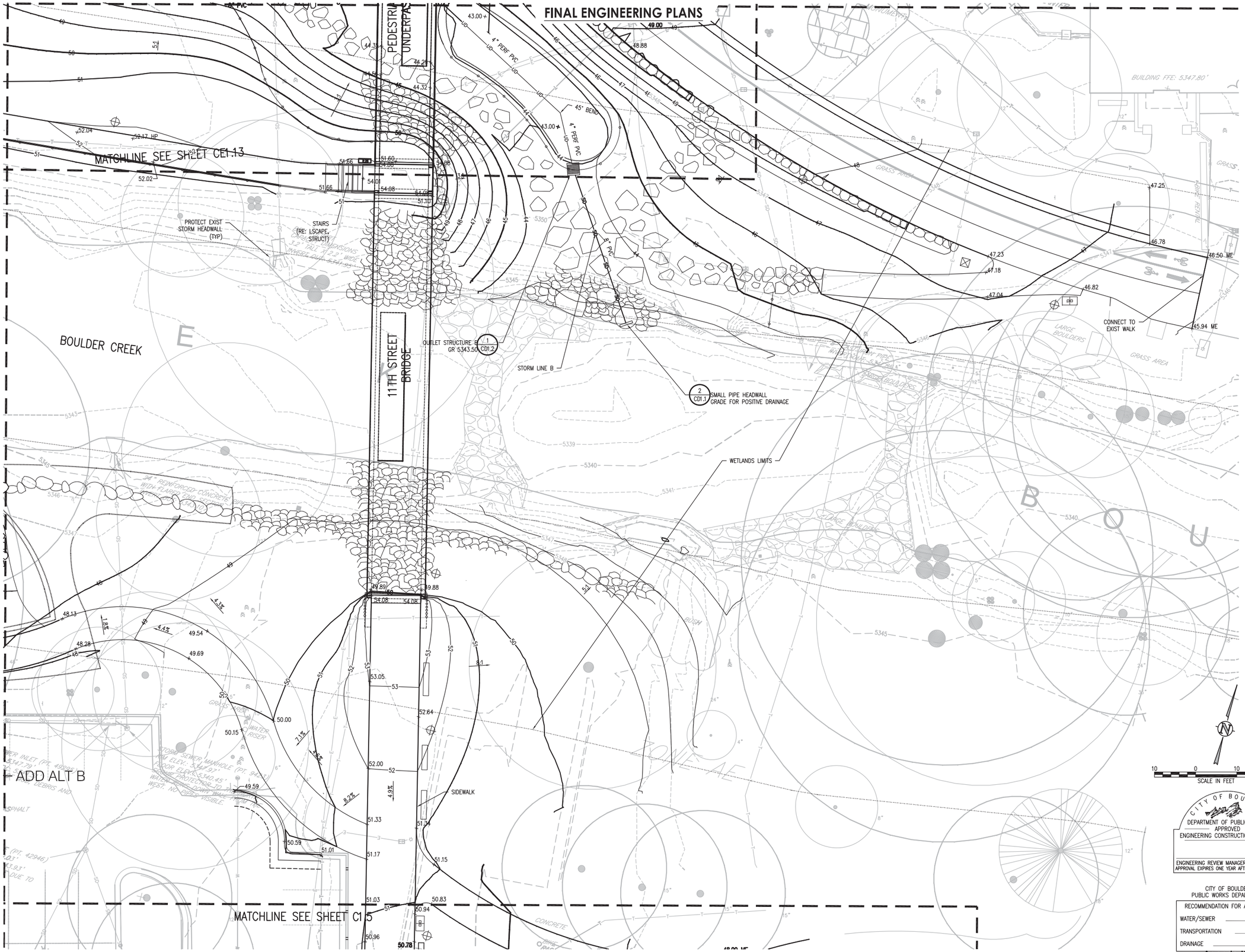

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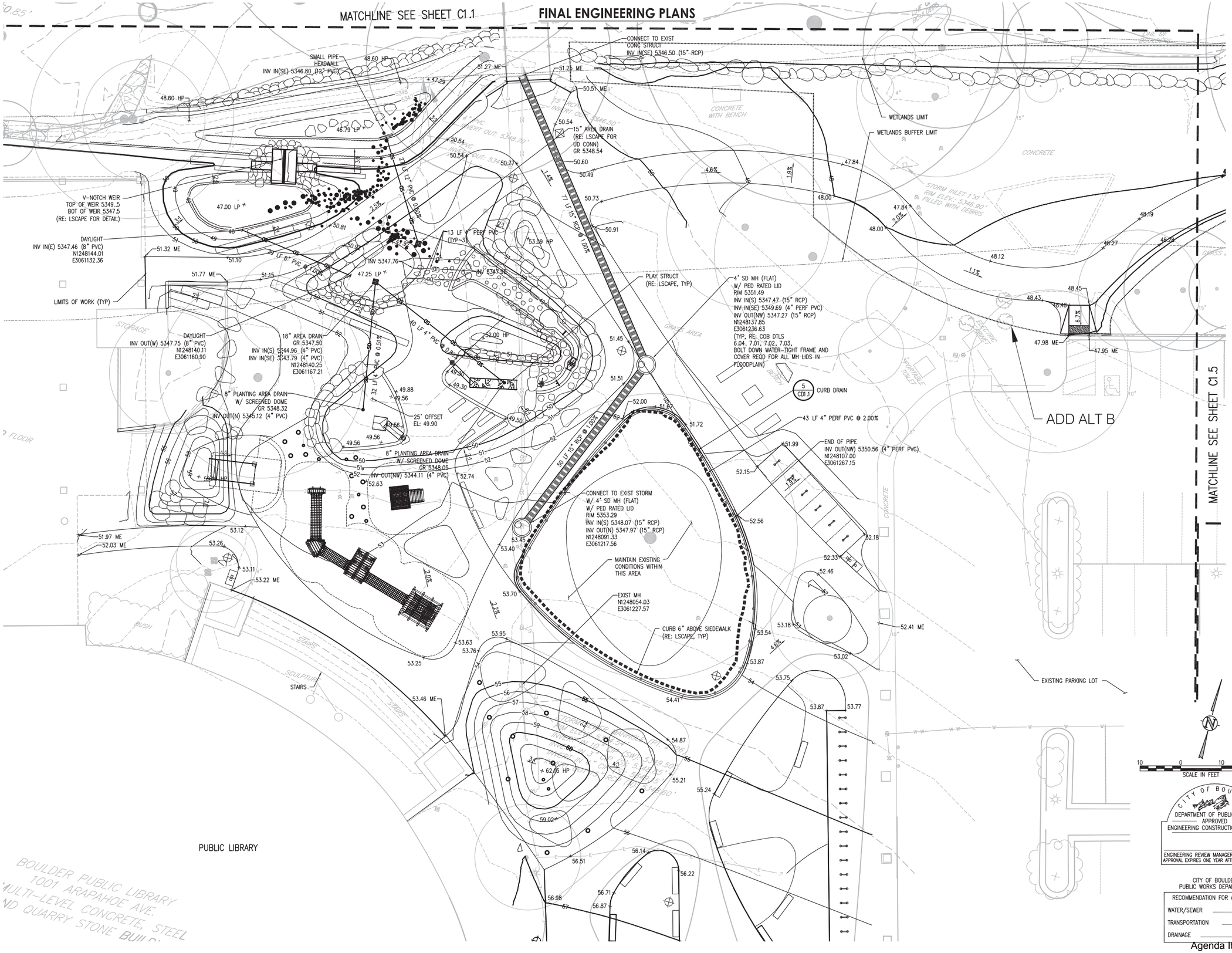

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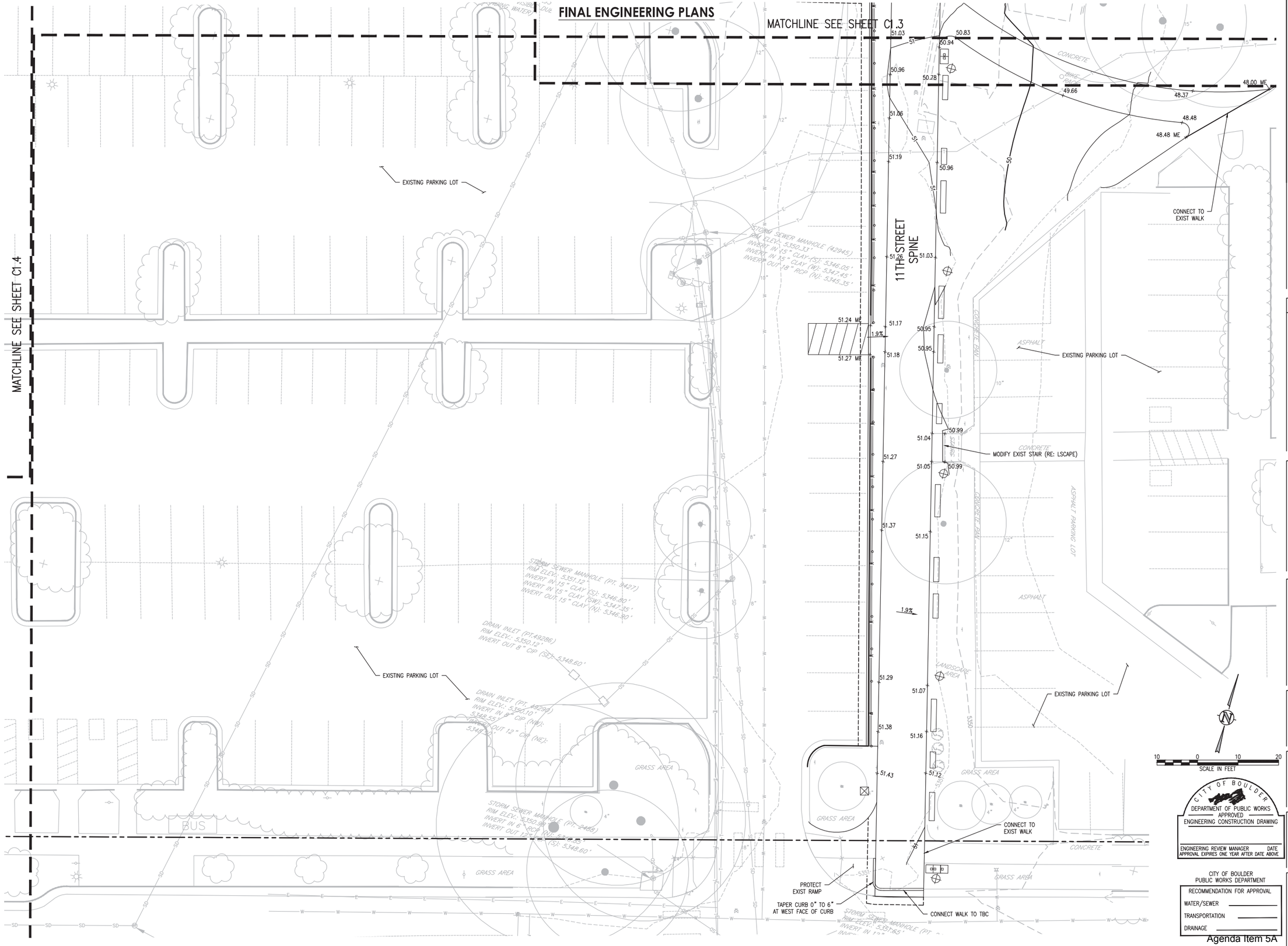

CIVIC AREA PARK DEVELOPMENT PLAN
Boulder, CO

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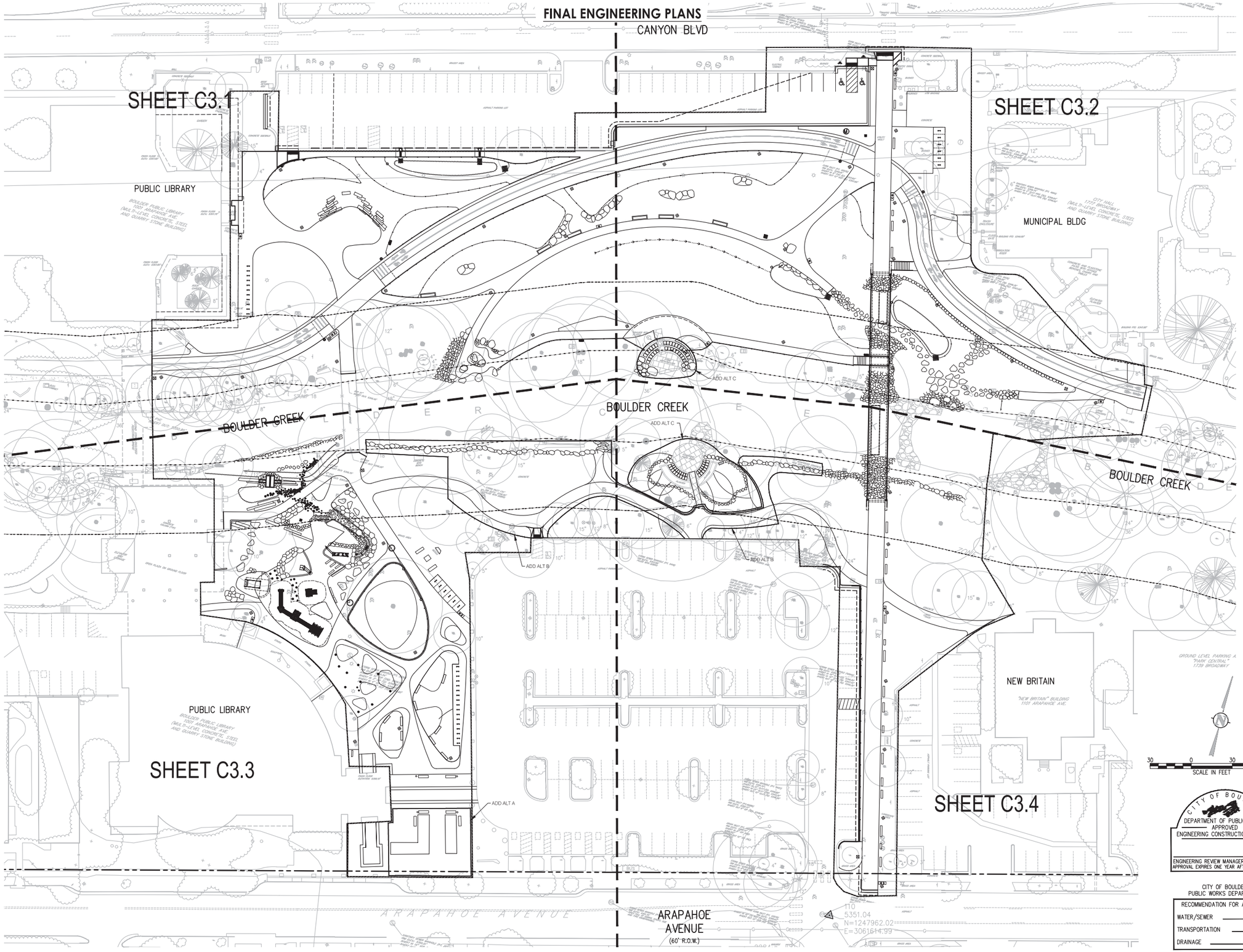

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DRAINAGE

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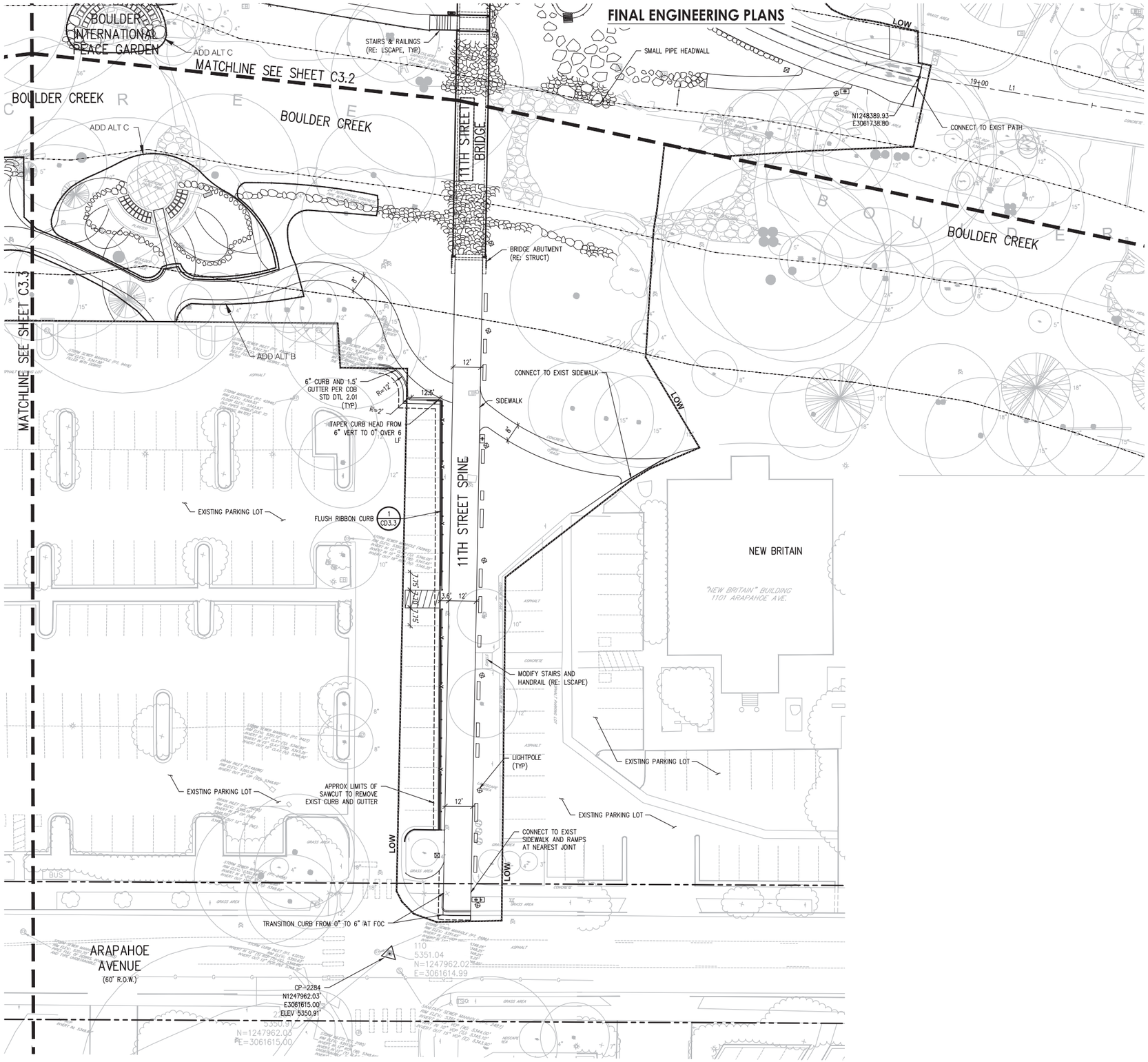

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Boulder, CO

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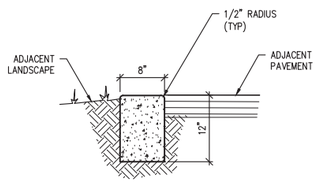
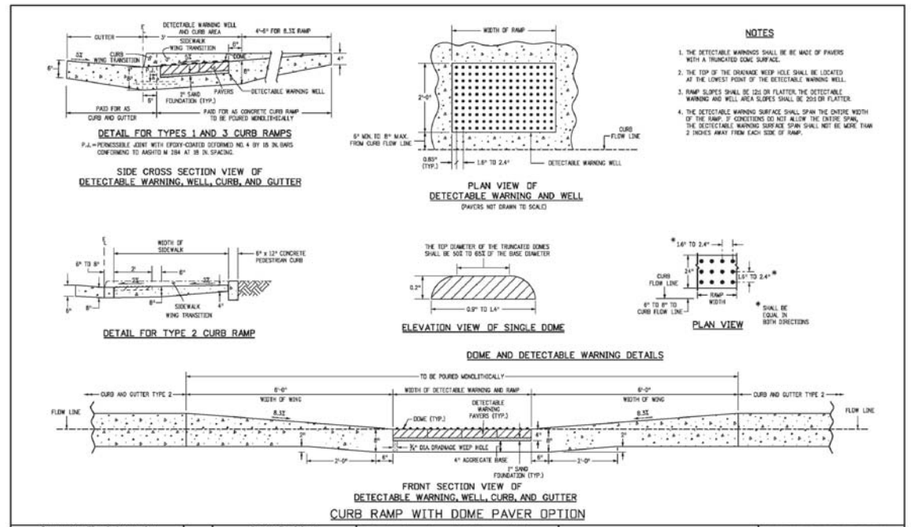
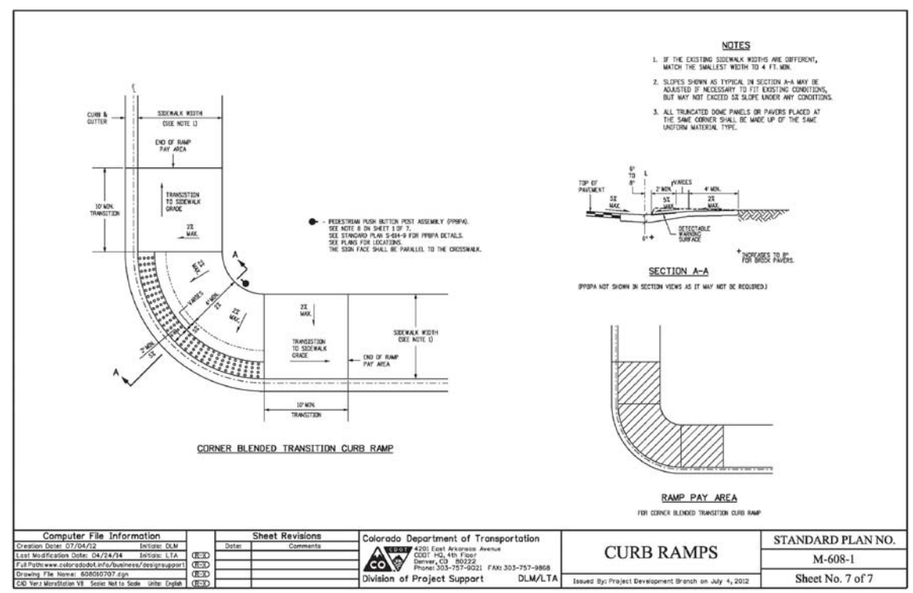


NOTES:
1. COMPACT SUBGRADE PER SPECIFICATIONS
2. SEE SHEET CD3.0 FOR CONTRACTION JOINT AND EXPANSION JOINT DETAILS.

RIBBON CURB/MOWBAND DETAIL (1 / C3.4)
NTS





CIVIC AREA PARK DEVELOPMENT PLAN
Boulder, CO

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08.01.2016	100% CD (TECH DOC 03)		

Seal/Signature

Key Plan

North

Scale:

FINAL ENGINEERING PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

CITY OF BOULDER
DEPARTMENT OF PUBLIC WORKS
APPROVED
ENGINEERING CONSTRUCTION DRAWING
ENGINEERING REVIEW MANAGER DATE
APPROVAL EXPIRES ONE YEAR AFTER DATE ABOVE

Drawing Title
SITE DETAILS

CITY OF BOULDER
PUBLIC WORKS DEPARTMENT
RECOMMENDATION FOR APPROVAL
WATER/SEWER
TRANSPORTATION
DRAINAGE

Drawing Number
CD3.3

STRUCTURAL GENERAL NOTES

DESIGN LOADS: 2012 International Building Code (IBC)with City of Boulder Amdendments, ASCE 7-10, AASHTO LRFD Guide Specifications for Design of Pedestrian Bridges, End Ed.

Bridge Live Loads

	Uniformly Distributed (psf)	Concentrated (lbs)	Live Load Reduction
Pedestrian	90	N/A	Yes
Vehicle	H5	N/A	Yes

Wind:
Basic Wind Speed (3-second gust) 130 mph
Wind Exposure C
Design Wind Pressure 30 PSF

FOUNDATION DESIGN:
Refer to Soils Report no. ----------, dated ----------.
Geotechnical Engineer shall verify soil conditions and types during excavation and prior to placement of formwork or concrete.

DRILLED PIERS (CAST-IN-PLACE DEEP FOUNDATIONS):
Straight shaft drilled piers are designed for
maximum end bearing pressure 20,000 psf
allowable side shear 2,000 psf
minimum penetration into bedrock 14 feet
minimum total length 24 feet
See plans for additional penetration and length requirements.
See boring logs in the Soils Report for indicated variation in bedrock surface.
Mushrooming at the tops of piers is not permitted.
Provide for overrun or underrun in drilling lengths and installed quantities of concrete and reinforcing.
Pier holes shall be thoroughly cleaned and dewatered and shall be inspected by the Geotechnical Engineer prior to concrete placement. Casing of drilled pier holes may be required.

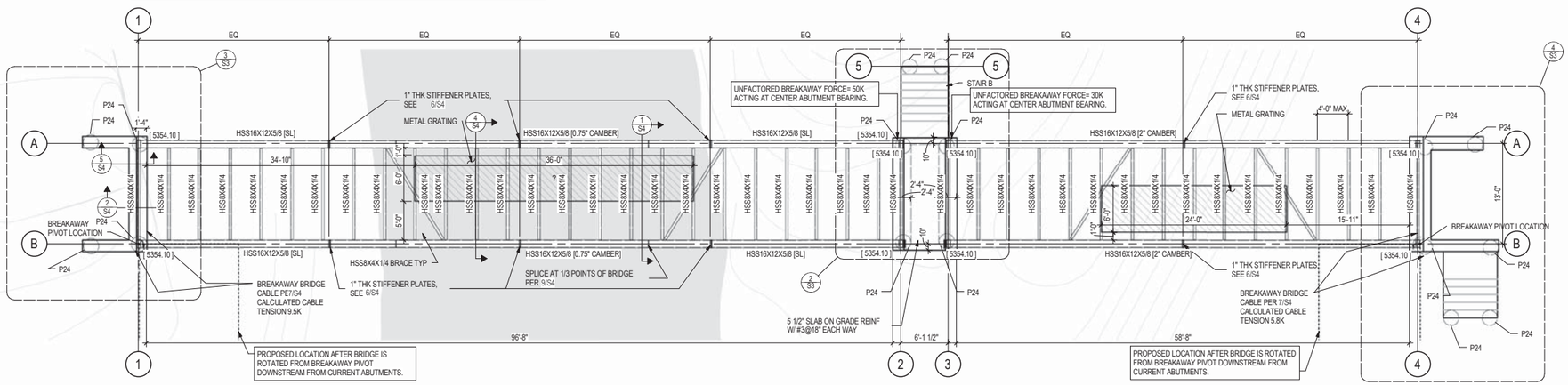
STRUCTURAL STEEL:
Structural steel shall be detailed, fabricated, and erected in accordance with the "Specification for Structural Steel Buildings" (AISC 360) and the "Code of Standard Practice for Steel Buildings and Bridges" (AISC 303) by the American Institute of Steel Construction (AISC).
Structural steel wide flange beams shall conform to ASTM A992, 50 ksi yield.
Rolled steel plates shall conform to ASTM A992, 50 ksi yield.
Other rolled shapes, including channels, WTs, and angles shall conform to ASTM A36, 36 ksi yield.
Hollow structural section (HSS) rectangular shapes shall conform to ASTM A500, Grade B, 46 ksi yield.
Anchor rods shall conform to ASTM F1554, Grade (36, 55, and/or 105) as noted on the Structural Drawings with weldability supplement S1.
Welding shall be done by a certified welder in accordance with the AISC documents listed above, the American Welding Society (AWS) D1.1: Structural Welding Code, and the recommendations for use of weld E70 electrodes. Where not specifically noted, minimum weld shall be 3/16" fillet by length of contact edge.
All post-installed anchors shall have current International Code Council Evaluation Service (ICC-ES) reports and shall be installed in accordance with the manufacturer's requirements.

REINFORCED CONCRETE:
Design is based on ACI 318 "Building Code Requirements for Reinforced Concrete."
Concrete work shall conform to ACI 301 "Standard Specifications for Structural Concrete."

Structural concrete shall have the following properties:

	f'c, psi 28 day	Max W/C Ratio	Maximum Aggregate	Slump, inches (+/- 1")	Entrained Air, percent (+/- 1.5%)	Cement Type	Admixtures, Comments
Intended Use	3,000	0.55	3/4" Stone	7	2	I/II	
Drilled Piers	4,000	0.45	3/4" Stone	4	3	I/II	
Grade Beams							

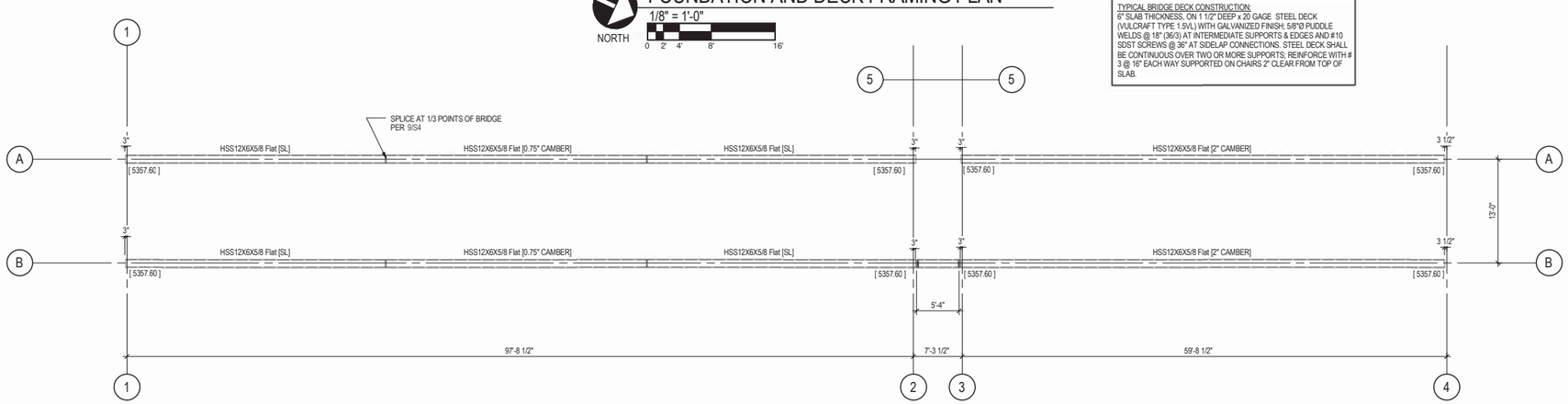
Detailing, fabrication, and placement of reinforcing steel shall be in accordance with ACI 315 "Details and Detailing of Concrete Reinforcement."
Reinforcing bars shall conform to ASTM A615, Grade 60, except ties or bars shown to be field-bent, which shall be Grade 40.
Epoxy coated reinforcing bars shall conform to ASTM 775.
Bars to be welded shall conform to ASTM 706.
Unless noted otherwise on the Structural drawings, lap bars 50 diameters (minimum).
At corners and intersections, make horizontal bars continuous or provide matching corner bars for each layer of reinforcement.
Trim openings in walls and slabs with 2-#5 for each layer of reinforcement, fully developed by extension or hook.
In continuous members, splice top bars at mid-span and splice bottom bars over supports.
Form intermittent shear keys at all construction joints and as shown on the Structuraldrawings.
Except as noted on the drawings, concrete protection for reinforcement in cast-in-place concrete shall be as follows:
Cast against and permanently exposed to earth: 3"
Exposed to earth or weather:
#6 through #18 bars 2"
#5 bar, W31 or D31 wire, and smaller 1-1/2
Anchor bolts and rods for beam and column-bearing plates shall be placed with setting templates.



FOUNDATION AND DECK FRAMING PLAN

NORTH 1/8" = 1'-0"

TYPICAL BRIDGE DECK CONSTRUCTION:
6" SLAB THICKNESS, ON 1 1/2" DEEP x 20 GAGE STEEL DECK (VULCRAFT TYPE 1.5VL) WITH GALVANIZED FINISH; 5/8"Ø PUDDLE WELDS @ 18" (36/3) AT INTERMEDIATE SUPPORTS & EDGES AND #10 SDST SCREWS @ 36" AT SIDELAP CONNECTIONS. STEEL DECK SHALL BE CONTINUOUS OVER TWO OR MORE SUPPORTS; REINFORCE WITH # 3 @ 16" EACH WAY SUPPORTED ON CHAIRS 2" CLEAR FROM TOP OF SLAB.



TOP RAIL PLAN

1/8" = 1'-0"

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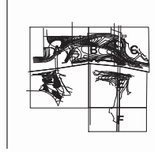
Seal/Signature

Key Plan



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Date
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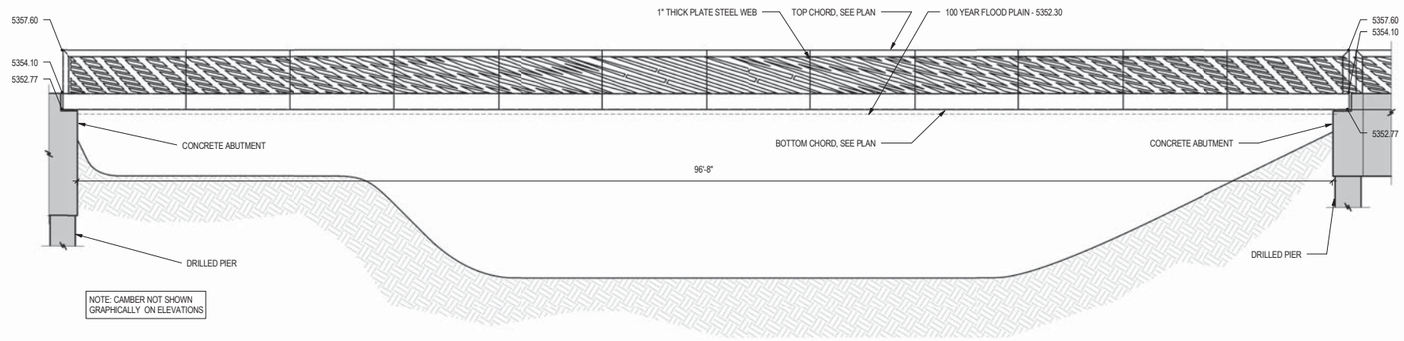
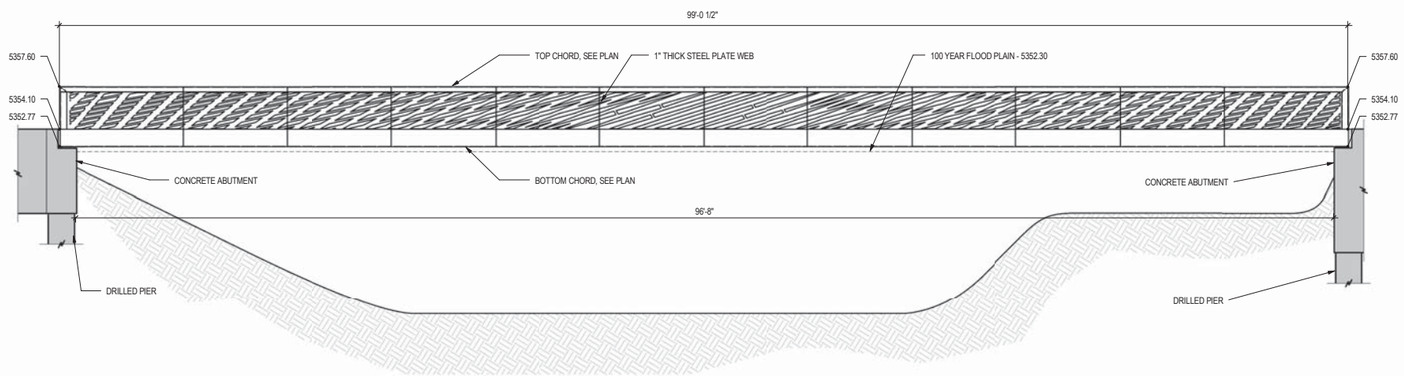
CONSTRUCTION DOCUMENTS
Job Number
TLS-JOB# COB401

Drawing Title
BRIDGE PLANS

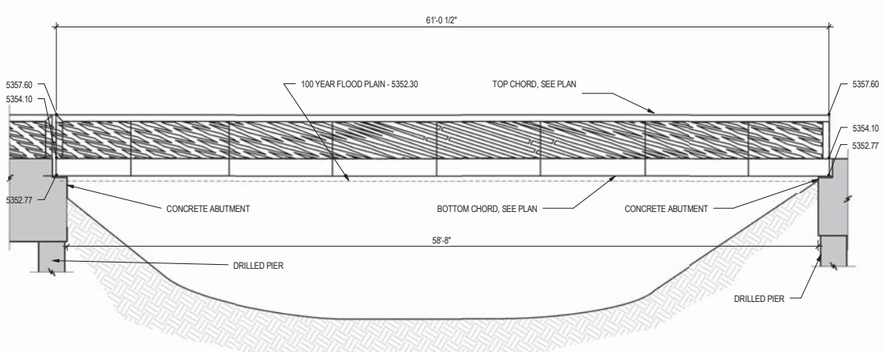
Drawing Number
S1



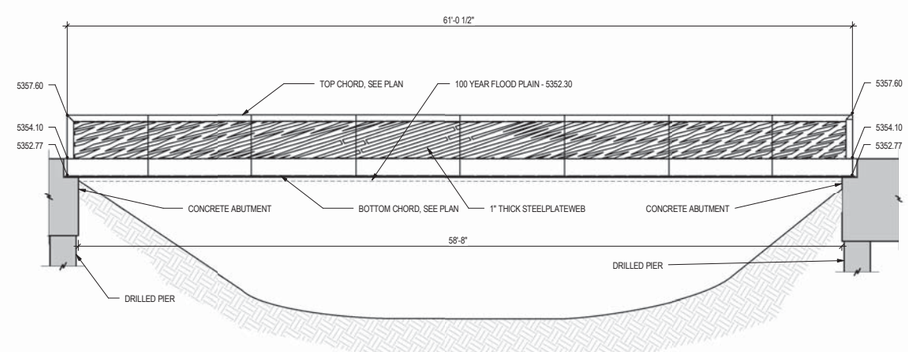
4 / S2 SOUTH BRIDGE EAST ELEVATION
3/16" = 1'-0"



3 / S2 SOUTH BRIDGE WEST ELEVATION
3/16" = 1'-0"



1 / S2 NORTH BRIDGE EAST ELEVATION
3/16" = 1'-0"



2 / S2 NORTH BRIDGE WEST ELEVATION
3/16" = 1'-0"

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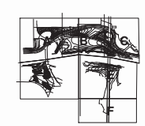
Seal/Signature

Key Plan



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Scale:

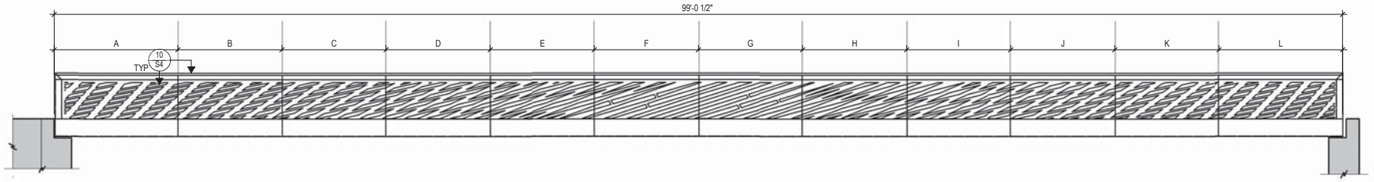
FINAL STRUCTURAL PLANS

Phase
CONSTRUCTION DOCUMENTS
Job Number
TLS-JOB# COB401

Drawing Title
BRIDGE ELEVATIONS

Drawing Number

S2



1 S2.1 SOUTH BRIDGE WEST ELEVATION
3/16" = 1'-0"

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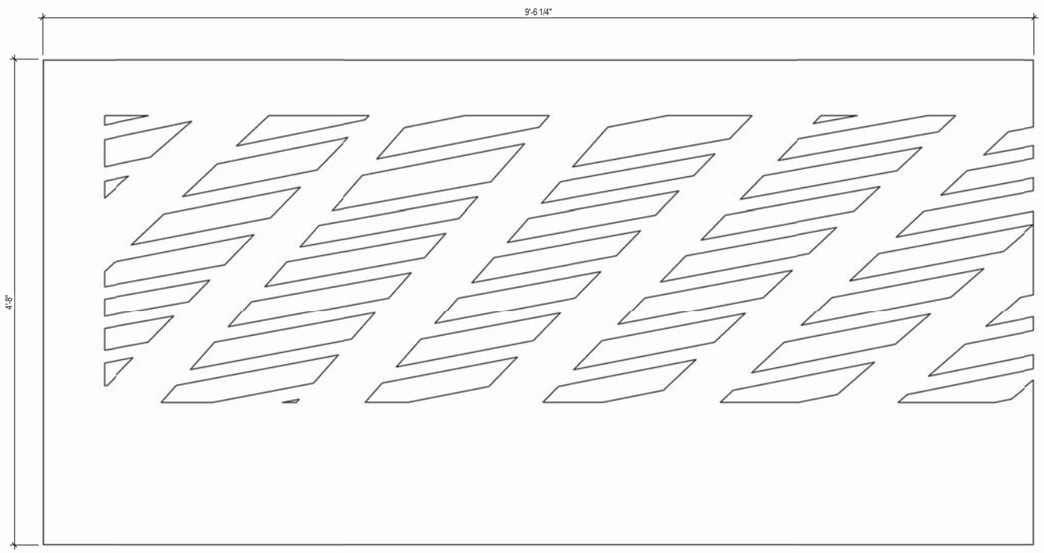
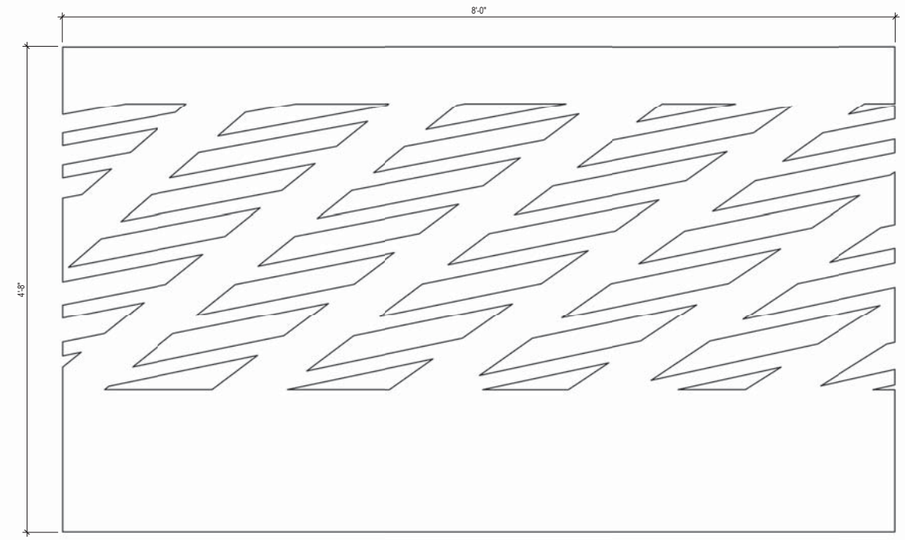


2 S2.1 BRIDGE PANEL A
1 1/2" = 1'-0"



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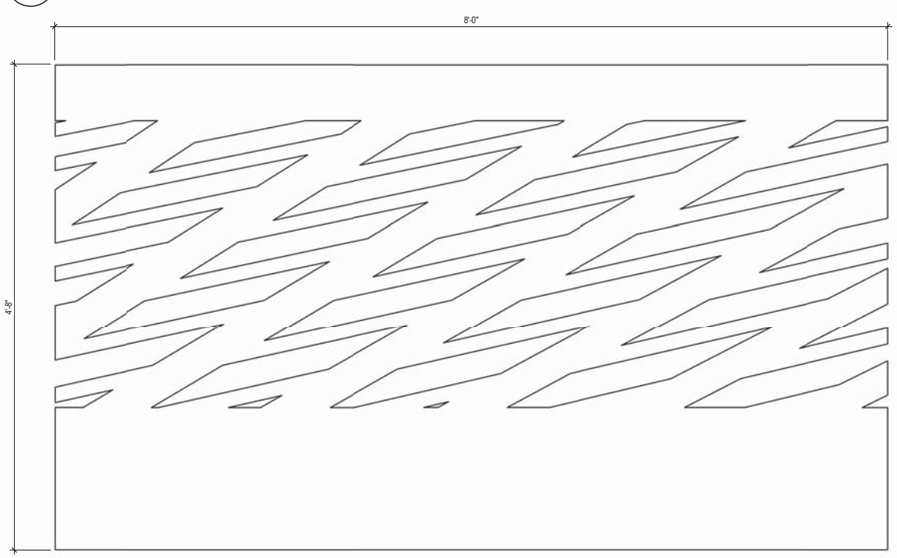

4 S2.1 BRIDGE PANEL C
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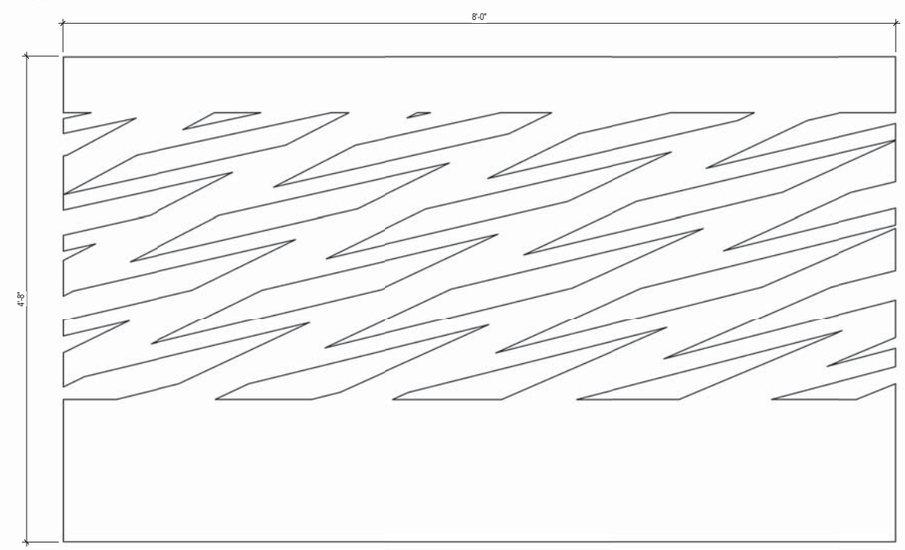

5 S2.1 BRIDGE PANEL D
1 1/2" = 1'-0"

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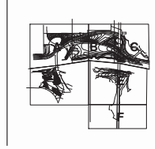
Seal/Signature

Key Plan



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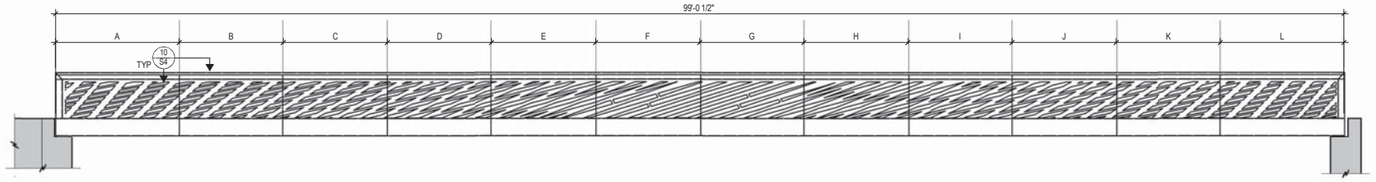
Phase
CONSTRUCTION DOCUMENTS
Job Number
TLS-JOB#COB401

Drawing Title
BRIDGE PANEL DETAILS

Drawing Number
S2.1



1 S2.2 SOUTH BRIDGE WEST ELEVATION
3/16" = 1'-0"

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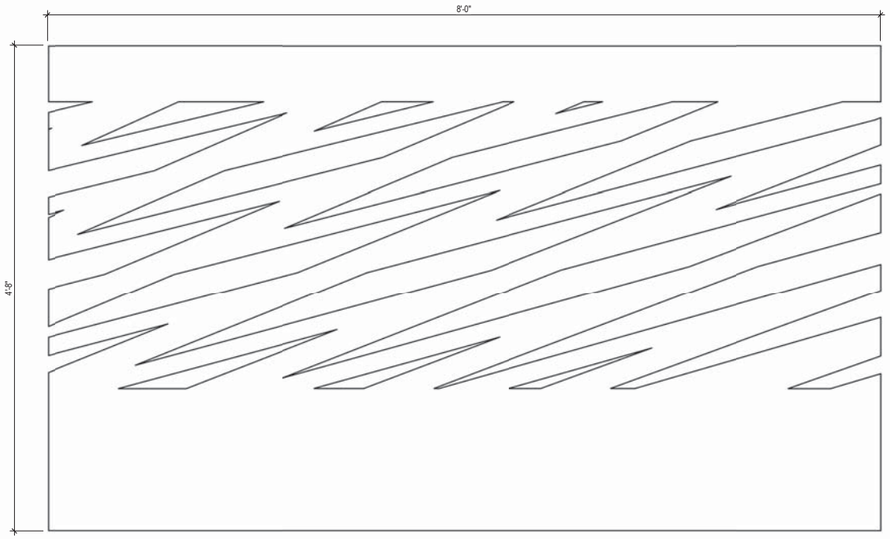

5 S2.2 BRIDGE PANEL E
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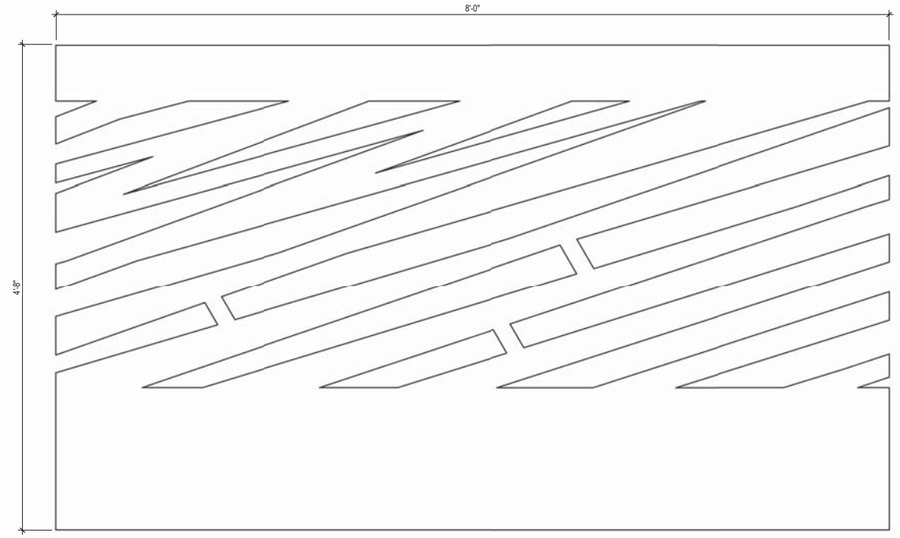

2 S2.2 BRIDGE PANEL F
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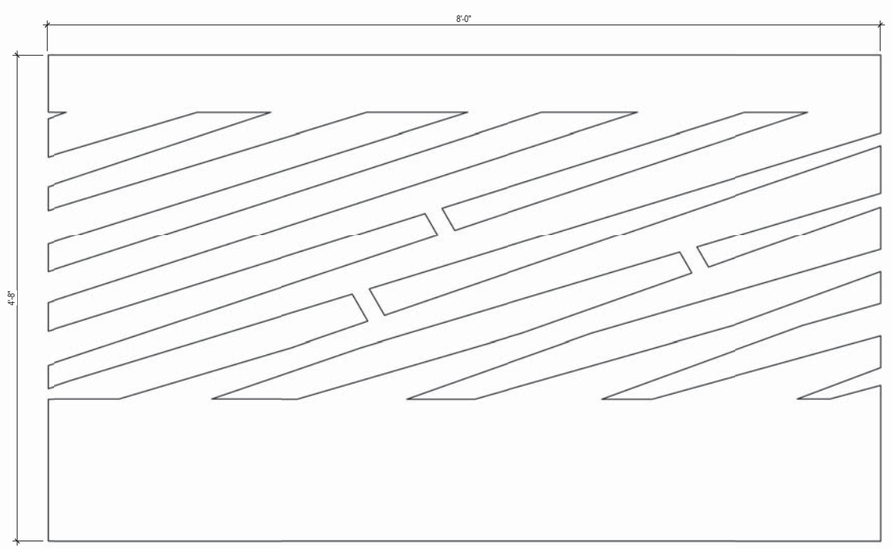

3 S2.2 BRIDGE PANEL G
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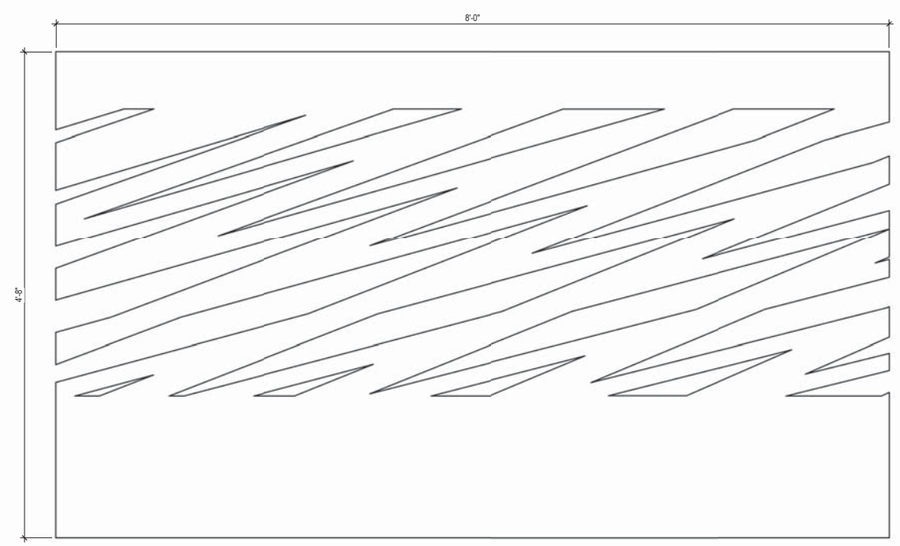

4 S2.2 BRIDGE PANEL H
1 1/2" = 1'-0"

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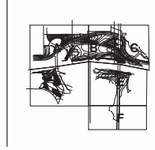
Seal/Signature

Key Plan



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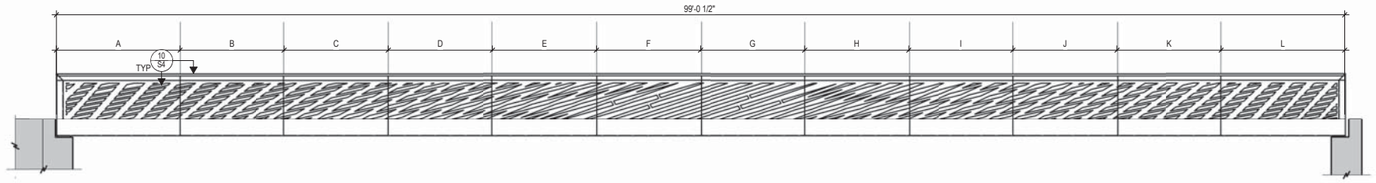
Drawing Title
BRIDGE PANEL DETAILS

Drawing Number
S2.2



1 S2.3 SOUTH BRIDGE WEST ELEVATION
3/16" = 1'-0"

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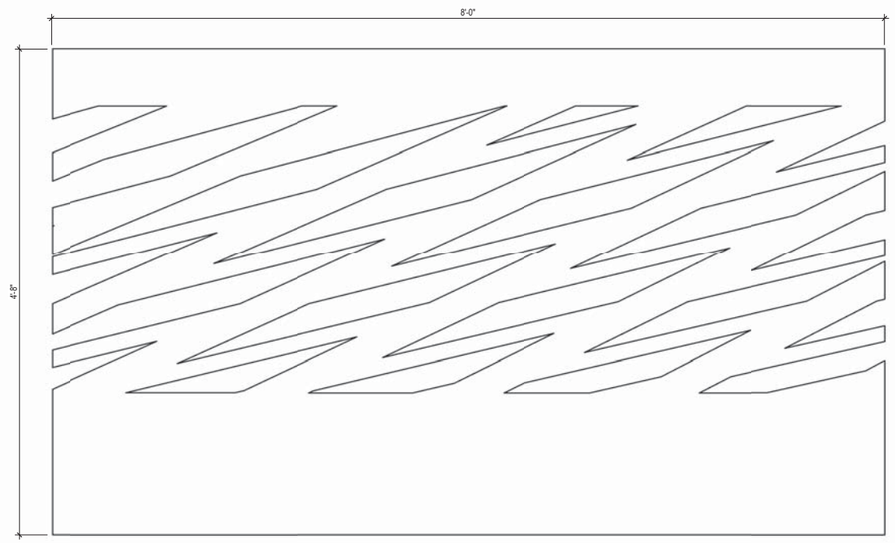

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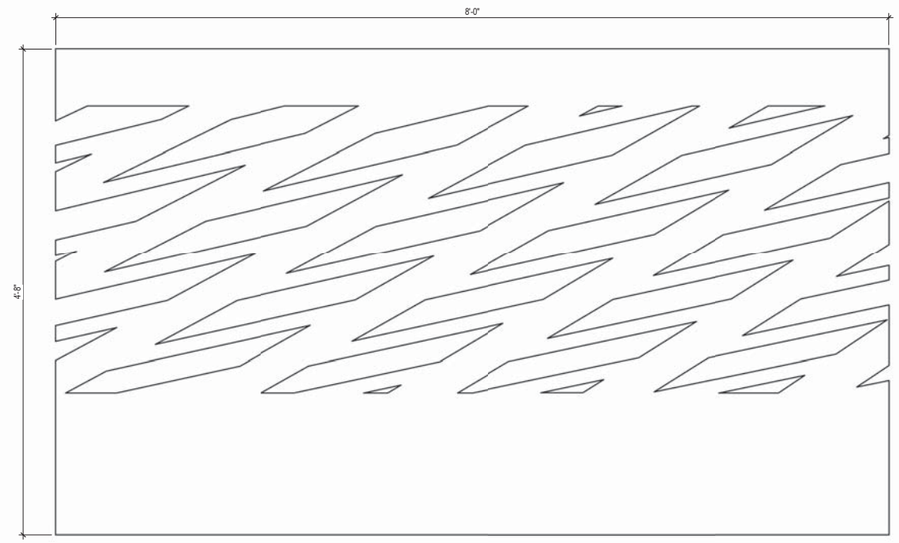
1 1/2" = 1'-0"



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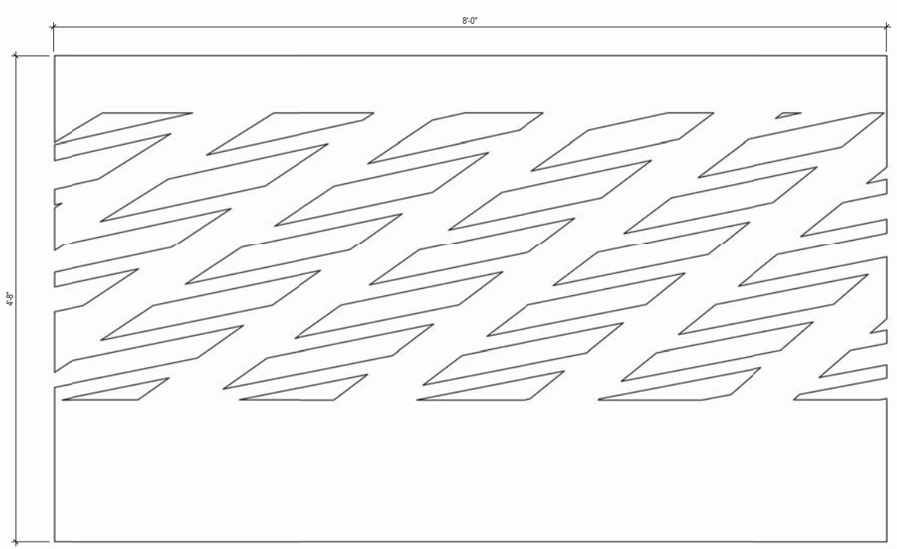

4 S2.3 BRIDGE PANEL K
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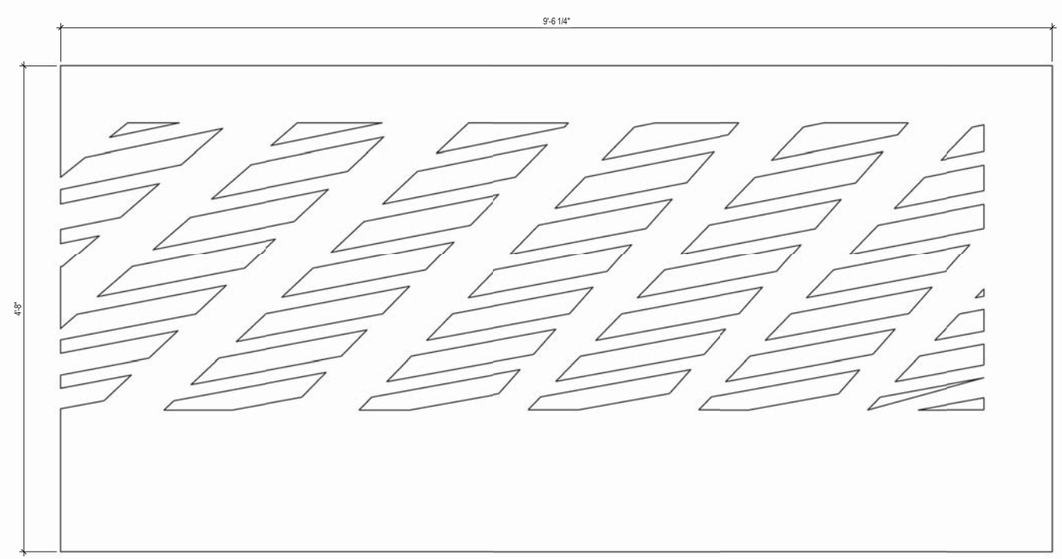

5 S2.3 BRIDGE PANEL L
1 1/2" = 1'-0"

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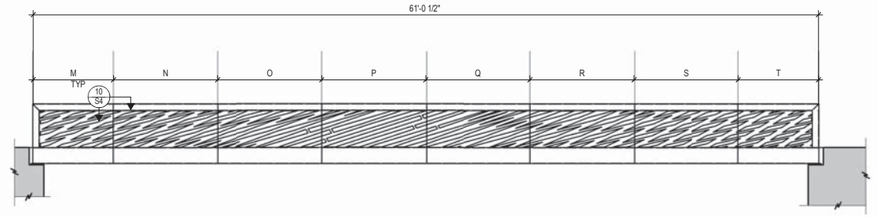
Drawing Title
BRIDGE PANEL DETAILS

Drawing Number
S2.3



1 S2.4 NORTH BRIDGE WEST ELEVATION
3/16" = 1'-0"

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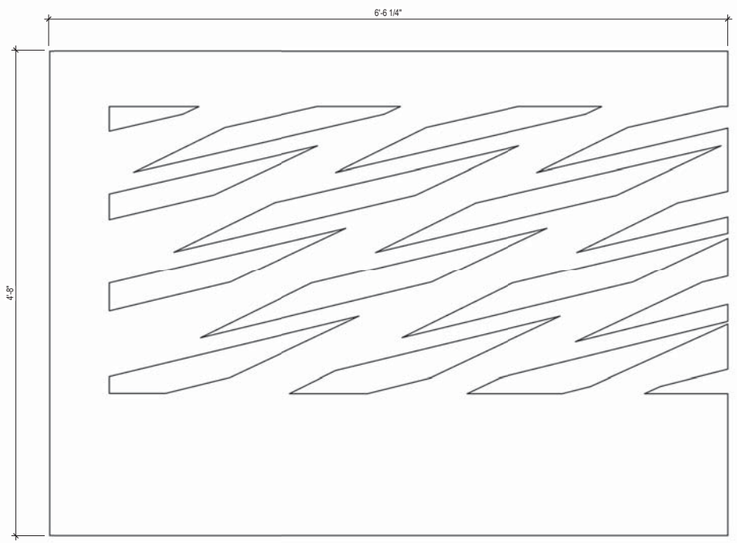
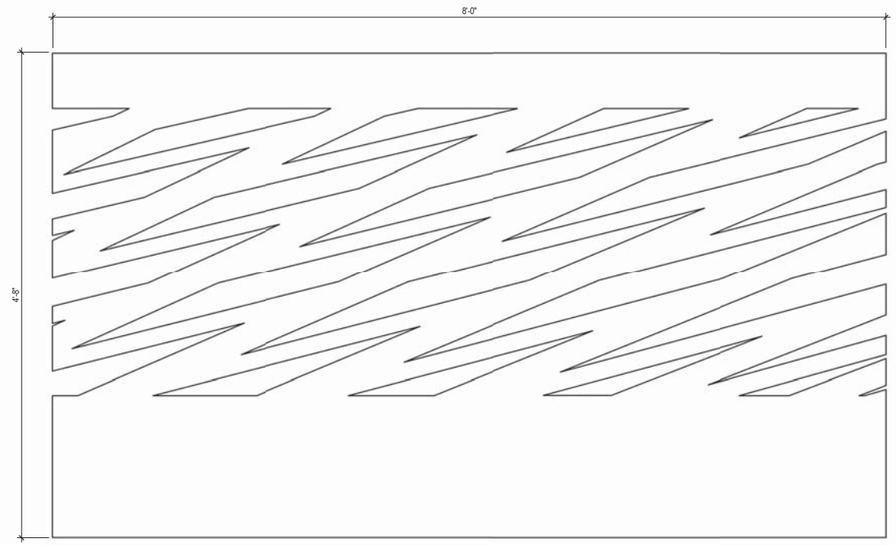
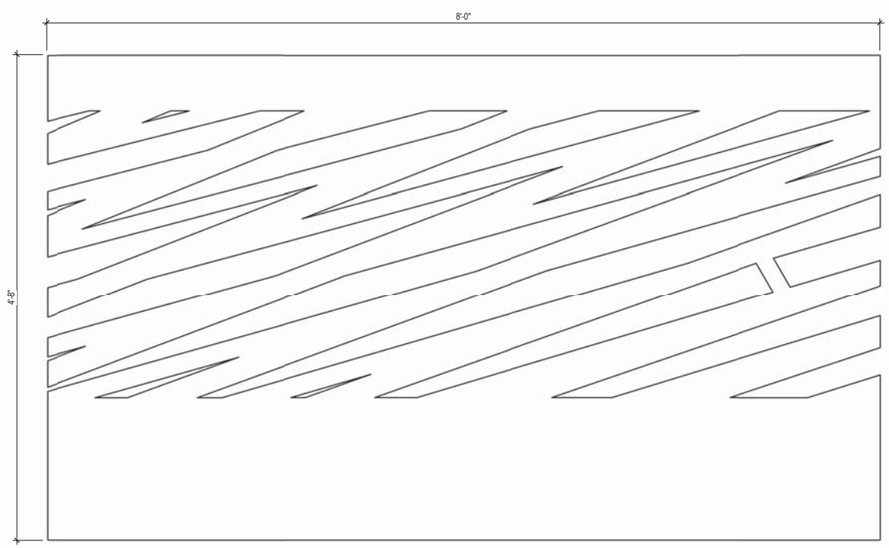


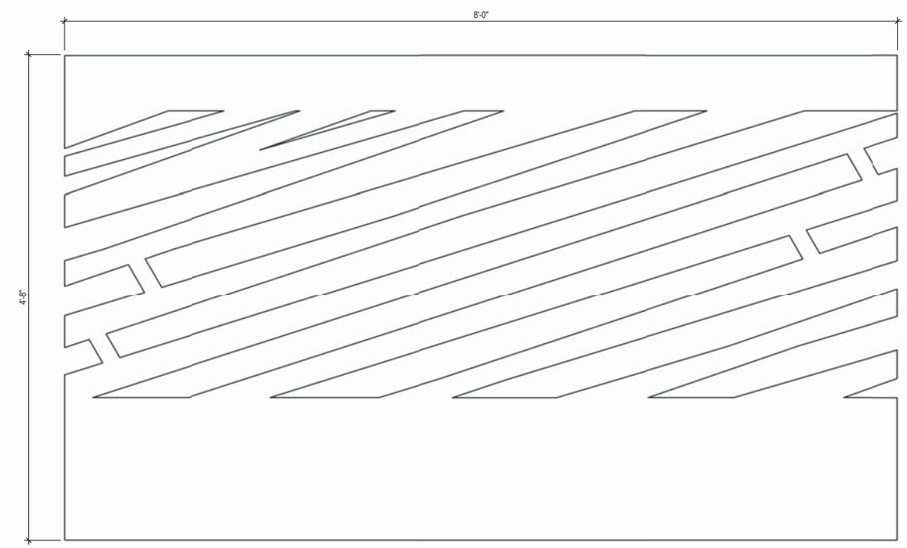
2 S2.4 BRIDGE PANEL M
1 1/2" = 1'-0"



3 S2.4 BRIDGE PANEL N
1 1/2" = 1'-0"



4 S2.4 BRIDGE PANEL O
1 1/2" = 1'-0"



5 S2.4 BRIDGE PANEL P
1 1/2" = 1'-0"

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Seal/Signature

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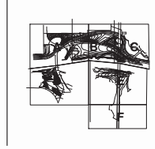

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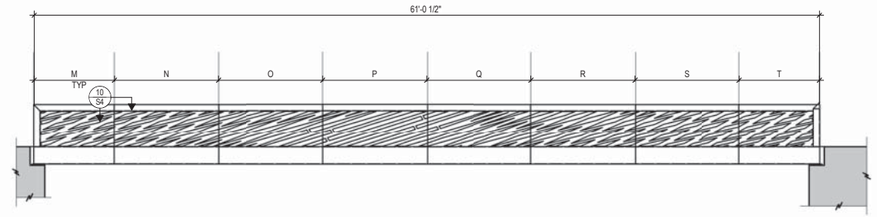
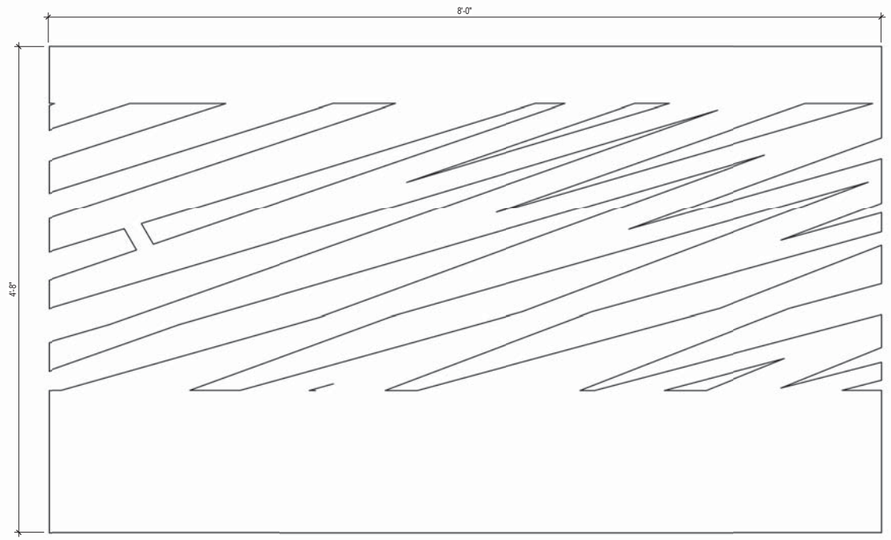
BRIDGE PANEL DETAILS

Drawing Number
S2.4

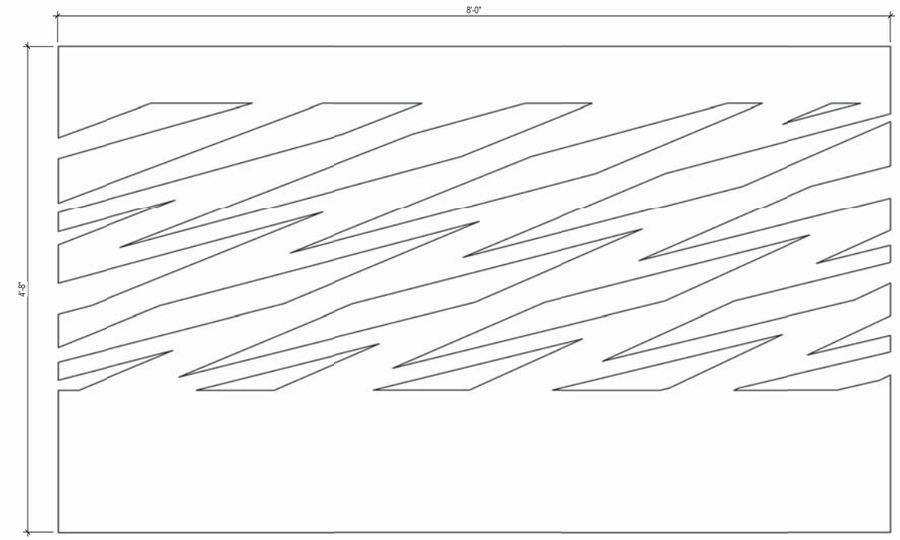


1 / S2.5 NORTH BRIDGE WEST ELEVATION
3/16" = 1'-0"

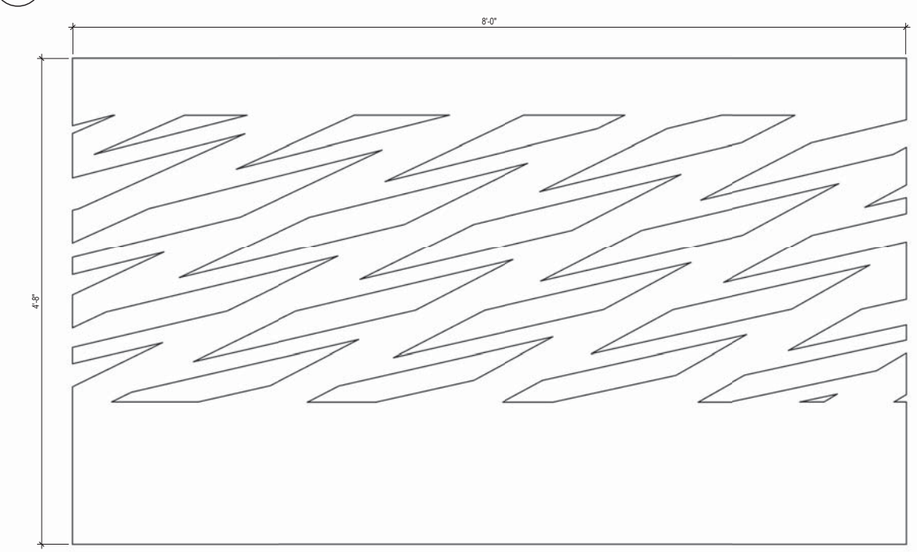
NOTE: ALL PANELS FOR WEST BRIDGE ELEVATIONS ARE SHOW PANEL PATTERN FOR OUTSIDE FACE. EAST ELEVATIONS SHOW PANEL PATTERN FOR INSIDE FACE FOR SIMPLICITY. PANEL PATTERN DESIGNED TO LOOK IDENTICAL FROM BOTH SIDES. ELECTRONIC FILES OF PATTERN TO BE PROVIDED BY STRUCTURAL ENGINEER TO CONTRACTOR FOR FABRICATION.



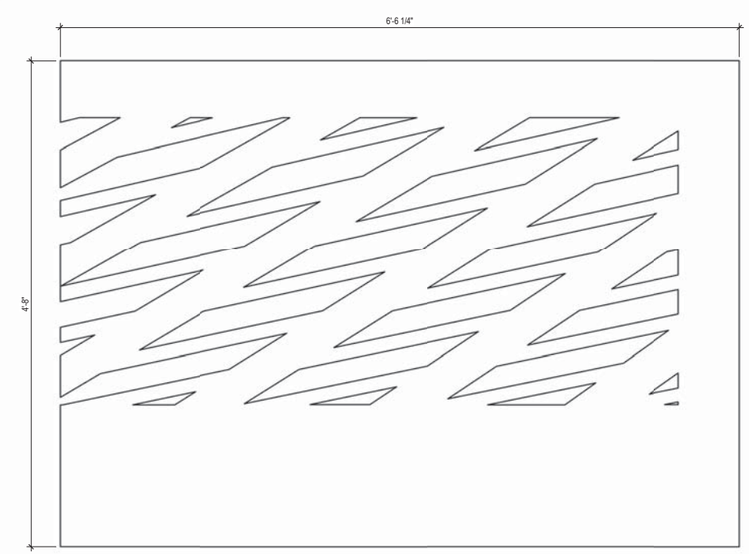
2 / S2.5 BRIDGE PANEL Q
1 1/2" = 1'-0"



3 / S2.5 BRIDGE PANEL R
1 1/2" = 1'-0"



4 / S2.5 BRIDGE PANEL S
1 1/2" = 1'-0"



5 / S2.5 BRIDGE PANEL T
1 1/2" = 1'-0"

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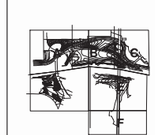

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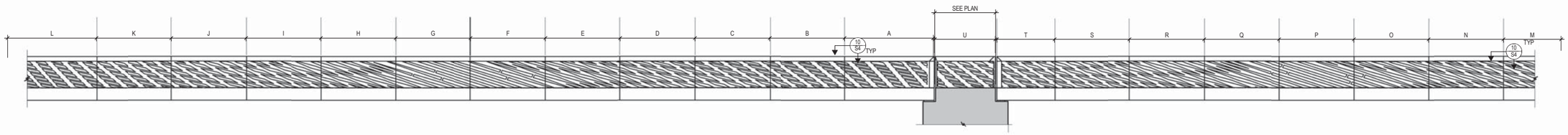
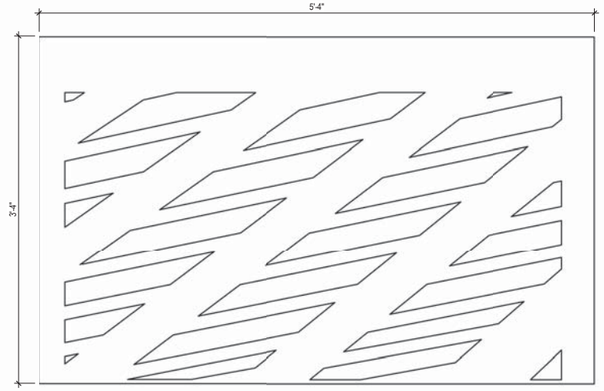


1 / S2.6 NORTH AND SOUTH BRIDGE EAST ELEVATION
3/16" = 1'-0"



2 / S2.6 BRIDGE PANEL U
1 1/2" = 1'-0"

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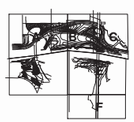

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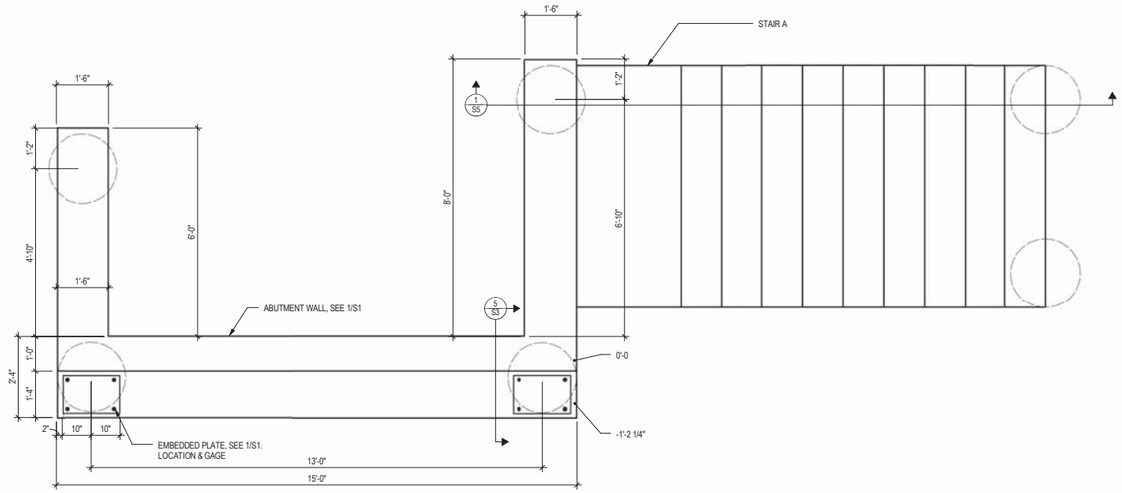
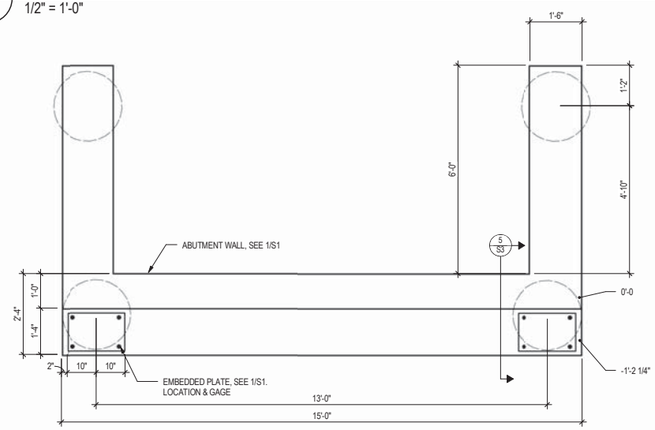
BRIDGE PANEL DETAILS

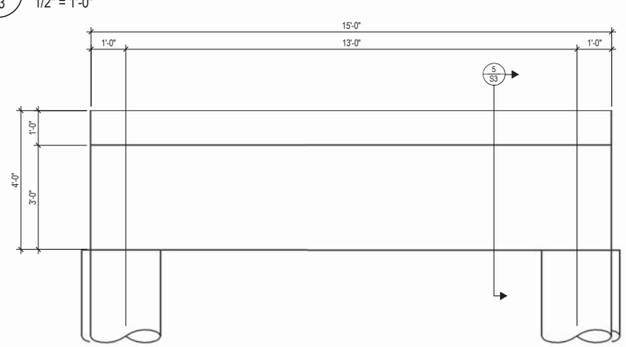
Drawing Number
S2.6



4 S3 ABUTMENT PLAN
1/2" = 1'-0"

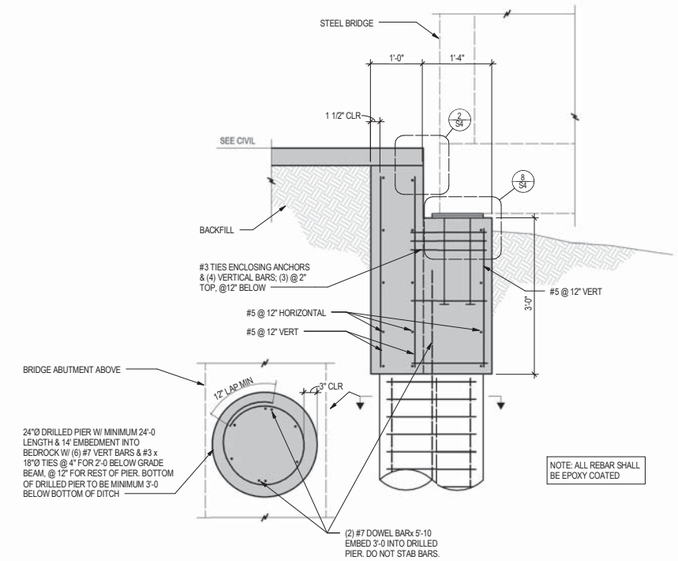


3 S3 ABUTMENT PLAN
1/2" = 1'-0"

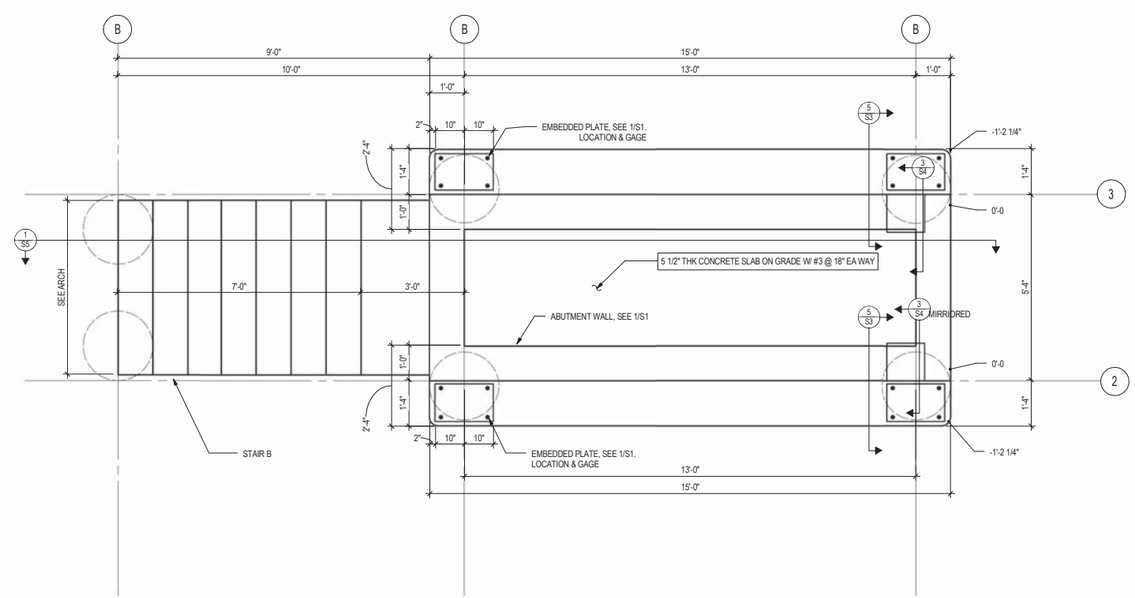


1 S3 ABUTMENT ELEVATION
1/2" = 1'-0"

0 6" 1' 2' 4'



5 S3 DETAIL
3/4" = 1'-0"



2 S3 ABUTMENT PLAN
1/2" = 1'-0"

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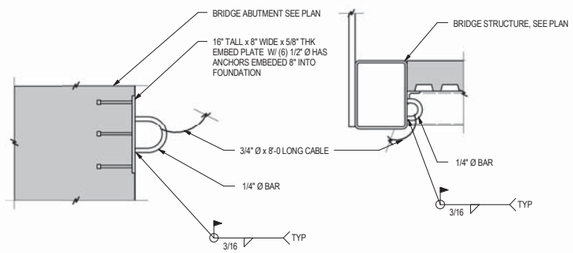
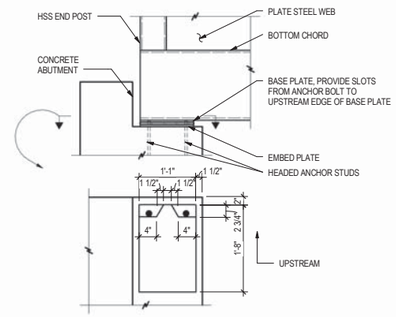
BRIDGE AND ABUTMENT DETAILS

Drawing Number

S3



7 S4 BREAKAWAY DETAIL
3/4" = 1'-0"



8 S4 BEARING SIDE VIEW
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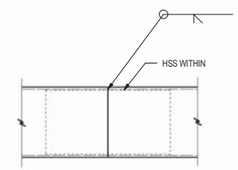
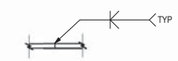
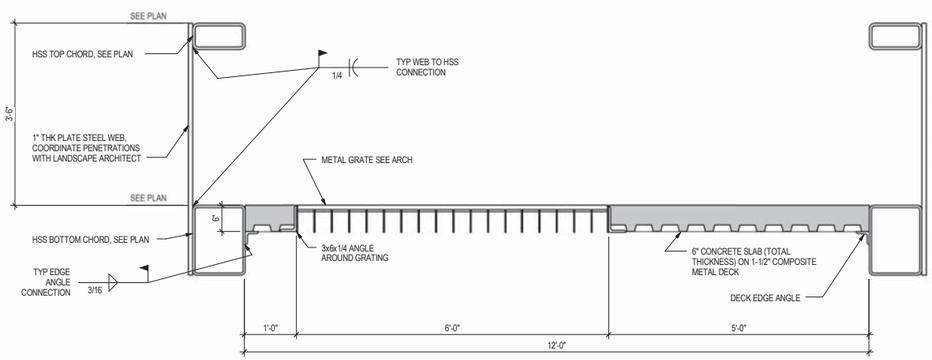


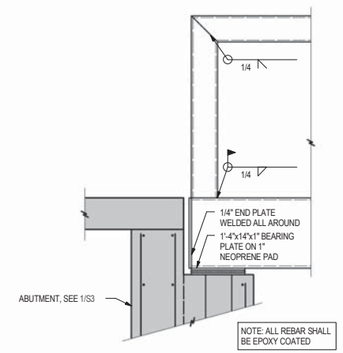
9 S4 BRIDGE SPLICE DETAIL
3/4" = 1'-0"



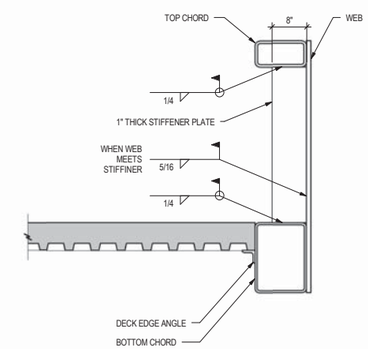
10 S4 BRIDGE PANEL SPLICE DETAIL
3/4" = 1'-0"



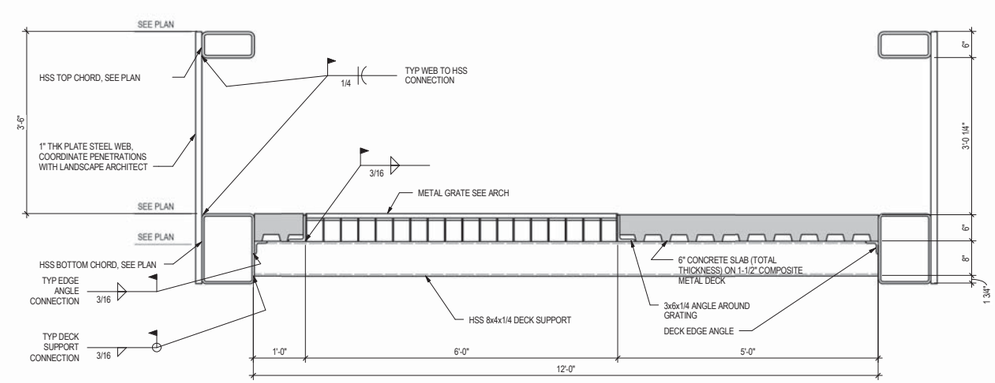
4 S4 BRIDGE SECTION
3/4" = 1'-0"



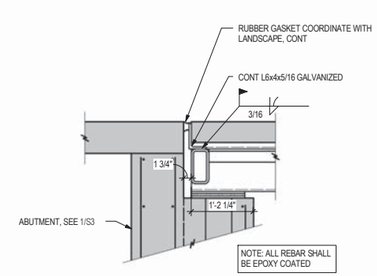
5 S4 DETAIL
3/4" = 1'-0"



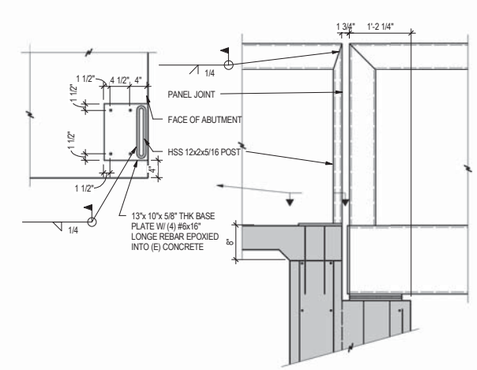
6 S4 BRIDGE SECTION STIFFENER
3/4" = 1'-0"



1 S4 BRIDGE SECTION AT DECK SUPPORT
3/4" = 1'-0"



2 S4 DETAIL
3/4" = 1'-0"



3 S4 DETAIL
3/4" = 1'-0"

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BRIDGE STRUCTURE DETAILS

Drawing Number
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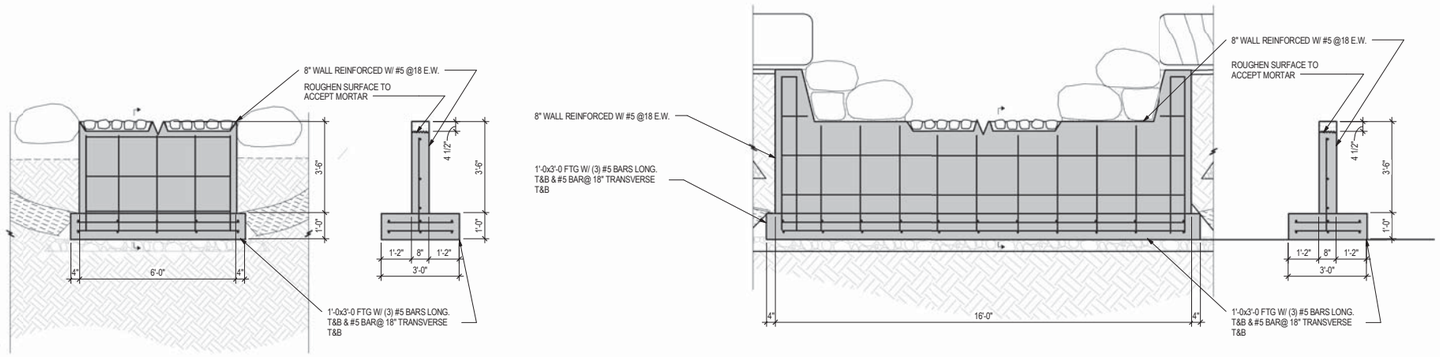
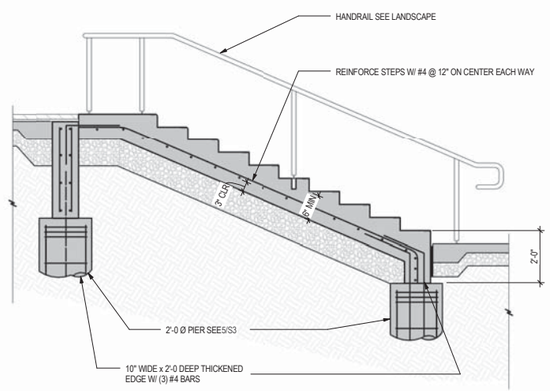
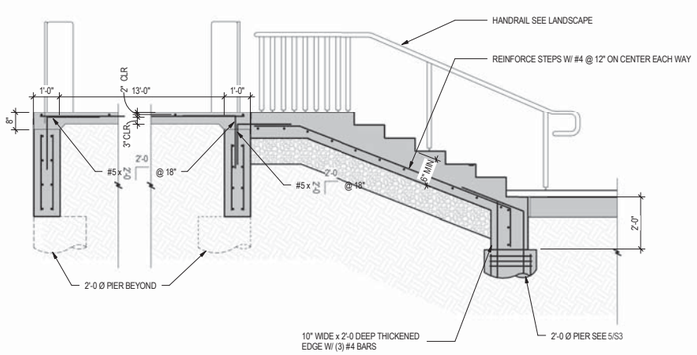


6 / S5 V-NOTCHED WEIR WALL SECTIONS
3/8" = 1'-0"

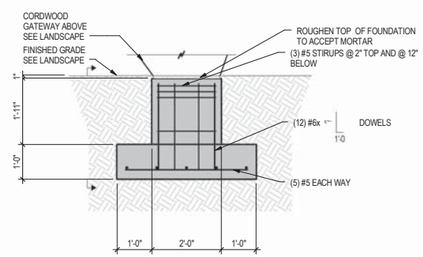


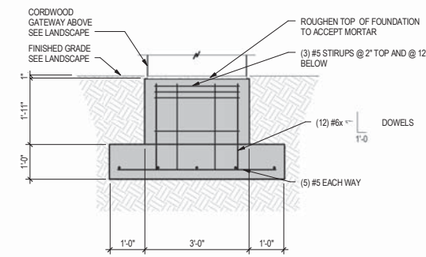
STAIR A



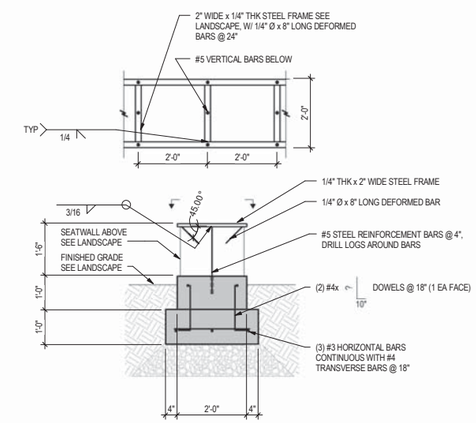
STAIR B

1 / S5 STAIR REINFORCEMENT DETAILS
3/8" = 1'-0"

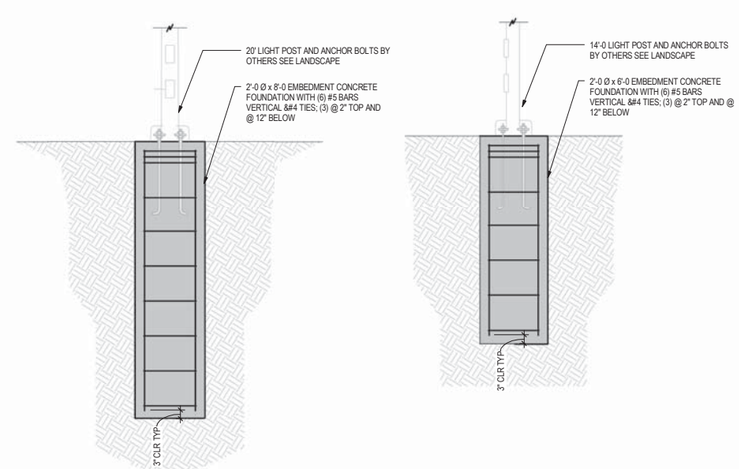




4 / S5 CORDWOOD GATEWAY SECTIONS
1/2" = 1'-0"



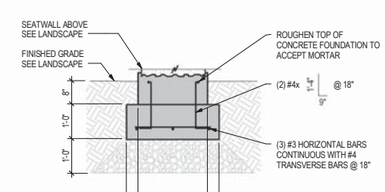
5 / S5 CORDWOOD SEATWALL SECTION AND FRAME DETAIL
1/2" = 1'-0"



TYPE A LIGHT POLE FOUNDATION

TYPE B LIGHT POLE FOUNDATION

2 / S5 LIGHT POLE FOUNDATION DETAILS
1/2" = 1'-0"



3 / S5 CORDWOOD SEATWALL FOUNDATION SECTION
1/2" = 1'-0"

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Drawing Title
LANDSCAPE STRUCTURAL DETAILS

Drawing Number
S5

PLANTING SCHEDULE

PLANTING LEGEND

- Lawn
- Upland Seed Mix
- Rain Garden Seed Mix
- Riparian Seed Mix
- Peace Garden Groundcover
- Soil / Aggregate Mulch
- Mulch
- Landscape Boulders
- Proposed Shrub
- *Chrysothammus nauseosus*
- *Chrysothammus viscidiflorus*
- *Krascheninnikovia lanata*
- *Artemisia frigida*
- *Artemisia ludoviciana*
- Proposed Bare Root Tree
- Proposed Tree
- Multi Stem / Clump Form Tree
- Existing Tree to Protect
- Salvaged Wood Seating
- Log Steps
- Cordwood Seatwalls
- Live Stakes
- Metal Planting Edge
- Range Fence
- Coir Fascine
- Light Fixture, See LE.01-LE.04
- 53 Proposed Contour
- 5350 Existing Contour
- Boulder Regulatory Wetlands Limits
- Boulder Regulatory Wetlands Buffer Limits
- Rip Rap Extents Below
- LOW Limit of Work

NOTES

For Plant Schedule, See Sheet L4.00

TREES

ABBR.	SYM.	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS
ACE GRA		*Acer grandidentatum 'Hipazam'*	Highland Park Bigtooth Maple	42	2" CAL	Mix of Single & Clump Form See Plan
ACE SAC		*Acer saccharum*	Sugar Maple	4	2" CAL	
ACE TAT		*Acer tataricum* 'Hot Wings'	Tatarian Maple	11	2" CAL	Mix of Single & Clump Form See Plan
ALN TEN		*Alnus tenuifolia*	Thinleaf Alder	7	2" CAL	
AME GRA		*Amelanchier x grandiflora* 'Autumn Brilliance'	Serviceberry	7	2" CAL	Clump
BET NIG		*Betula nigra* 'Heritage'	Heritage Birch	5	2" CAL	
CAT SPE		*Catalpa speciosa*	Western Catalpa	6	4'-6' HT	
CRA AMB		*Crataegus ambigua*	Russian Hawthorn	3	10'-12' HT	
GIN BIL		*Ginkgo biloba*	Ginkgo	5	3" CAL	
GYM DIO		*Gymnocladus dioicus*	Kentucky Coffeetree	15	3" CAL	
LAR DEC		*Larix decidua*	European Larch	10	2-3" CAL	
LAR LAR		*Larix laricina*	American Larch	3		Bare Root
PIN ARI		*Pinus aristata*	Rocky Moutain Bristlecone Pine	5	2" CAL	
POP ACU		*Populus x acuminata*	Lanceleaf Cottonwood	26	2" CAL	
POP ACL		*Populus x acuminata*	Lanceleaf Cottonwood	3		Bare Root, 6'-8' HT
POP DEL		*Populus deltoides*	Plains Cottonwood	19		Bare Root, 6'-8' HT
QUE ALB		*Quercus alba*	White Oak	4	2" CAL	
QUE BIC		*Quercus bicolor*	Swamp White Oak	5	2" CAL	
QUE IMB		*Quercus imbricaria*	Shingle Oak	4	2" CAL	
QUE MAC		*Quercus macrocarpa*	Bur Oak	4	2" CAL	
QUE MUE		*Quercus muehlenbergii*	Chinkapin Oak	2	2" CAL	
SAL AMY		Salix amygdaloides	Peachleaf Willow	12	15 GAL	
TAX DIS		*Taxodium distichum*	Bald Cypress	6	2" CAL	

LAWN AND SEED MIXES

ABBR.	QTY.	REMARKS
LAWN	65970 SF	SEE SPECS.
UPLAND	19373 SF	SEE SPECS.
RIPARIAN	12946 SF	SEE SPECS.
RAIN GARDEN	2986 SF	SEE SPECS.

PLANTING NOTES:

1. Landscape Architect to Verify All Plant Locations in Field

2. Verify Location of Subsurface Utilities, Pipes and Structures. Should Utilities or Other Work Not Shown on the Plans be Found During Excavations, Promptly Notify Owner's Representative. Failure to Do So Will Make Contractor Liable for Damage Arising From His Operations Subsequent to Discovery of Utilities Not Shown on Plans.

3. Landscape Contractor to Receive Site Graded to Plus or Minus 0.10 ft Prior to Project Execution.

4. No Substitution of Species Without Approval from the Landscape Architect. Contract Grow Plants as Required. Contract Grown Plants Must Meet Industry Standards for Size in Order to be Accepted.

5. All Plants and Layout to be Verified in Field by the Landscape Architect Prior to Excavation of Planting Notes.

6. Notify Owner's Representative 36 Hours Prior to Commencement of Work to Coordinate Project Observation Meetings.

7. Space Ground Covers Triangularly in Planting Areas.

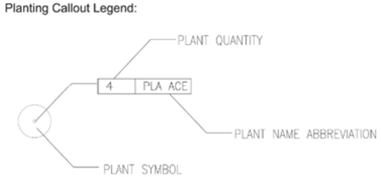
8. The Contractor Shall Verify All Plant Quantities. Quantities Shown on the Plant Schedule and on the Planting Plans are for the Contractor's Reference Only. In the Event of a Discrepancy Between the Quantities Shown on the Schedule and on the Plan, the Plans Shall Govern.

SHEET NOTES:

1. For Planting Plans, See Sheets L4.01 to L4.05.

NOTE:

Planting Callout Legend:



SHRUBS

ABBR.		BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS
ACE GLA		*Acer glabrum*	Rocky Mountain Maple	22	15 GAL	
AME ALN		*Amelanchier alnifolia*	Serviceberry	8	2'-4' HT	3" x 12" Tube bareroot
ART FRI		*Artemisia frigida*	Silver Sage	377	1 GAL	
ART LUD		*Artemisia ludoviciana*	Prairie Sage	348	1 GAL	
CHR NAU		*Chrysothammus nauseosus*	Rabbitbrush	88	5 GAL	
CHR VIS		*Chrysothammus viscidiflorus*	Yellow Rabbitbrush	121	5 GAL	
COR SER		*Cornus sericea*	Red Twig Dogwood	177	5 GAL	SPACE 24" O.C.
FAL PAR		*Fallugia paradoxa*	Apache Plume	149	5 GAL	
KRA LAN		*Krascheninnikovia lanata*	Winterfat	226	5 GAL	
PRU PUM		*Prunus besseyi*	Pawnee Buttes Sandcherry	433	1 GAL	
QUE GAM		*Quercus gambelii*	Gambel Oak	47	6-8' HT	Single + Clump Form Mix
RHU GLA		*Rhus glabra*	Smooth Sumac	69	5 GAL	4' - 6' HT
RHU TYP		*Rhus typhina*	Staghorn Sumac	120	5 GAL	4' - 6' HT
RHU TIG		*Rhus typhina 'Bailtiger'*	Tigereye Sumac	0	5 GAL	4' - 6' HT
RUB DEL		*Rubus deliciosus*	Boulder Raspberry	28	1 GAL	
SAL AMY		*Salix amygdaloides*	Peachleaf Willow	6	4'-6' HT	3"x12" Tube bare root

LIVE STAKES

ABBR.		BOTANICAL NAME	COMMON NAME	LINEAR FT	REMARKS
SAL EXI		*Salix exigua*	Coyote Willow	417	SPACE 12" O.C.
SAL IRR		*Salix irrorata*	Blue Stem Willow	364	SPACE 12" O.C.
SAL MON		Salix monticola	Mountain Willow	72	SPACE 12" O.C.

GROUND COVERS - RIPARIAN

ABBR.		BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS
ASC INC		*Asclepias incarnate*	Showy Milkweed	1433	1 GAL	12" O.C.
BOU GRA		*Bouteloua gracilis*	Blue Grama	1911	0"-4"	12" O.C.
CAR EMO		*Carex emoryi*	Riverbank Tussock Sedge	2388	1 GAL	12" O.C.
JUN CON		*Juncus confusus*	Colorado Rush	1433	1 GAL	12" O.C.
PAN VIR		*Panicum virgatum*	Switchgrass	2388	0"-4"	12" O.C.

GROUND COVERS - RAIN GARDEN

ABBR.		BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS
AND GER		*Andropogon geradii 'Red Bull'*	Big Bluestem	859	1 GAL	12" O.C.
BOU GRA		*Bouteloua gracilis*	Blue Grama	859	0"-4"	12" O.C.
LOB SIP		*Lobelia siphilitica*	Great Blue Lobelia	515	1 GAL	12" O.C.
MIM LEW		*Mimulus lewisii*	Purple Monkeyflower	515	1 GAL	12" O.C.
PAN VIR		*Panicum virgatum*	Switchgrass	687	0"-4"	12" O.C.

GROUND COVERS - UPLAND

ABBR.		BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS
BOU GRA		*Bouteloua gracilis*	Blue Grama	5132	0"-4"	12" O.C.
BUC DAC		*Buchloe dactyloides*	Buffalo Grass	3467	0"-4"	12" O.C.
LIA PUN		*Liatris punctata*	Dotted Gayfeather	1711	0"-4"	12" O.C.
RAT COL		*Ratibida columnifera*	Prairie Coneflower	2612	0"-4"	12" O.C.
SPO HET		*Sporobolus heterolepsis*	Prairie Dropseed	4323	0"-4"	12" O.C.
PAN VIR		*Panicum virgatum*	Switchgrass	450	0"-4"	12" O.C.

GROUND COVERS - OTHER

ABBR.		BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS
ARC UVA		*Arctostaphylos uva-ursi*	Kinnikinnik	85	1 GAL	
AQU CAE		*Aquilegia caerulea*	Rocky Mountain Columbine	96	1 GAL	
MAH REP		*Mahonia repens*	Creeping Oregon Grape Holly	375	1 GAL	
RAT COL		*Ratibida columnifera*	Prairie Coneflower	541	0'-4"	12" O.C.
PEN ANG		*Penstemon angustifolius*	Beardtongue	96	0"-4"	
PEN GRA		*Penstemon grandiflorus*	Large Beardtongue	96	1 GAL	
PEN SEC		*Penstemon secundiflorus*	Sidebells Penstemon	96	1 GAL	
ARC COL		*Arctostaphylos x coloradoensis*	Mock Bearberry/Manzanita	96	1 GAL	
RHU ARO		*Rhus aromatica 'Gro-Low'*	Dwarf Fragrant Sumac	375	1 GAL	
SEM SPP		Sempervivum	Hens and Chicks	85	1 GAL	
SOL CAN		*Solidago canadensis*	Canada Goldenrod	12	1 GAL	
TRI NAN		*Trifolium nanum*	Dwarf Clover	85		

PEACE GARDEN - PERENNIAL/GROUND COVERS

ABBR.	SYM.	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS
GAL ODO		*Galium odoratum*	Sweet Woodruff	86	1 GAL	12" O.C.
IRI VER		*Iris versicolor*	Blue Water Iris	147	1 GAL	24" O.C.
GAL NIV		*Galanthus nivalis*	Common Snowdrop	46	1 GAL	12" O.C.
ANT BIE		*Anthemis biebersteiniana*	Marshall Chamomile	117	1 GAL	12" O.C.
CHR COC		*Chrysanthemum coccineum*	Painted Daisy	77	1 GAL	12" O.C.
MON FIS		*Monarda fistulosa*	Bee Balm	57	1 GAL	18" O.C.
PAP ORI		*Papaver orientale*	Oriental Poppy (White Flowers)	95	1 GAL	12" O.C.
RUD HIR		*Rudbeckia hirta*	Black - Eyed Susan	57	1 GAL	18" O.C.
SED HER		*Sedum herbstfreude.*	Sedum 'Autumn Joy'	77	1 GAL	18" O.C.
SED KAM		Sedum kamtschaticum	Orange Stonecrop	115	0"-4"	9" O.C.
AST ALP		*Aster alpinus*	Alpine Aster	201	1 GAL	12" O.C.
LEO ALP		*Leontopodium alpinum*	Edelweiss	138	1 GAL	12" O.C.
ALL SAT		*Allium sativum*	Garlic Allium	43	1 GAL	24" O.C.
ALL SCH		*Allium schoenoprasum*	Chive Allium	43	1 GAL	24" O.C.
LAV ANG		*Lavendula angustifolia var.*	Lavender	26	1 GAL	12" O.C.
NAR		*Narcissus spp.*	Daffodil, Narcissus Jonquil	216	1 GAL	12" O.C.

PEACE GARDEN - SHRUBS

ABBR.	SYM.	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS
PIN MUG		*Pinus mugo var. pumilio*	Dwarf Mugo Pine	8	5 GAL	3' O.C.
RUB DEL		*Oreobatus (Rubus) deliciosus*	Boulder Raspberry	117	1 GAL	12" O.C.
SAM CAN		*Sambucus canadensis*	Elderberry	14	5 GAL	3' O.C.

CIVIC AREA PARK DEVELOPMENT PLAN
Boulder, CO

City of Boulder
Boulder Parks & Recreation
3198 Broadway
Boulder, CO 80304
Tel: 303.413.7233

TOM LEADER STUDIO
1015 Cornelia Street, Berkeley, CA 94710 | 510.524.3363

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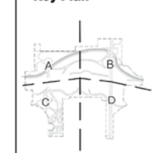
Seal/Signature

Key Plan



North

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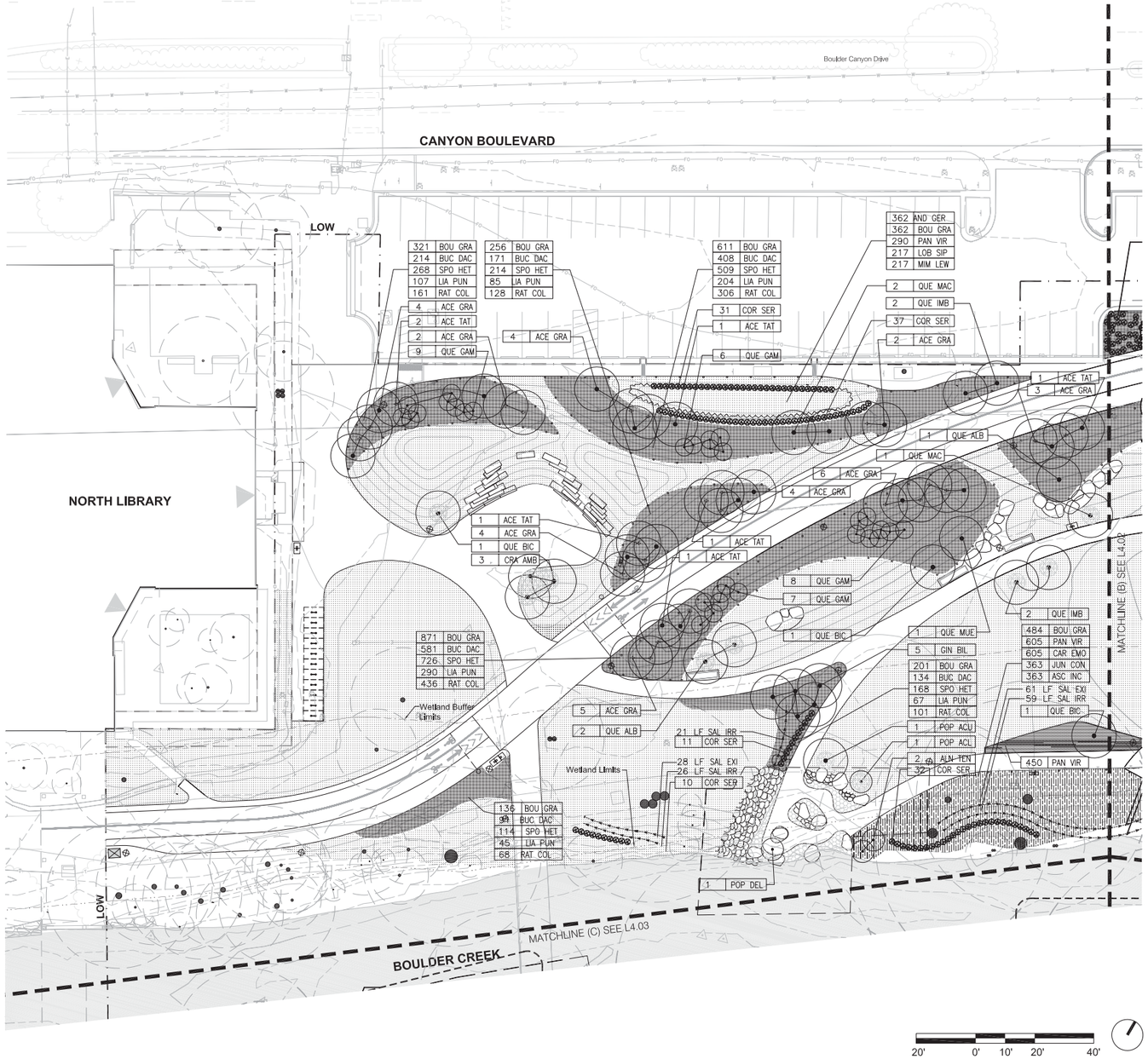
FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title
PLANTING SCHEDULE

Drawing Number

L4.00



PLANTING LEGEND

- Lawn
- Upland Seed Mix
- Rain Garden Seed Mix
- Riparian Seed Mix
- Peace Garden Groundcover
- Soil / Aggregate Mulch
- Mulch
- Landscape Boulders
- Proposed Shrub
- *Chrysothammus nauseosus*
- *Chrysothammus viscidiflorus*
- *Krascheninnikovia lanata*
- *Artemisia frigida*
- *Artemisia ludoviciana*
- Proposed Bare Root Tree
- Proposed Tree
- Multi Stem / Clump Form Tree
- Existing Tree to Protect
- Salvaged Wood Seating
- Log Steps
- Cordwood Seatwalls
- Live Stakes
- Metal Planting Edge
- Range Fence
- Coir Fascine
- Light Fixture, See LE.01-LE.04
- 53 Proposed Contour
- 5350 Existing Contour
- Boulder Regulatory Wetlands Limits
- Boulder Regulatory Wetlands Buffer Limits
- Rip Rap Extents Below
- LOW Limit of Work

NOTES

For Plant Schedule, See Sheet L4.00

CIVIC AREA PARK DEVELOPMENT PLAN
Boulder, CO

BOULDER CIVIC AREA

City of Boulder
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Key Plan

A B C D

North

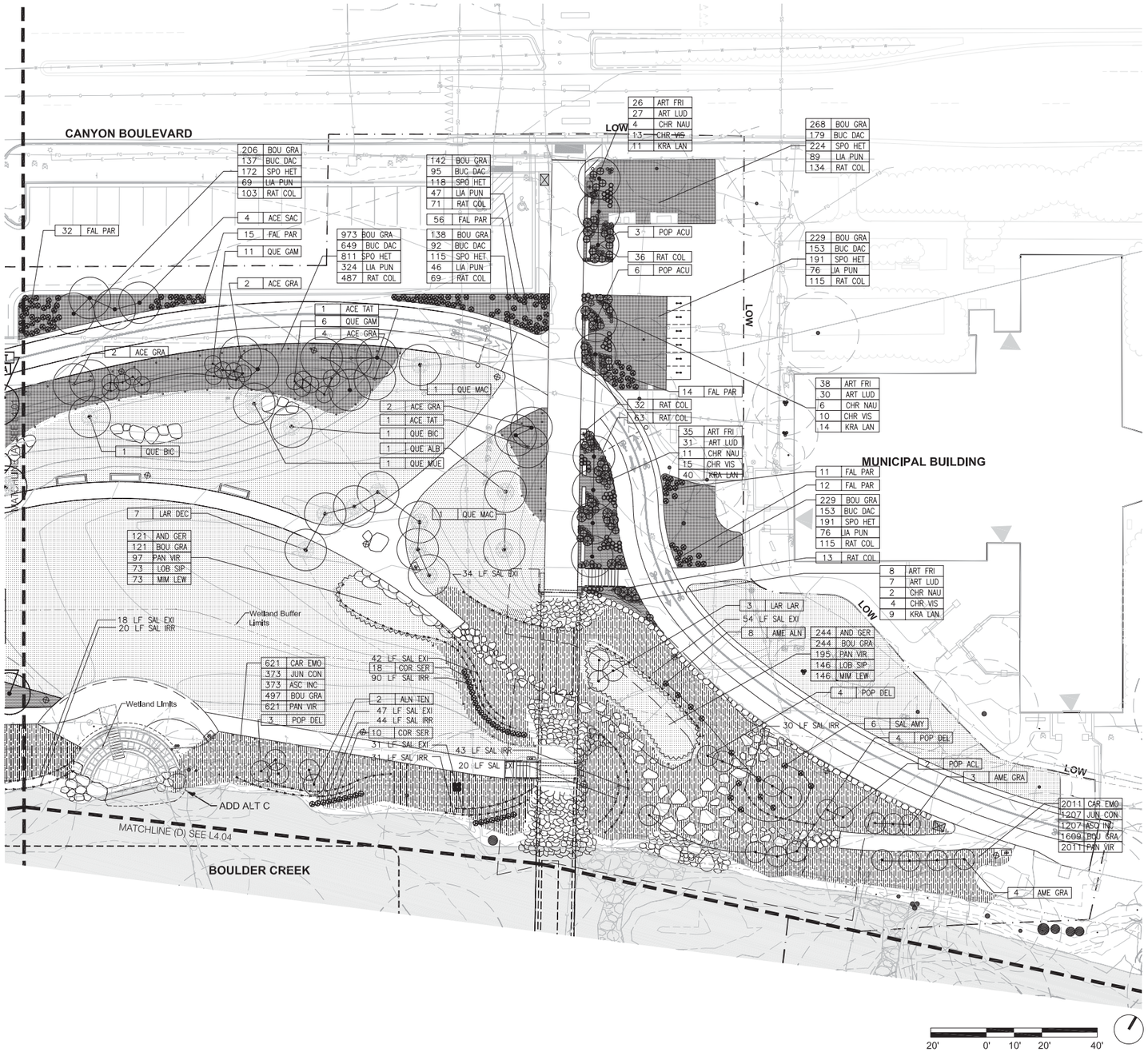
Scale: 1"=20'

FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title
PLANTING PLAN - GREEN VALLEY WEST

Drawing Number
L4.01



PLANTING LEGEND

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- Upland Seed Mix
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- Riparian Seed Mix
- Peace Garden Groundcover
- Soil / Aggregate Mulch
- Mulch
- Landscape Boulders
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- *Chrysothammus nauseosus*
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NOTES

For Plant Schedule, See Sheet L4.00

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Boulder, CO

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Key Plan

North

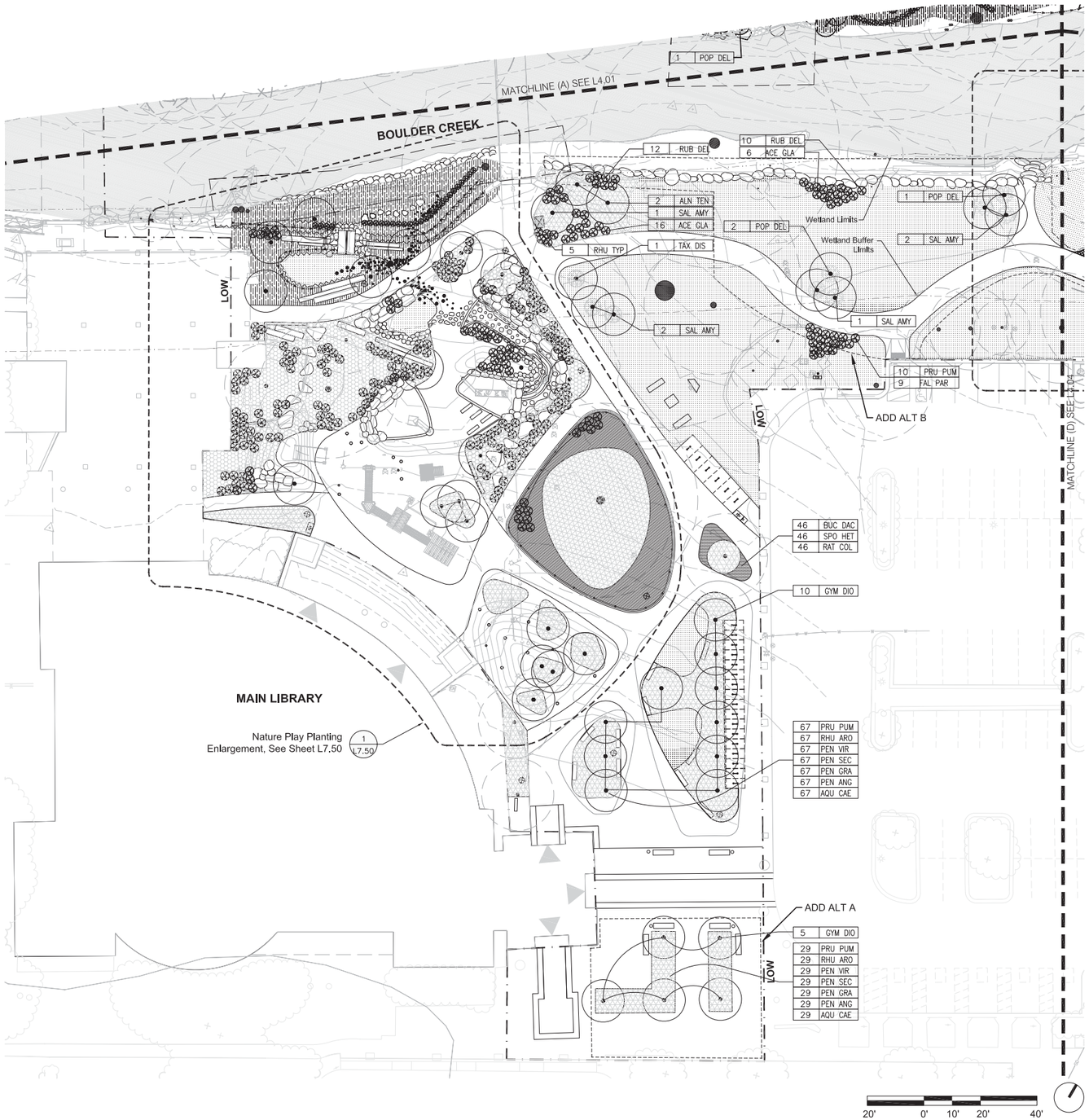
Scale: 1"=20'

FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title
PLANTING PLAN - GREEN VALLEY EAST

Drawing Number
L4.02



PLANTING LEGEND

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- Mulch
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NOTES

For Plant Schedule, See Sheet L4.00

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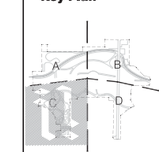
Key Plan



North

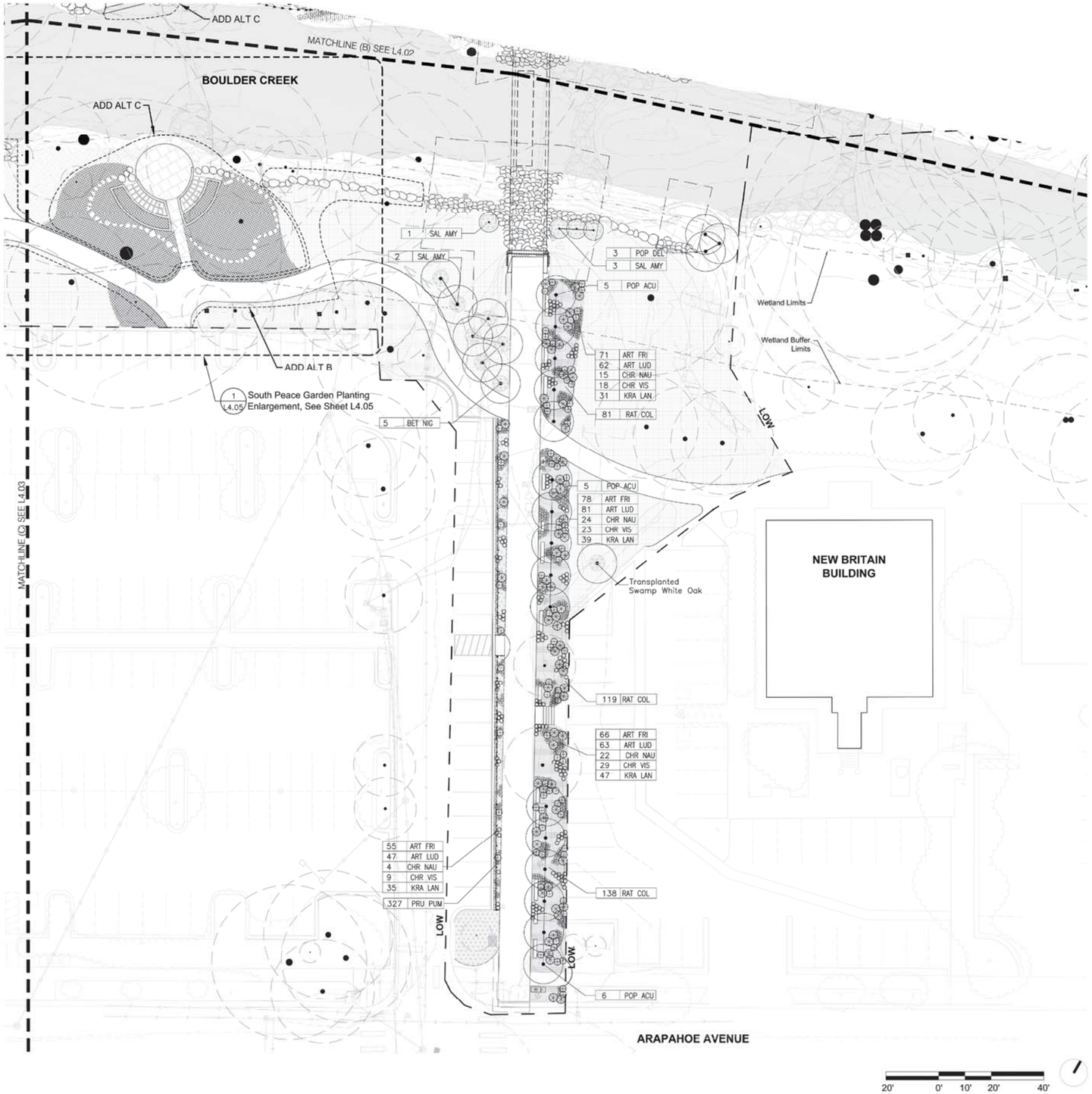
Scale: 1"=20'

FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title
PLANTING PLAN - NATURE PLAY

Drawing Number
L4.03



PLANTING LEGEND

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- 5330 Existing Contour
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NOTES

For Plant Schedule, See Sheet L4.00

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BOULDER CIVIC AREA

City of Boulder
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Key Plan

A B C D

North

Scale: 1"=20'

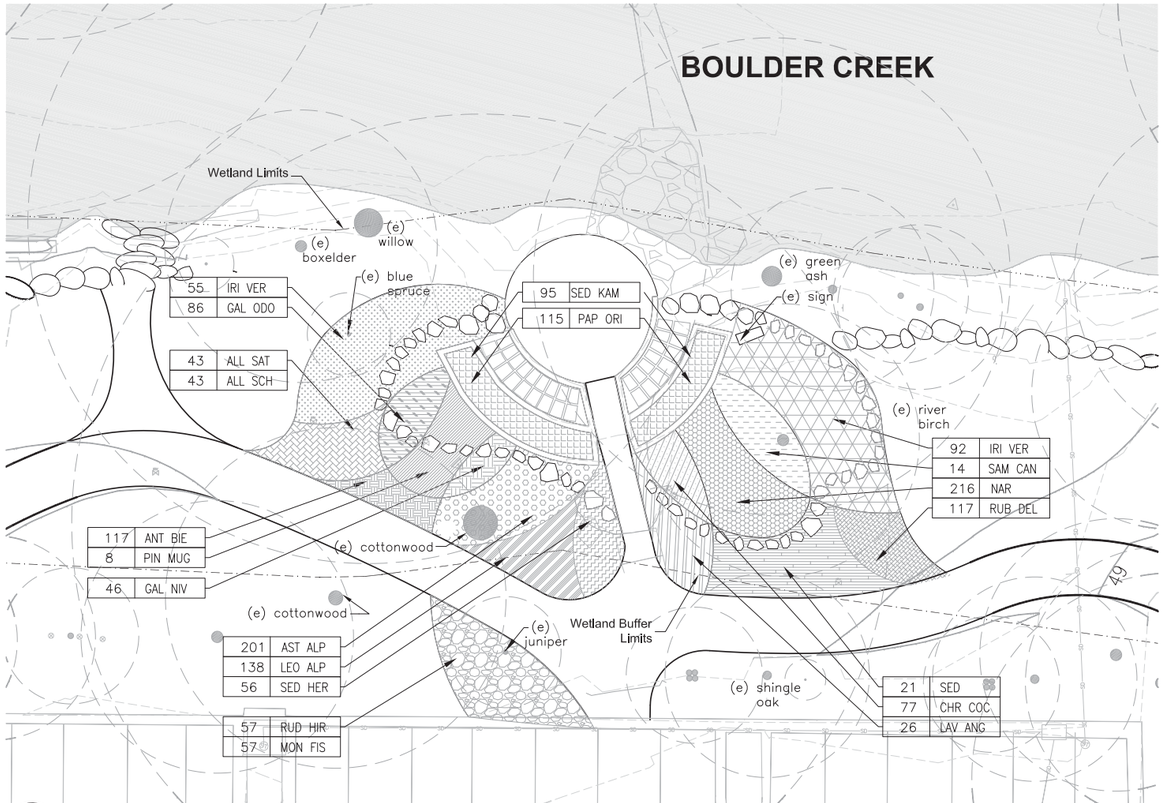
FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title
PLANTING PLAN - 11TH STREET

Drawing Number

L4.04



1 PEACE GARDEN SOUTH - PLANTING PLAN
L4.05 SCALE: 1" = 10'

PEACE GARDEN - PERENNIAL/GROUND COVERS						
ABBR.	SYM.	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS
GAL ODO		*Galium odoratum*	Sweet Woodruff	86	1 GAL	12" O.C.
IRI VER		*Iris versicolor*	Blue Water Iris	147	1 GAL	24" O.C.
GAL NIV		*Galanthus nivalis*	Common Snowdrop	46	1 GAL	12" O.C.
ANT BIE		*Anthemis biebersteiniana*	Marshall Chamomile	117	1 GAL	12" O.C.
CHR COC		*Chrysanthemum coccineum*	Painted Daisy	77	1 GAL	12" O.C.
MON FIS		*Monarda fistulosa*	Bee Balm	57	1 GAL	18" O.C.
PAP ORI		*Papaver orientale*	Oriental Poppy (White Flowers)	95	1 GAL	12" O.C.
RUD HIR		*Rudbeckia hirta*	Black - Eyed Susan	57	1 GAL	18" O.C.
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SED KAM		Sedum kamtschaticum	Orange Stonecrop	115	0"-4"	9" O.C.
AST ALP		*Aster alpinus*	Alpine Aster	201	1 GAL	12" O.C.
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ALL SAT		*Allium sativum*	Garlic Allium	43	1 GAL	24" O.C.
ALL SCH		*Allium schoenoprasum*	Chive Allium	43	1 GAL	24" O.C.
LAV ANG		*Lavendula angustifolia var.*	Lavender	26	1 GAL	12" O.C.
NAR		*Narcissus spp.*	Daffodil, Narcissus Jonquil	216	1 GAL	12" O.C.

PEACE GARDEN - SHRUBS						
ABBR.	SYM.	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS
PIN MUG		*Pinus mugo var. pumilio*	Dwarf Mugo Pine	8	5 GAL	3' O.C.
RUB DEL		*Oreobatus (Rubus) deliciosus*	Boulder Raspberry	117	1 GAL	12" O.C.
SAM CAN		*Sambucus canadensis*	Elderberry	14	5 GAL	3' O.C.

NOTE:
ALL PLANTING SHOWN IS INCLUDED IN ADD ALT C

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Boulder, CO

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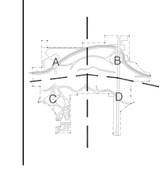
Seal/Signature

Key Plan



North

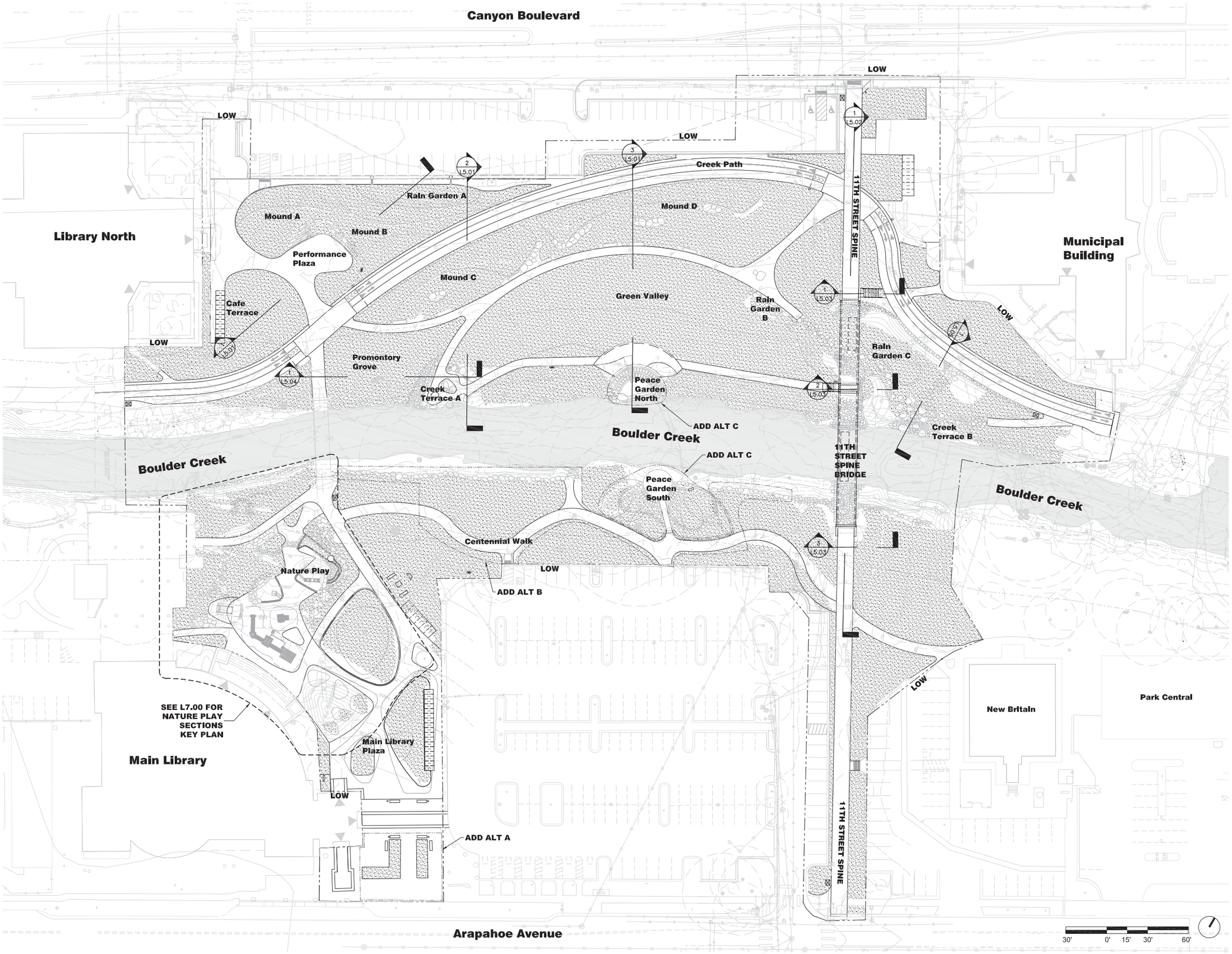
Scale: 1" = 10'

FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title
PEACE GARDEN SOUTH-PLANTING PLAN

Drawing Number
L4.05



CIVIC AREA PARK DEVELOPMENT PLAN
Boulder, CO

City of Boulder
Boulder Parks & Recreation
3198 Broadway
Boulder, CO 80304
Tel: 303.413.7233

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11.13.2015	100% SD		
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01.28.2016	100% DD		
05.02.2016	90% CD (TECH DOC 01)		
06.20.2016	100% CD (TECH DOC 02)		
08.01.2016	100% CD (TECH DOC 03)		

Seal/Signature

ERIK DUANE PRINCE 1170 STATE OF COLORADO LICENSED LANDSCAPE ARCHITECT

Key Plan

A B C D

North

Scale: 1"=30'

FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title

SITE SECTIONS KEY PLAN

Drawing Number

L5.00

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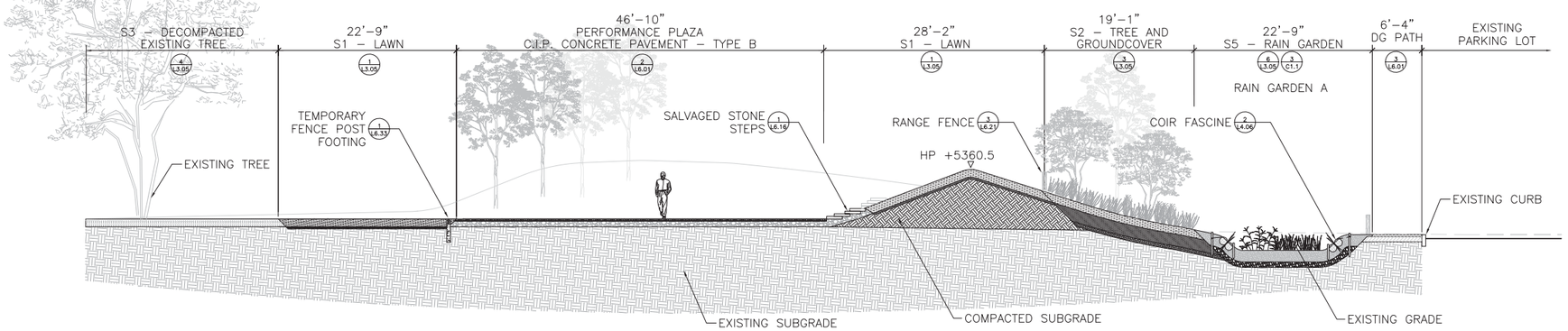
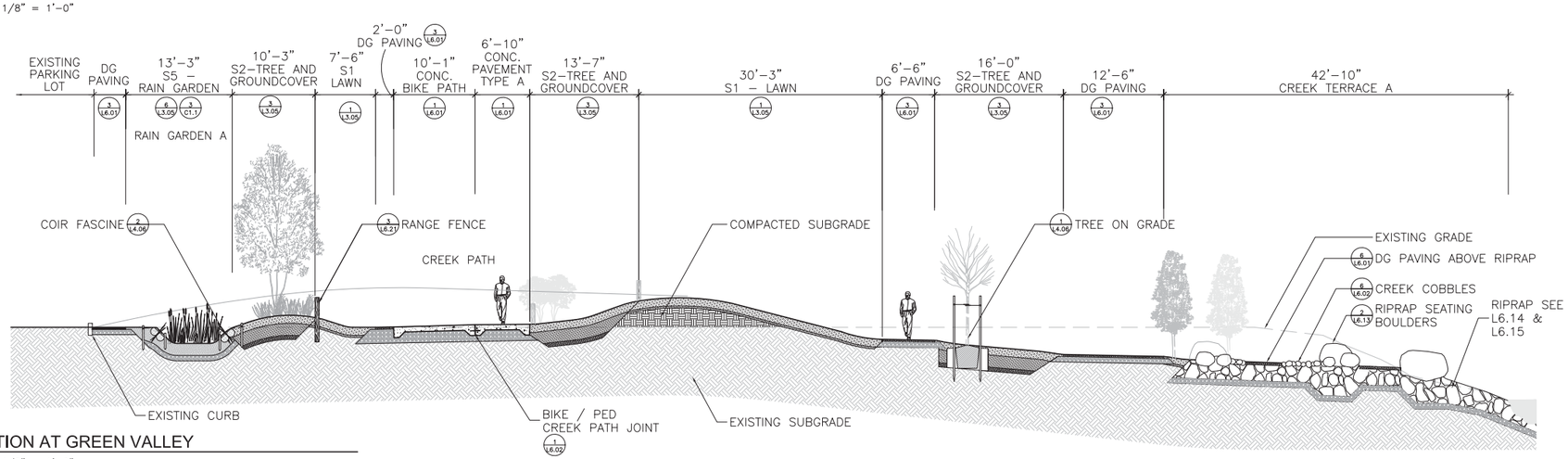


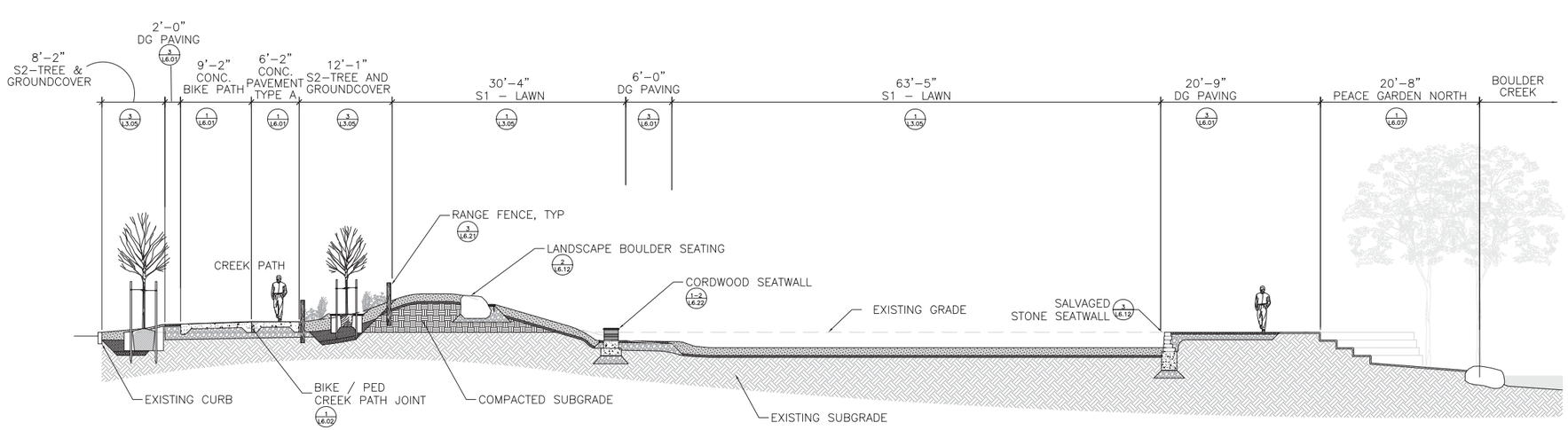
1 L5.01 SECTION AT PERFORMANCE PLAZA

SCALE: 1/8" = 1'–0"



2 L5.01 SECTION AT GREEN VALLEY

SCALE: 1/8" = 1'–0"



3 L5.01 SECTION AT PEACE GARDEN

SCALE: 1/8" = 1'–0"

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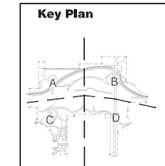
06.20.2016	100% CD (TECH DOC 02)		
08.01.2016	100% CD (TECH DOC 03)		

Seal/Signature

Key Plan



North

Scale: 1/8" = 1'

FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title
SITE SECTIONS

Drawing Number
L5.01

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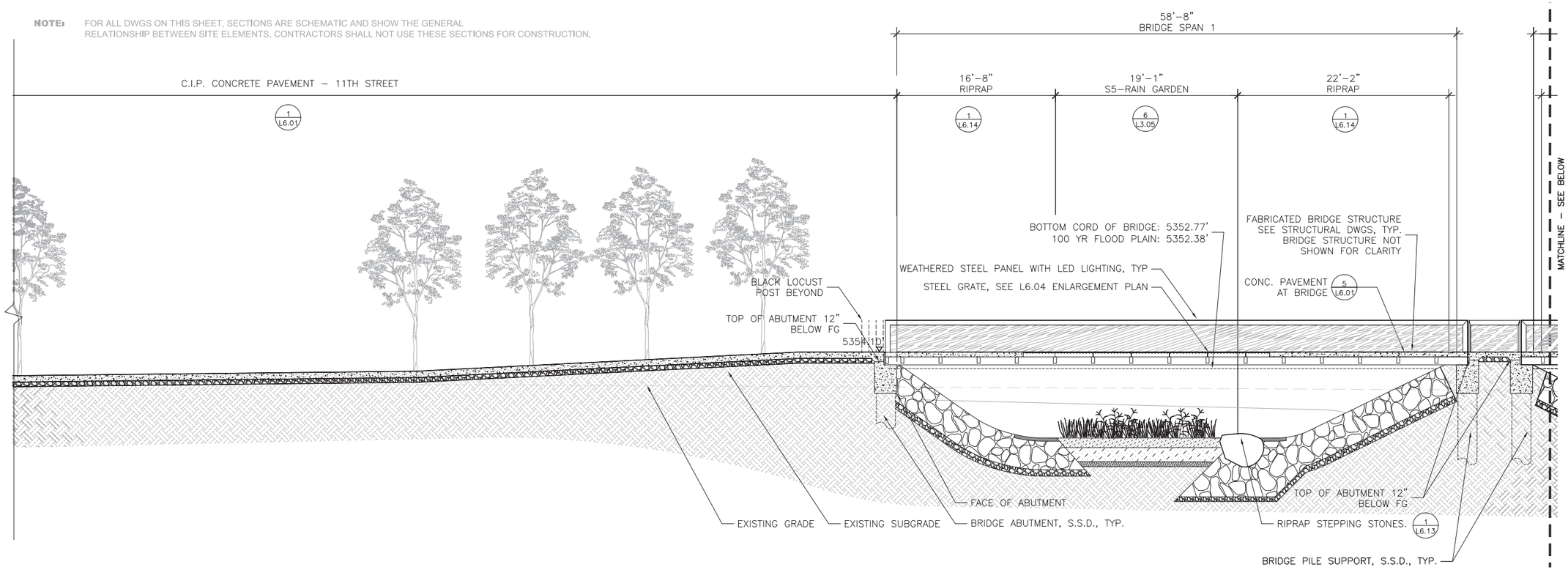

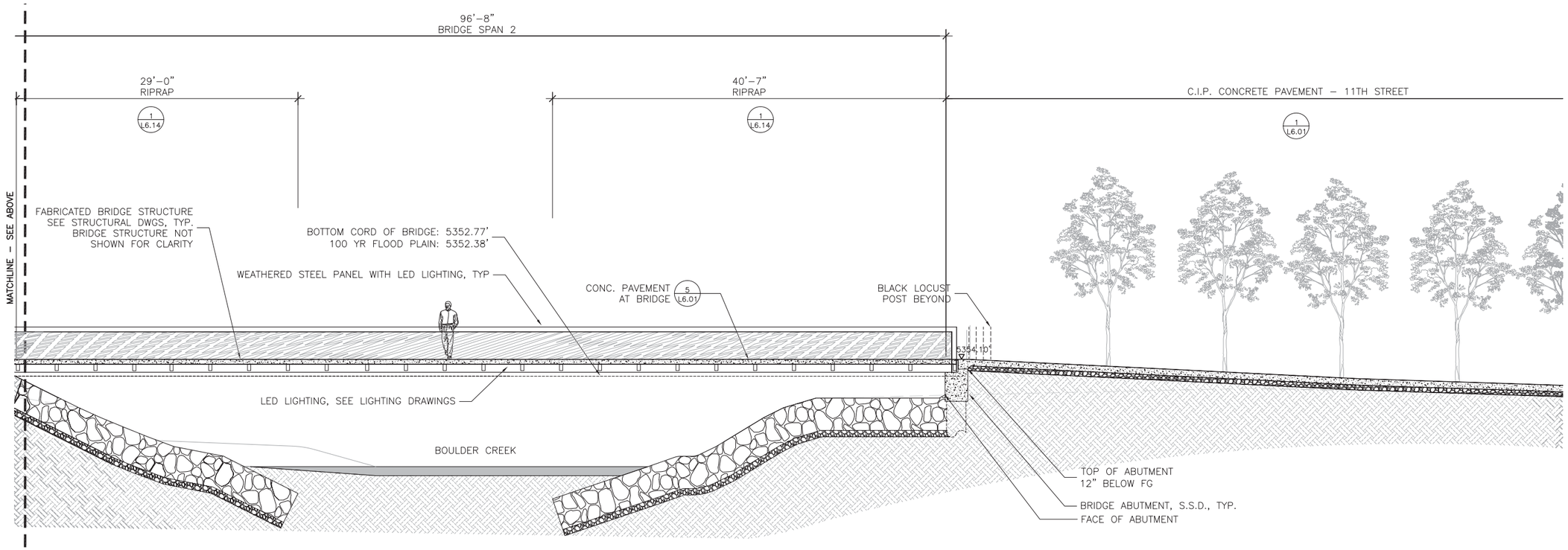

1 / L5.02 SECTION AT 11TH STREET
SCALE: 3/16" = 1'-0"

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Seal/Signature

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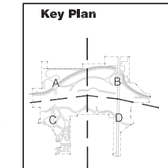
Key Plan



North

Scale: 3/16" = 1' - 0"

FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title
SITE SECTIONS

Drawing Number
L5.02

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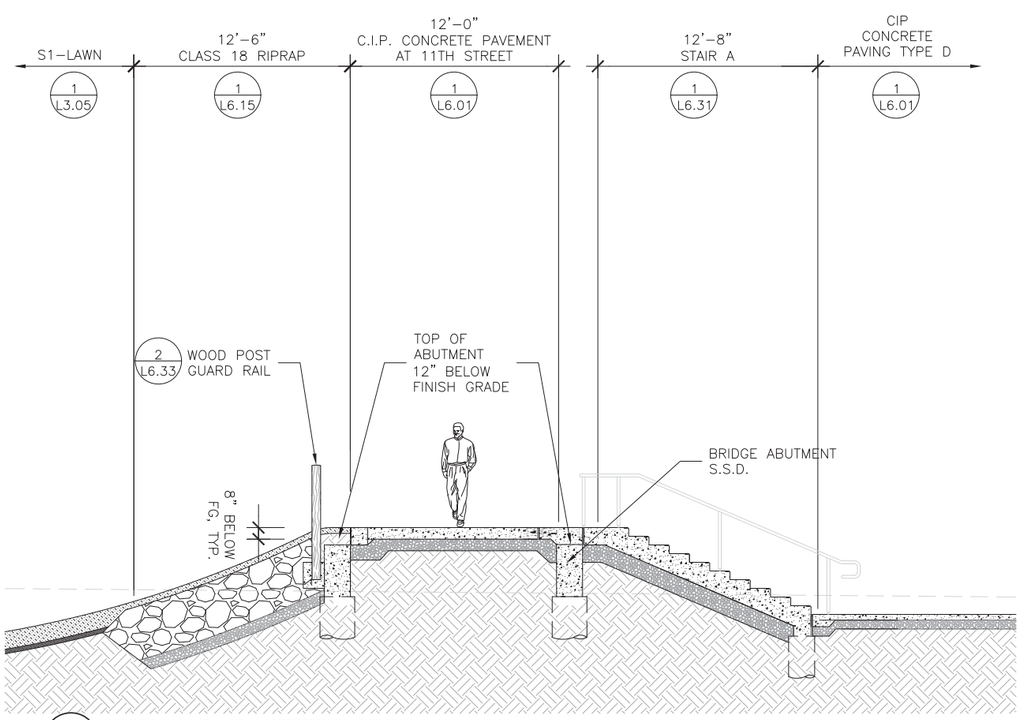
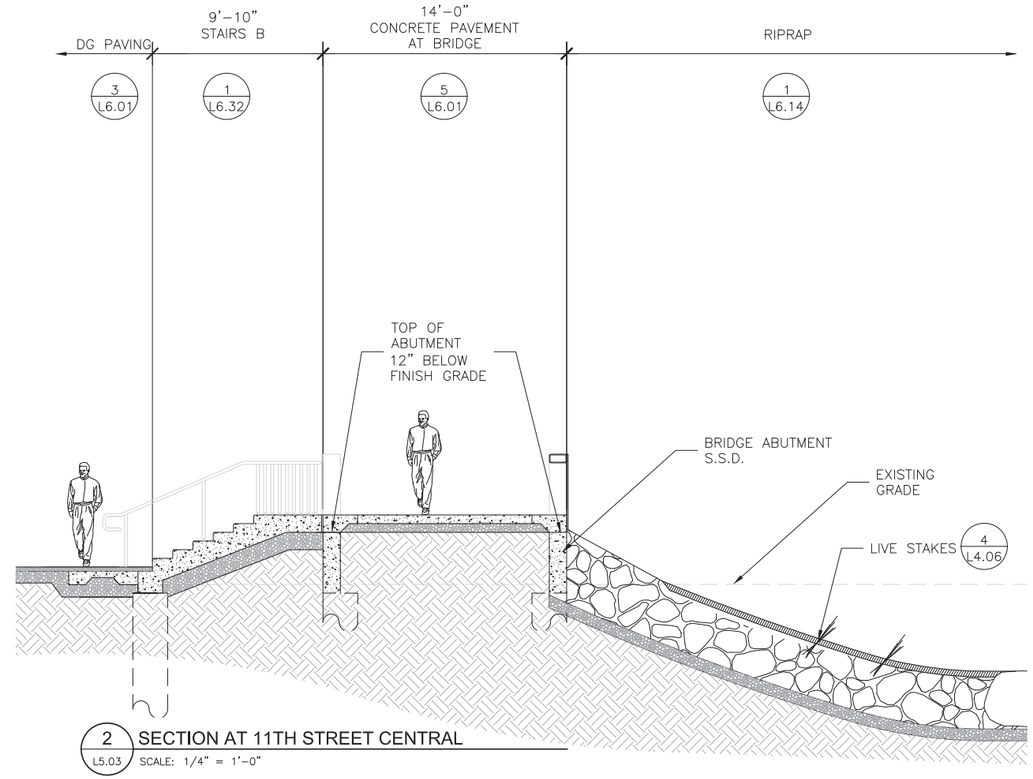
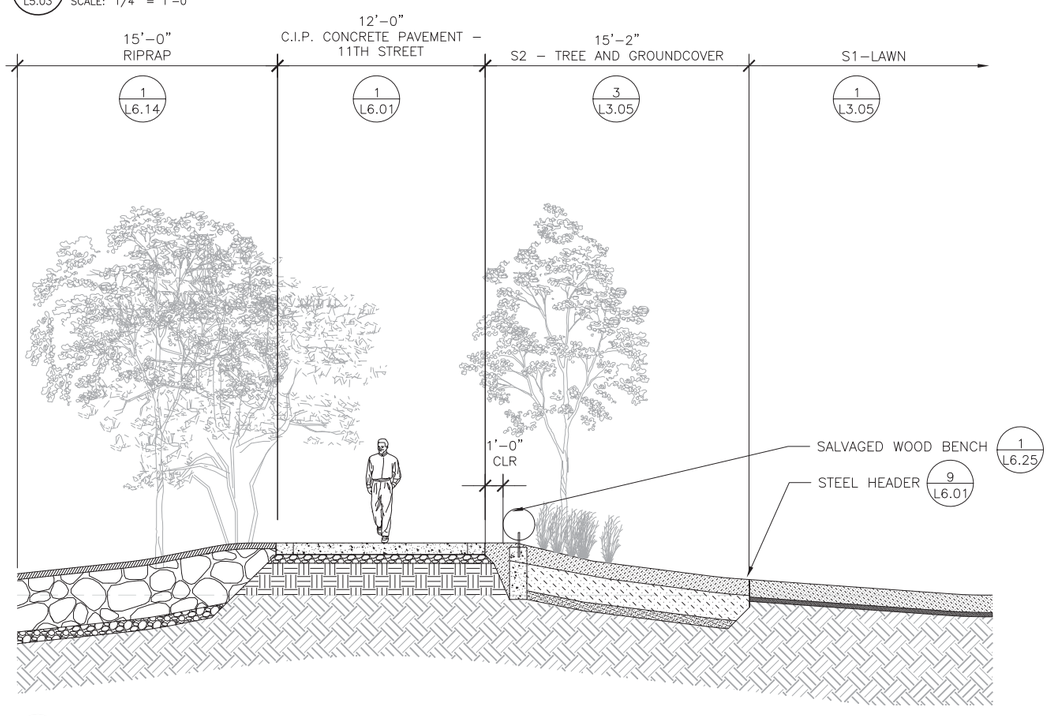


1 / L5.03 SECTION AT 11TH STREET NORTH
SCALE: 1/4" = 1'–0"



2 / L5.03 SECTION AT 11TH STREET CENTRAL
SCALE: 1/4" = 1'–0"



3 / L5.03 SECTION AT 11TH STREET SOUTH
SCALE: 1/4" = 1'–0"

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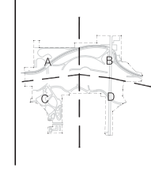
Seal/Signature

Key Plan



North

Scale: VARIES

FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title
SITE SECTIONS

Drawing Number
L5.03

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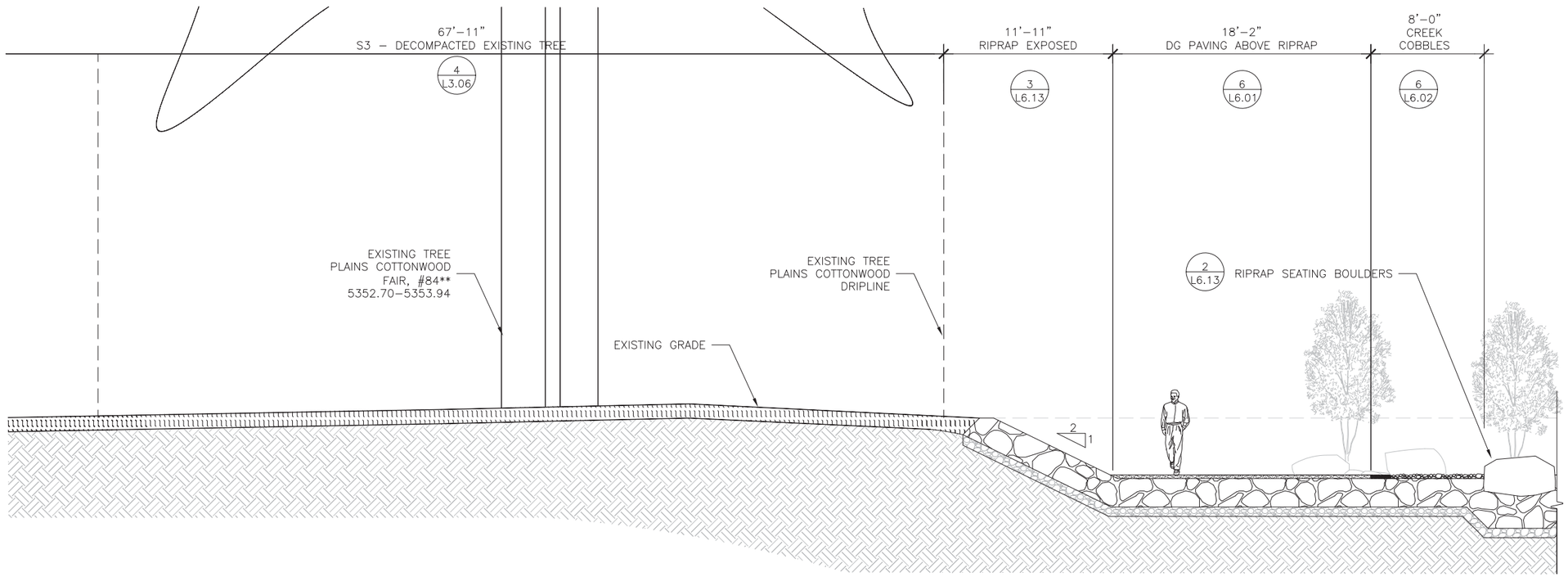

1 / L5.04 SECTION AT GREEN VALLEY WEST

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

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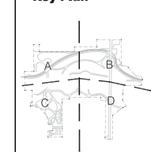
08.01.2016	100% CD (TECH DOC 03)		

Seal/Signature

Key Plan



North

Scale: 1/4" = 1' - 0"

FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title
SITE SECTIONS

Drawing Number
L5.04

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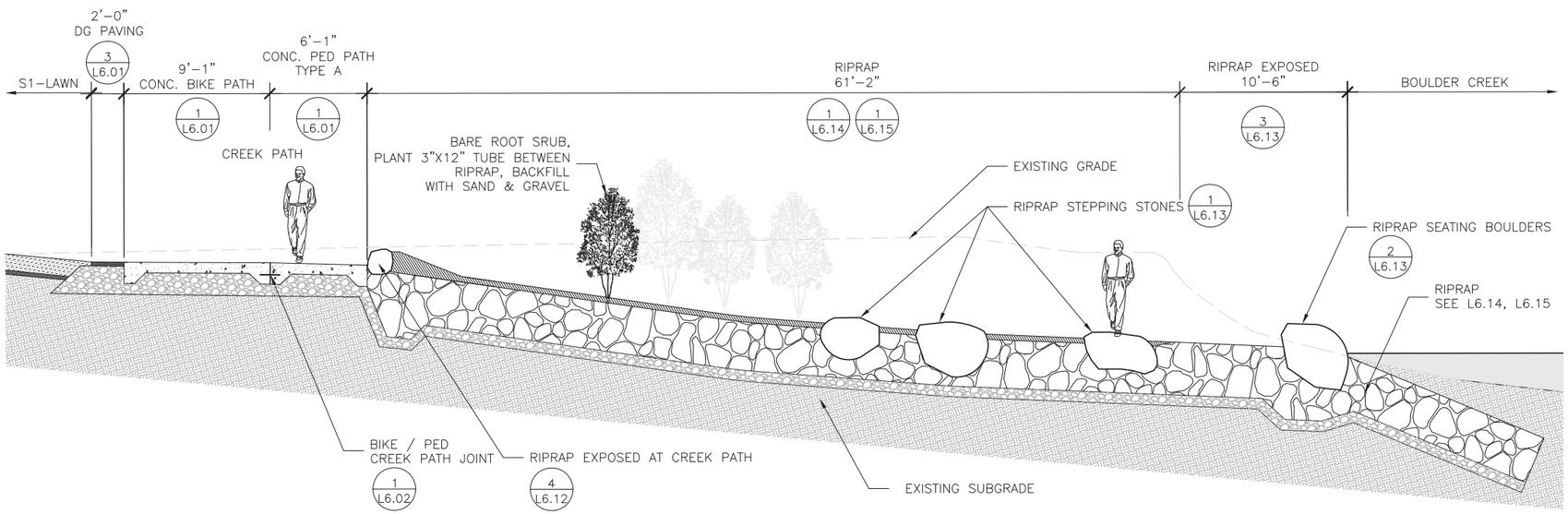

1 / L5.05 SECTION AT CREEK PATH AND CREEK TERRACE B

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

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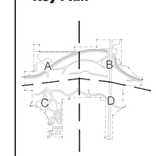
Seal/Signature

Key Plan



North

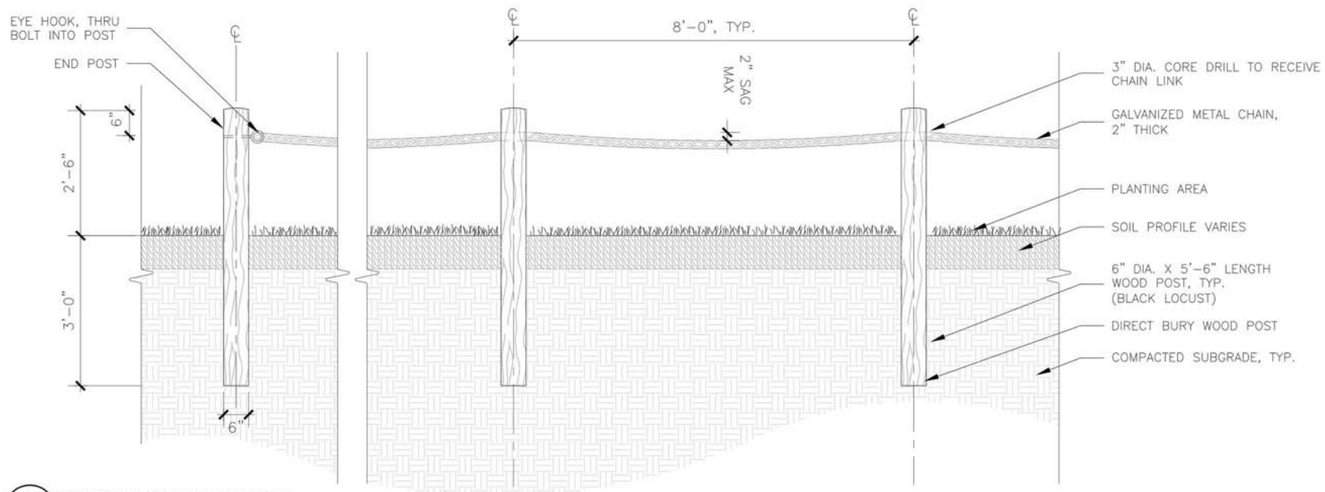
Scale: VARIES

FINAL LANDSCAPE PLANS

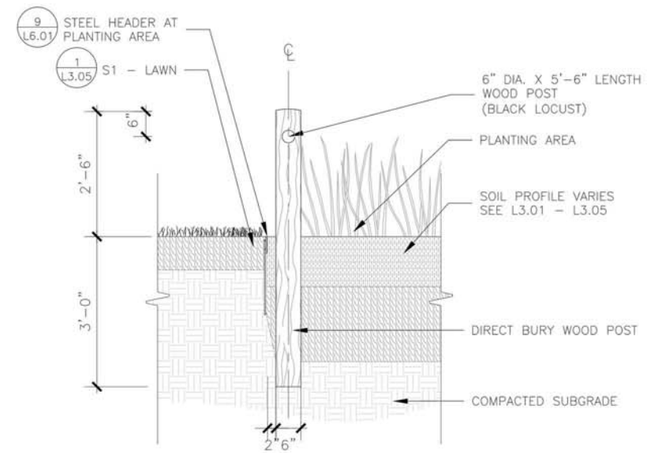
Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title
SITE SECTIONS

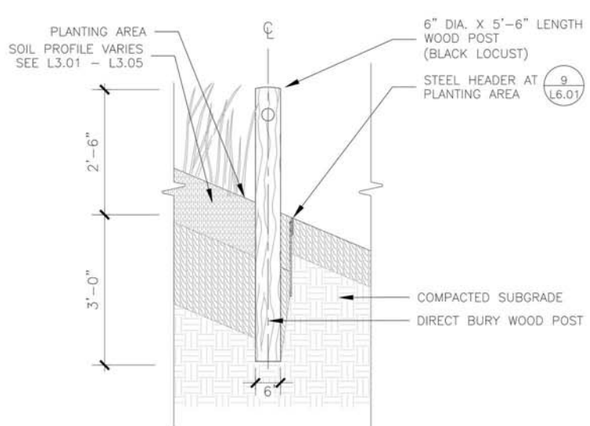
Drawing Number
L5.05



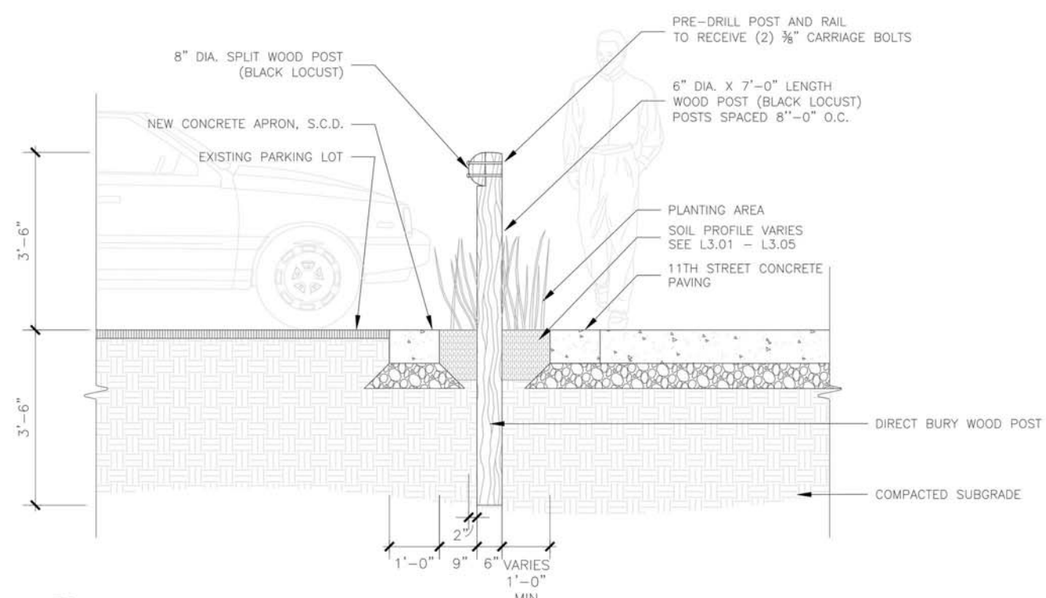
1 L6.21 RANGE FENCE ELEVATION
SCALE: 3/4" = 1'-0"



2 L6.21 RANGE FENCE SECTION WITH STEEL HEADER
SCALE: 3/4" = 1'-0"



3 L6.21 RANGE FENCE SECTION WITH STEEL HEADER ON SLOPE
SCALE: 3/4" = 1'-0"



4 L6.21 FENCE AT EXISTING PARKING LOT
SCALE: 3/4" = 1'-0"

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08.01.2016	100% CD (TECH DOC 03)		

Seal/Signature

ERIK DUANE PRINCE 1170 STATE OF COLORADO LICENSED LANDSCAPE ARCHITECT

Key Plan

A B C D

North

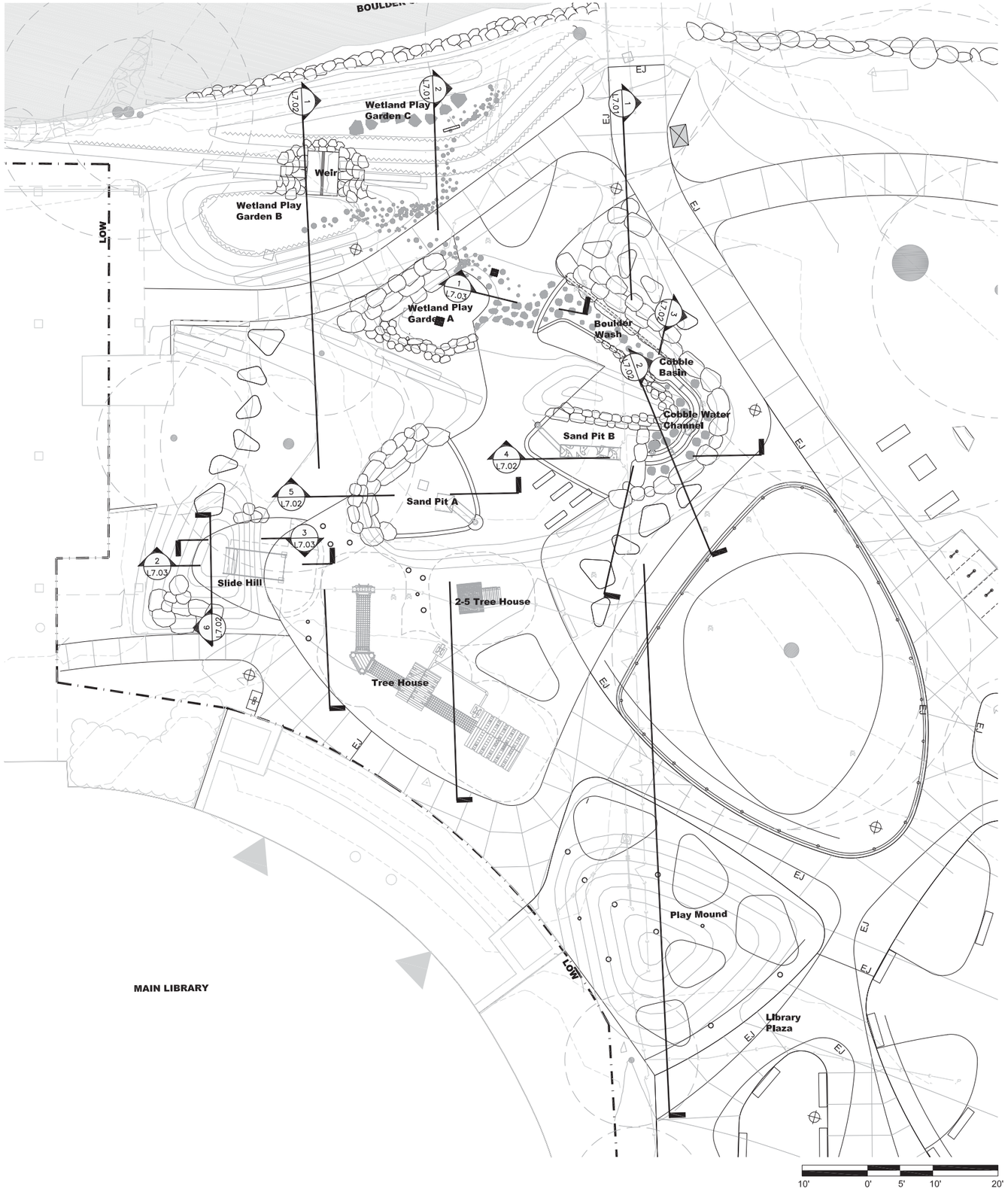
Scale: VARIES

FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title
WOOD DETAILS - RANGE FENCING

Drawing Number
L6.21



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Key Plan

A B C D

North

Scale: 1" = 10'

FINAL LANDSCAPE PLANS

Phase
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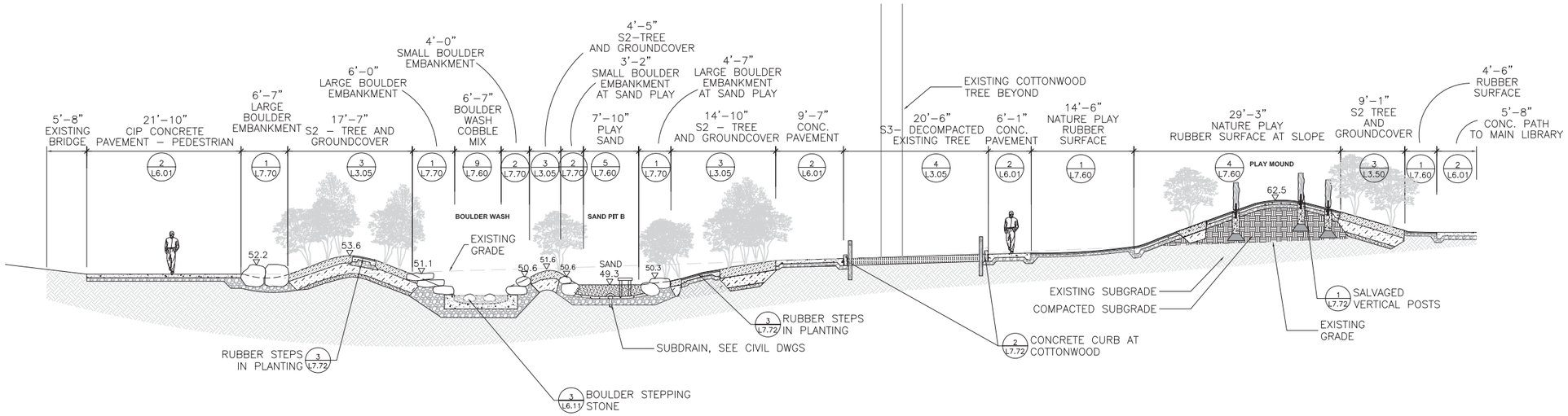
Case Number
TEC 2016-00021

Drawing Title
NATURE PLAY SECTIONS KEY PLAN

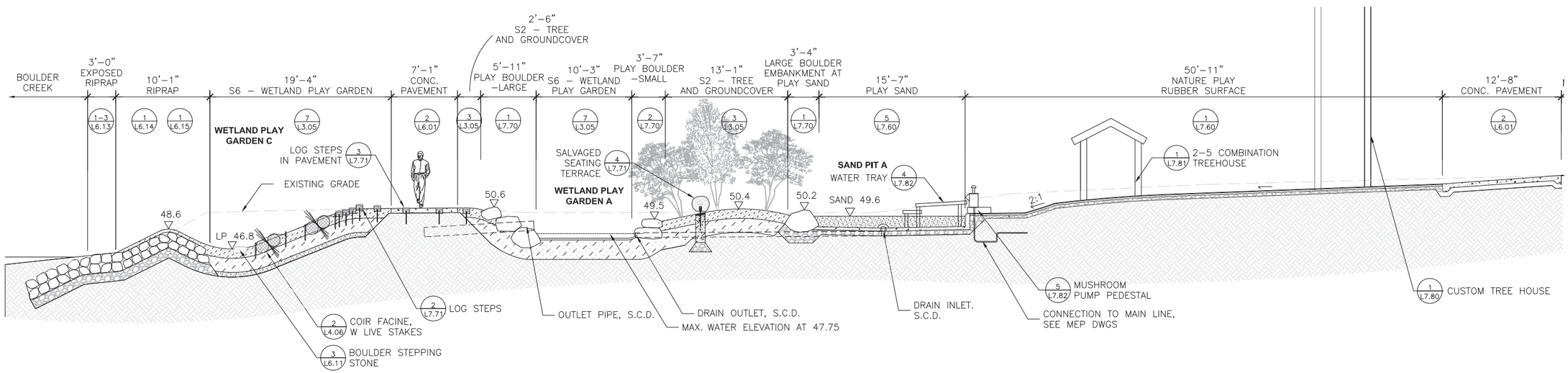
Drawing Number

L7.00



1 L7.01 SECTION @ NATURE PLAY

SCALE: 1/8" = 1'–0"



2 L7.01 SECTION @ NATURE PLAY

SCALE: 3/16" = 1'–0"

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Seal/Signature

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Key Plan

North

Scale: VARIES

FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
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TEC 2016-00021

Drawing Title
NATURE PLAY SECTIONS

Drawing Number
L7.01

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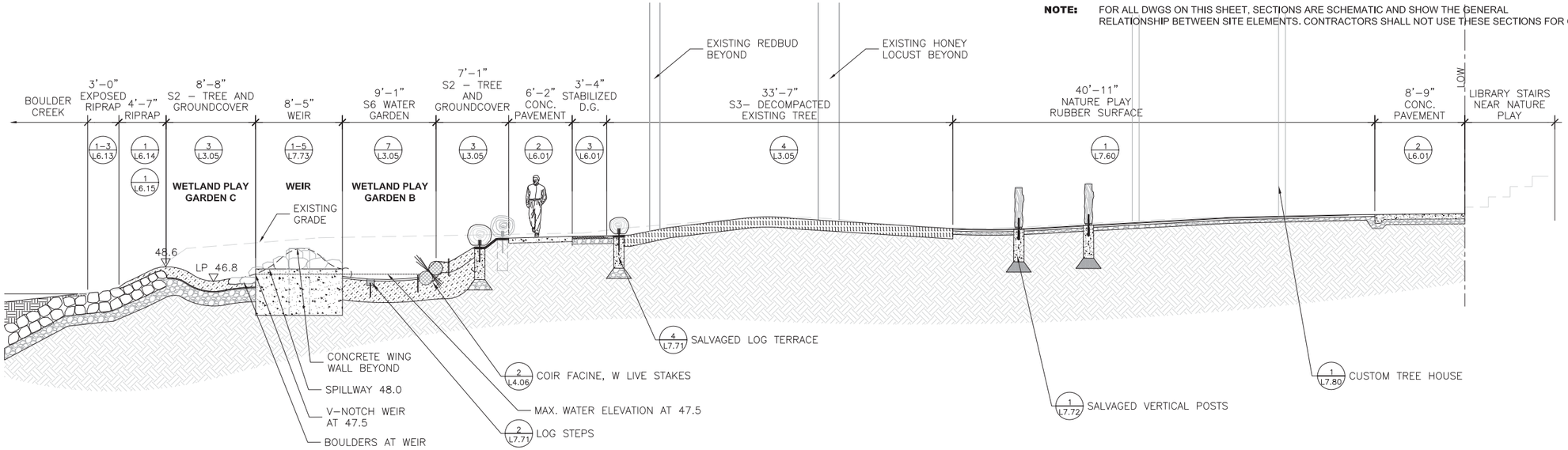
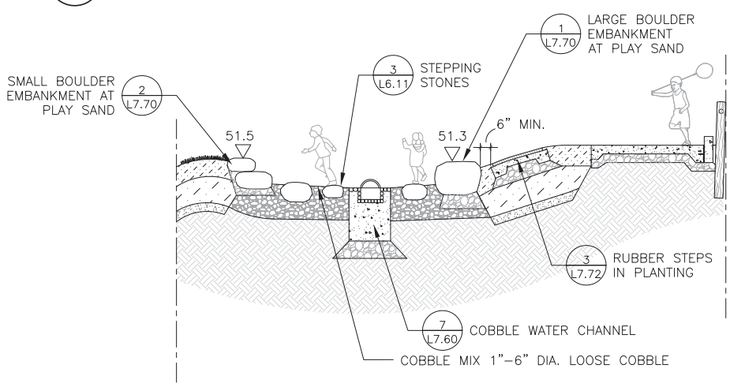
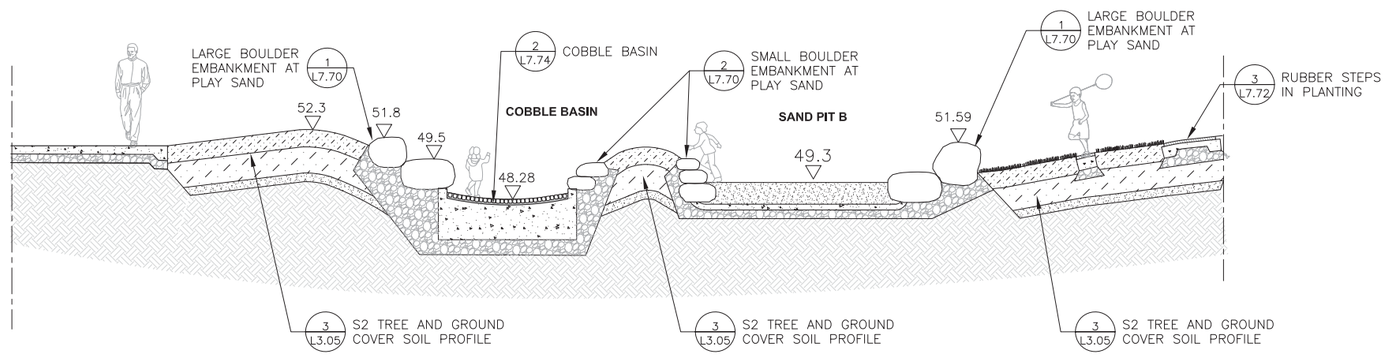


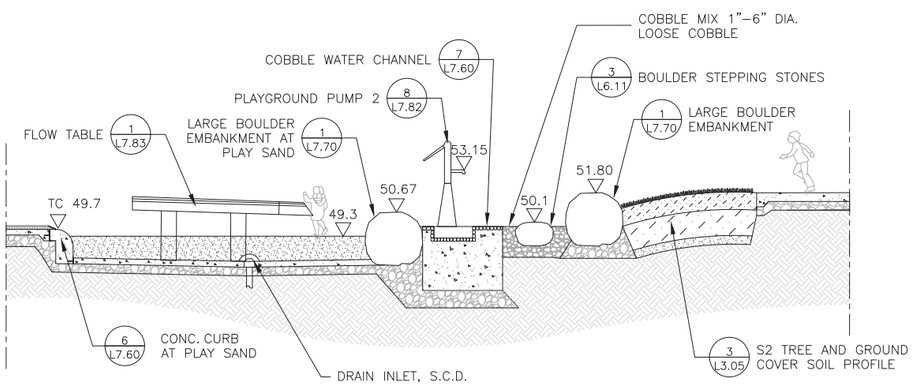
1 L7.02 SECTION AT NATURE PLAY
SCALE: 3/16" = 1'–0"



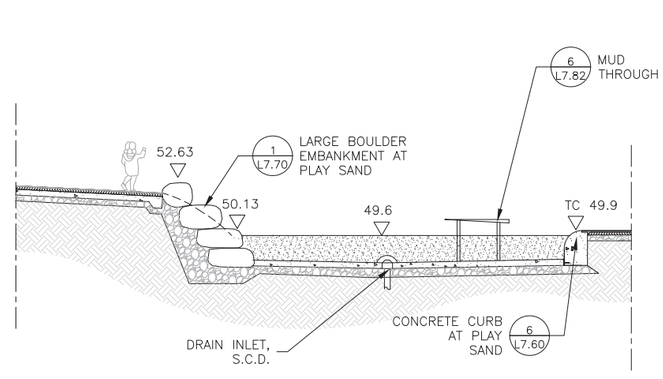
2 L7.02 COBBLE WATER CHANNEL SECTION
SCALE: 1/4" = 1'–0"



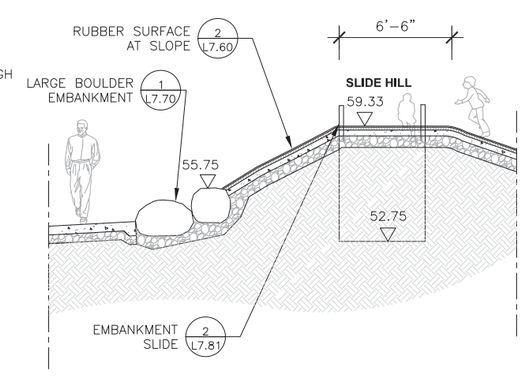
3 L7.02 COBBLE BASIN AND SAND PIT B SECTION
SCALE: 1/4" = 1'–0"



4 L7.02 SECTION AT NATURE PLAY
SCALE: 1/4" = 1'–0"



5 L7.02 SAND PIT A SECTION
SCALE: 1/4" = 1'–0"



6 L7.02 SLIDE HILL SECTION
SCALE: 1/4" = 1'–0"

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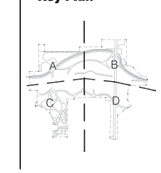
Seal/Signature

Key Plan



North

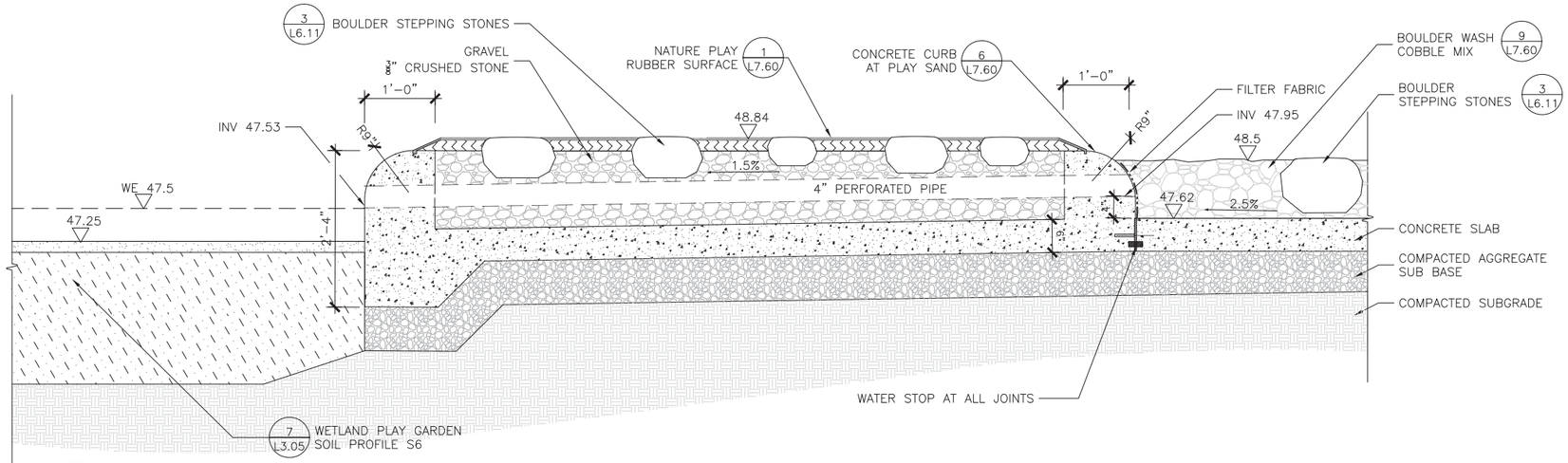
Scale: VARIES

FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

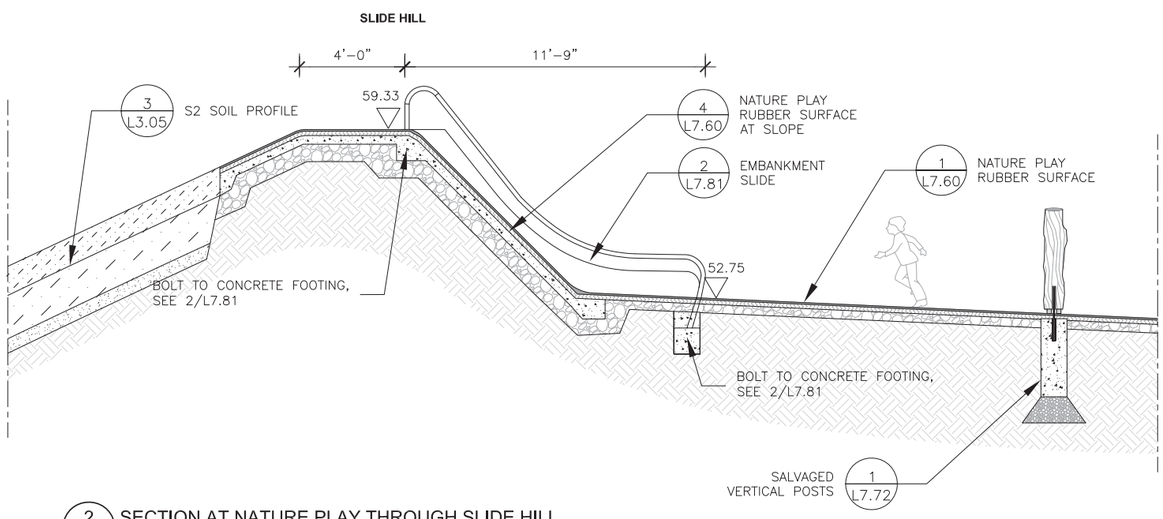
Drawing Title
NATURE PLAY SECTIONS

Drawing Number
L7.02



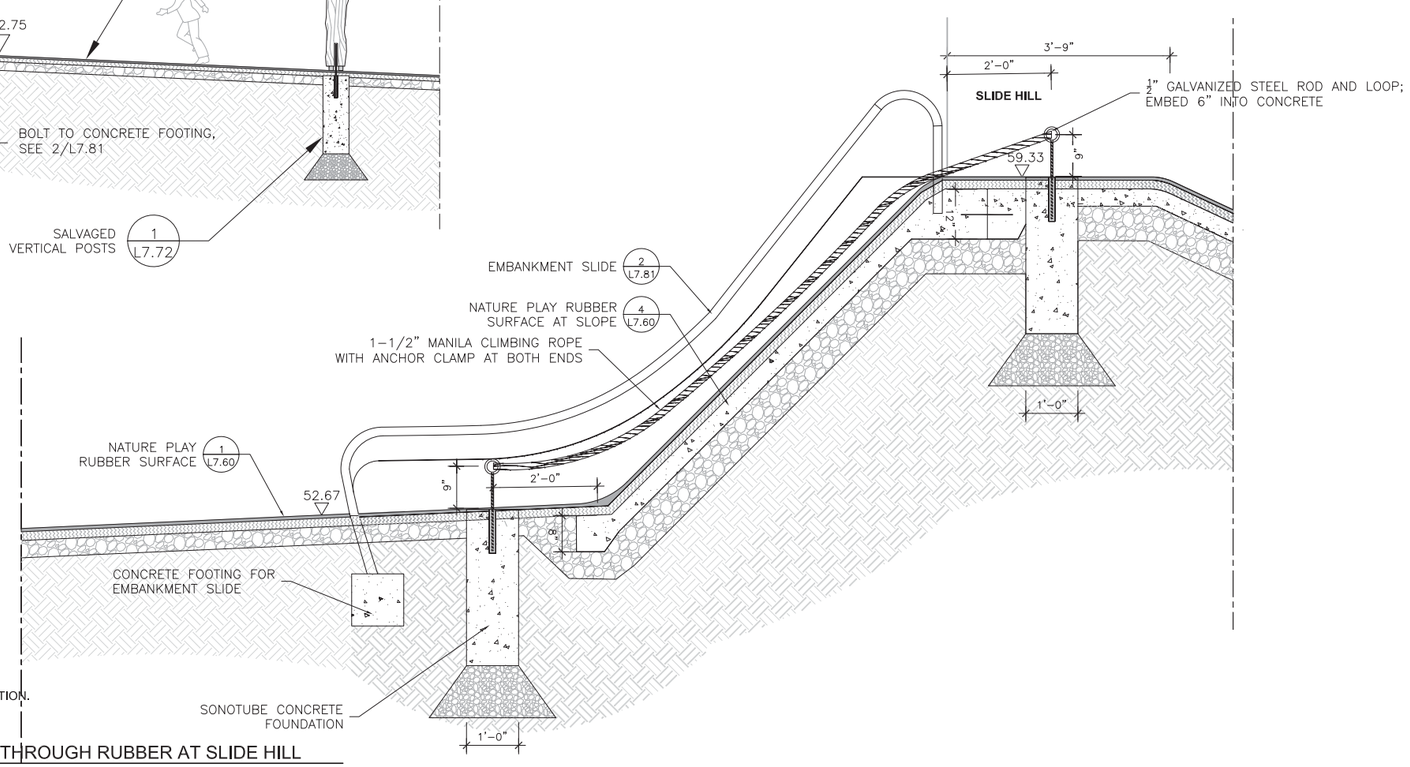
1 L7.03 SECTION AT NATURE PLAY THROUGH BOULDER WASH AND WETLAND PLAY GARDEN A

SCALE: 1" = 1'-0"



2 L7.03 SECTION AT NATURE PLAY THROUGH SLIDE HILL

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



3 L7.03 SECTION THROUGH RUBBER AT SLIDE HILL

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

NOTE: FOR ALL DWGS ON THIS SHEET, SECTIONS ARE SCHEMATIC AND SHOW THE GENERAL RELATIONSHIP BETWEEN SITE ELEMENTS. CONTRACTORS SHALL NOT USE THESE SECTIONS FOR CONSTRUCTION.

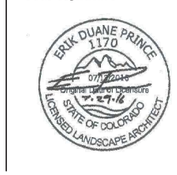
CIVIC AREA PARK DEVELOPMENT PLAN
Boulder, CO

City of Boulder
Boulder Parks & Recreation
3198 Broadway
Boulder, CO 80304
Tel: 303.413.7233

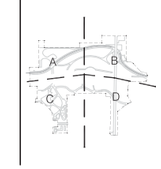
TOM LEADER STUDIO
1015 Cornelia Street, Berkeley, CA 94710 | 510.524.3363

Date	Issuance	By	Check
11.13.2015	100% SD		
01.08.2016	50% DD		
01.28.2016	100% DD		
05.02.2016	90% CD (TECH DOC 01)		
06.20.2016	100% CD (TECH DOC 02)		
08.01.2016	100% CD (TECH DOC 03)		

Seal/Signature



Key Plan



North

Scale: VARIES

FINAL LANDSCAPE PLANS

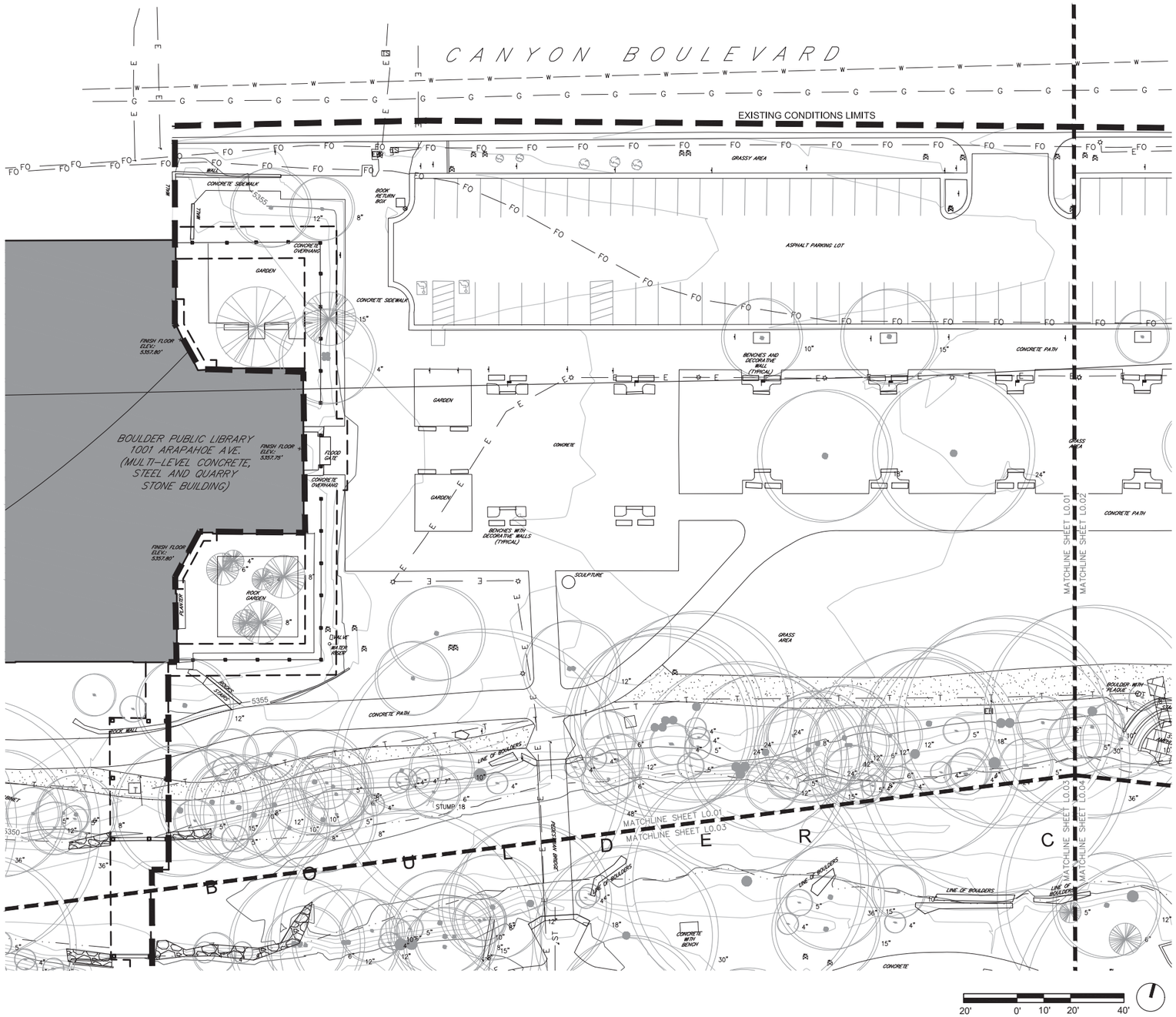
Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title
NATURE PLAY SECTIONS

Drawing Number
L7.03

APPENDIX B

CERTIFIED TOPOGRAPHIC MAPPING



NOTES:

1) THIS TOPOGRAPHIC MAP WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE COMMITMENT AND DOES NOT CONSTITUTE A TITLE SEARCH BY BOULDER LAND CONSULTANTS, INC OR THE UNDERSIGNED. THIS TOPOGRAPHIC MAP DOES NOT PURPORT TO REFLECT ANY OF THE FOLLOWING WHICH MAY BE APPLICABLE TO THE SUBJECT REAL ESTATE: EASEMENTS (OTHER THAN POSSIBLE EASEMENTS THAT WERE VISIBLE AT THE TIME OF MAKING THIS MAP); BUILDING SETBACK LINES; RESTRICTIVE COVENANTS; SUBDIVISION RESTRICTIONS; ZONING OR OTHER LAND-USE REGULATIONS; AND ANY OTHER FACTS THAT AN ACCURATE AND CURRENT TITLE SEARCH MAY DISCLOSE.

2) ACCORDING TO COLORADO LAW, YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS EXHIBIT WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS EXHIBIT BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

3) THIS EXHIBIT WAS PREPARED FOR THE EXCLUSIVE USE OF CITY OF BOULDER, AS NAMED IN THE STATEMENT HEREON. SAID STATEMENT DOES NOT EXTEND TO ANY UNNAMED PERSON OR ENTITY WITHOUT AN EXPRESS STATEMENT BY THE SURVEYOR NAMING SAID PERSON.

4) THIS MAP IS VALID ONLY IF PRINT HAS ORIGINAL SEAL AND SIGNATURE OF SURVEYOR.

5) THE LOCATIONS FOR UNDERGROUND UTILITIES ARE BASED UPON VISIBLE SURFACE EVIDENCE, MARKED LINES DELINEATED BY DIVERSIFIED UNDERGROUND, INC. (MARKED JUNE 8-19, 2015) AND MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANIES AND MUNICIPALITIES. LOCATIONS OF UNDERGROUND UTILITIES AND/OR STRUCTURES MAY VARY FROM LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES AND/OR STRUCTURES MAY BE ENCOUNTERED. STORM AND SANITARY SEWER LINES SHOWN HEREON ARE BASED ON BOULDER COUNTY GIS MAPPING DATA OR ON BEST AVAILABLE FIELD INFORMATION. NO EXCAVATIONS WERE MADE DURING THE PROCESS OF THIS EXHIBIT TO LOCATE BURIED UTILITIES AND/OR STRUCTURES. THE UTILITY INFORMATION SHOWN HEREON MAY NOT BE COMPLETE OR ACCURATE. ALL UNDERGROUND UTILITIES SHOULD BE FIELD LOCATED BY THE APPROPRIATE UTILITY COMPANY PRIOR TO ANY CONSTRUCTION OR EXCAVATION ON, OR ADJACENT, TO THE SUBJECT PROPERTY. INVERT ELEVATIONS ON STORM AND SANITARY INLETS AND/OR MANHOLES ARE THE BEST ESTIMATED ROUNDED TO THE NEAREST 0.05 FOOT. FLOW LINES ARE NOT ALWAYS APPARENT AND/OR ACCESSIBLE. OSHA COMPLIANT MANHOLE ENTRY MAY BE NECESSARY TO PROCURE EXACT ELEVATIONS.

6) THE DISTANCE MEASUREMENTS SHOWN HEREON ARE U.S. SURVEY FOOT. THIS PROJECT IS BASED ON A MODIFIED STATE PLANE COORDINATE SYSTEM, COLORADO NORTH ZONE, NAD 83 (2011). PROJECT HAS BEEN SCALED TO GROUND FROM POINT 1008 USING A COMBINED SCALE FACTOR OF 0.9997125550 (CALCULATED INVERSE OF 1.000287528). A 2 ½" ALLOY CAP, PLS 20134, IN A MONUMENT BOX AT THE INTERSECTION OF BROADWAY AND CANYON BLVD.

7) TREES LOCATIONS, CALIPER AND CANOPY REPRESENT OUR BEST ESTIMATION OF ACTUAL CONDITIONS. CALIPER WAS MEASURED AT CHEST LEVEL. LOCATION OF THE TRUCK IS BASED ON INTERSECTION OF TREE AND THE GROUND IN INSTANCES WHERE THE TREE WAS LEANING. TRUNK LOCATION IS ACCURATE WITHIN A FOOT. IN MANY INSTANCES, CANOPIES WERE IRREGULAR. AN AVERAGE CANOPY WAS USED IN THESE CIRCUMSTANCES. IN INSTANCES WHERE TREES ARE LEANING SUBSTANTIALLY, CANOPIES MAY NOT ACCURATELY REPRESENT THE CANOPY OF THE TREE OF INTEREST.

8) BENCHMARK INFORMATION:
ELEVATIONS BASED ON NGS MARKER J 321, PID LL-0801, WITH A PUBLISHED ELEVATION OF 5346.68 FEET (NAVD88). THE MARKER IS AN NGS BENCH MARK DISK SET IN A CONCRETE DIVERSION RETAINING WALL. SAID BENCH MARK LIES ON THE NORTH SIDE OF BOULDER CREEK, EAST OF THE BROADWAY BRIDGE.

9) FLOOD INFORMATION: THE SUBJECT PROPERTY IS LOCATED SEVERAL ZONES AS DEFINED BY FEMA.
ZONE X : AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD
ZONE X OTHER FLOOD AREAS :
AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD.
ZONE A: NO BASE FLOOD ELEVATIONS DETERMINED
ZONE AE: BASE FLOOD ELEVATIONS DETERMINED
ZONE AO: FLOOD DEPTHS OF 1 TO 3 FEET (USUALLY SHEET FLOW ON SLOPING TERRAIN); AVERAGE DEPTHS DETERMINED. FOR AREAS OF ALLUVIAL FAN FLOODING, VELOCITIES ALSO DETERMINED.

SEE COMMUNITY PANEL NO. 08013C0394J AND 08013C0393J DATED DECEMBER 18, 2012. FLOOD INFORMATION IS SUBJECT TO CHANGE. THIS INFORMATION IS CONSISTENT WITH THE CITY OF BOULDER FLOOD HAZARD MAPPING.

10) DATES OF FIELDWORK: MARCH 2014 TO JULY 2015. SUPPLEMENTAL TOPOGRAPHIC DATA COLLECTED MAY 2015 TO NOVEMBER 2015.

11) THIS TOPOGRAPHIC MAP DOES NOT REPRESENT A "LAND SURVEY PLAT" OR "IMPROVEMENT SURVEY PLAT" AND THIS MAP IS NOT INTENDED FOR PURPOSES OF TRANSFER OF TITLE OR SUBDIVISIONS OF LAND.

LEGEND

- WATER METER
- WATER VALVE
- FIRE HYDRANT
- IRRIGATION VALVE
- SANITARY SEWER MANHOLE
- SANITARY SEWER CLEANOUT
- STORM SEWER MANHOLE
- STORM DRAIN INLET
- ELECTRICAL BOX
- ELECTRICAL RISER
- LIGHT POLE/NIGHT LIGHT
- ELECTRIC MANHOLE
- TRAFFIC SIGNAL BOX
- GAS VALVE
- GAS METER
- TELEPHONE PEDESTAL
- TELEPHONE MANHOLE
- SIGN
- 2" DECIDUOUS TREE WITH CALIPER
- 2" TWIN DECIDUOUS TREE WITH CALIPER
- 2" TRIPLE DECIDUOUS TREE WITH CALIPER
- 2" CLUSTER DECIDUOUS TREE WITH CALIPER
- 2" EVERGREEN TREE WITH CALIPER
- X — FENCE LINE
- E — ELECTRICAL LINE
- T — TELEPHONE LINE
- FO — FIBER OPTIC LINE
- OHU — OVERHEAD UTILITY LINE
- SS — SANITARY SEWER LINE
- ST — STORM SEWER LINE
- W — WATER LINE
- BUILDING
- DIRT TRAIL/AREA
- ASPHALT
- RIPRAP AREA OR BOULDER CLUSTER
- BRICK PAVERS

CIVIC AREA PARK DEVELOPMENT PLAN
Boulder, CO

BOULDER CIVIC AREA

TOM LEADER STUDIO
1015 Camelia Street, Berkeley, CA 94710 | 510.524.3363

BOULDER LAND CONSULTANTS, INC.

BOULDER LAND CONSULTANTS, INC.
950 LARAMIE BLVD., UNIT D
BOULDER, COLORADO 80304
PHONE: 303-443-3616
WWW.BLCSURVEYORS.COM

Date	Issuance	By	Check
11.13.2015	100% SD		
01.08.2016	50% DD		
01.28.2016	100% DD		
05.02.2016	#1 TECH DOC		

Seal/Signature

COLORADO REGISTERED PROFESSIONAL LAND SURVEYOR 20134 4/18/16

Key Plan

L0.01 L0.02 L0.03 L0.04

North

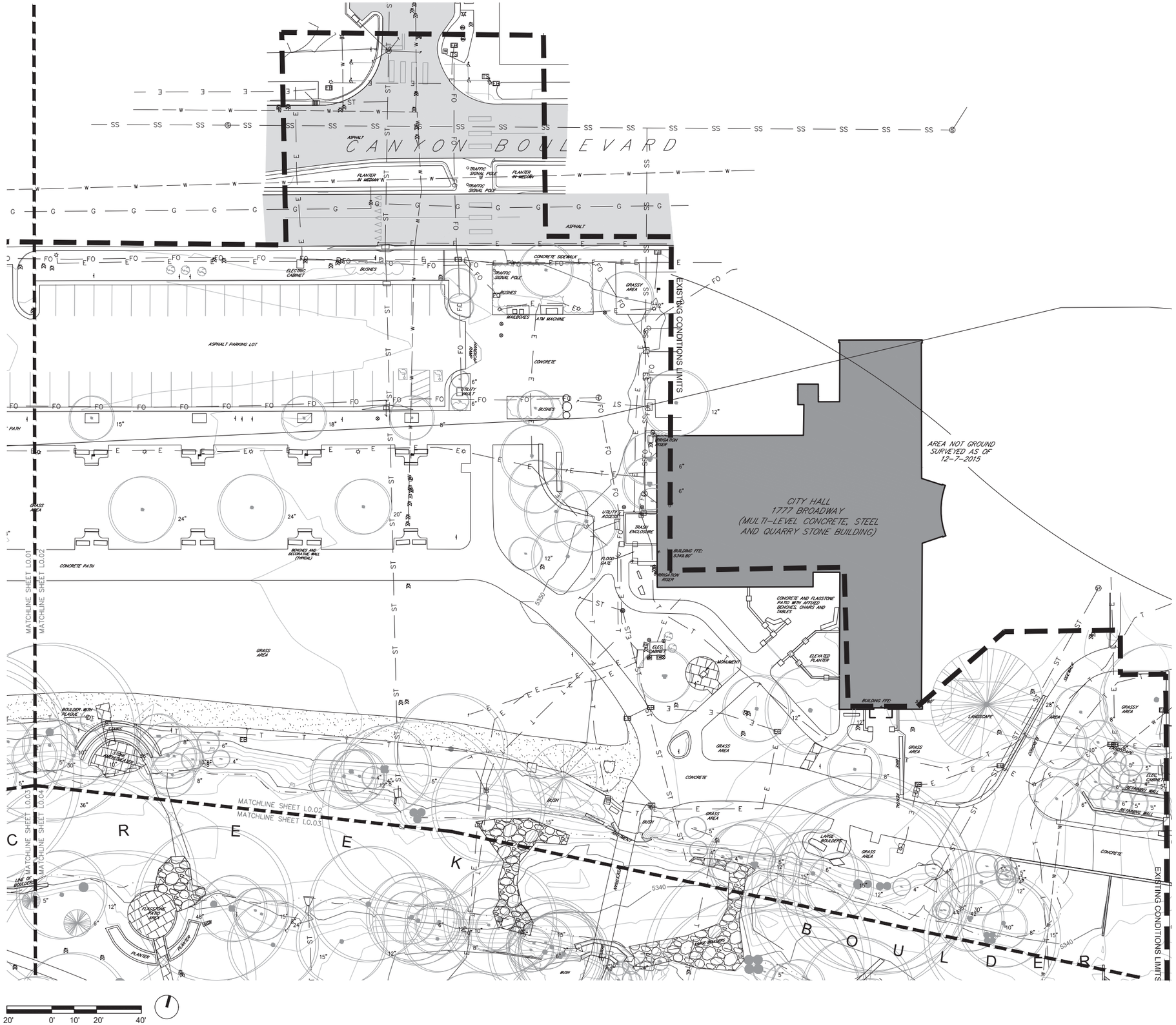
Scale: 1"=20'

Date

Phase
CONSTRUCTION DOCUMENT
Job Number
TLS-JOB#COB401

Drawing Title
EXISTING CONDITIONS SURVEY – GREEN VALLEY WEST

Drawing Number
L0.01



CIVIC AREA PARK DEVELOPMENT PLAN
Boulder, CO

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01.08.2016	50% DD		
01.28.2016	100% DD		
05.02.2016	#1 TECH DOC		

Seal/Signature

COLORADO REGISTERED PROFESSIONAL LAND SURVEYOR
JASON M. WEST
20134
4/13/16

Key Plan

L0.01 L0.02
L0.03 L0.04

North

Scale: 1"=20'

Date

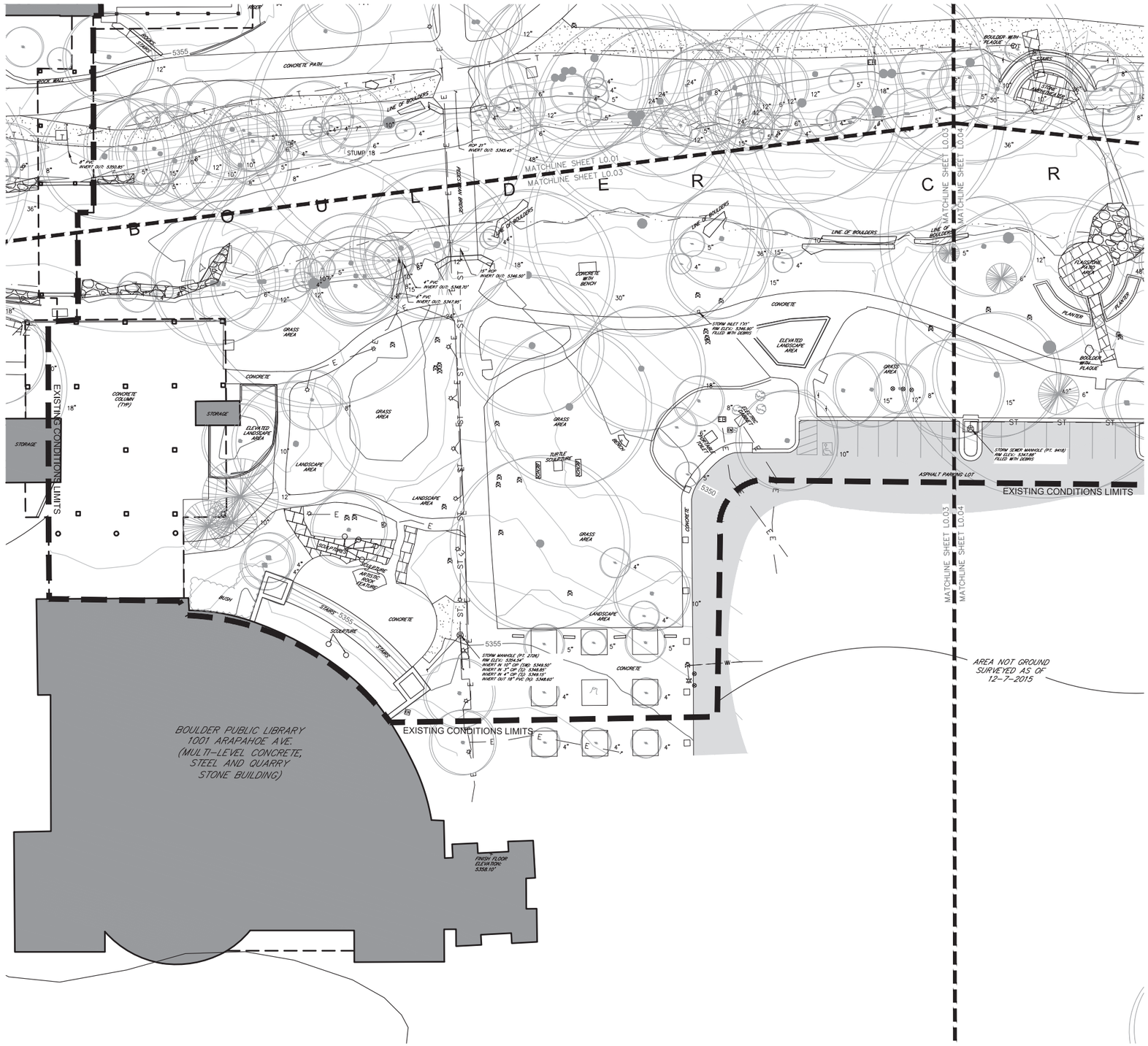
Phase
CONSTRUCTION DOCUMENT

Job Number
TLS-JOB#COB401

Drawing Title
EXISTING CONDITIONS SURVEY – GREEN VALLEY EAST

Drawing Number

L0.02



CIVIC AREA PARK DEVELOPMENT PLAN
Boulder, CO

BOULDER CIVIC AREA

TOM LEADER STUDIO
1015 Camelia Street, Berkeley, CA 94710 | 510.524.3363

BOULDER LAND CONSULTANTS, INC.

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01.28.2016	100% DD		
05.02.2016	#1 TECH DOC		

Seal/Signature

COLORADO REGISTERED PROFESSIONAL LAND SURVEYOR 20134 4/18/16

Key Plan

L0.01 L0.02 L0.03 L0.04

North

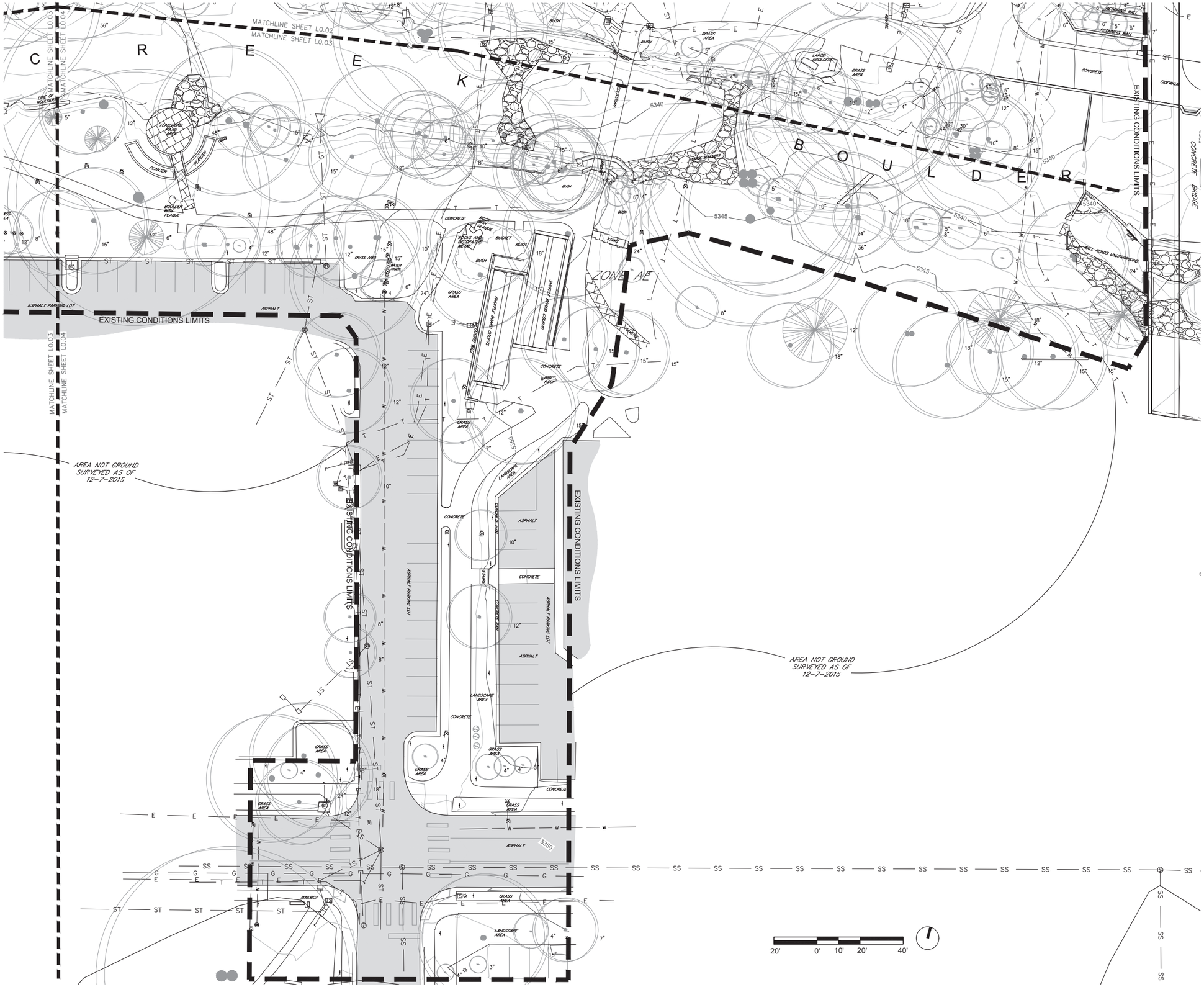
Scale: 1"=20'

Date

Phase
CONSTRUCTION DOCUMENT
Job Number
TLS-JOB#COB401

Drawing Title
EXISTING CONDITIONS SURVEY – NATURE PLAY

Drawing Number
L0.03



CIVIC AREA PARK DEVELOPMENT PLAN
Boulder, CO

BOULDER CIVIC AREA

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01.08.2016	50% DD		
01.28.2016	100% DD		
05.02.2016	#1 TECH DOC		

Seal/Signature

COLORADO REGISTERED PROFESSIONAL LAND SURVEYOR 20134 4/13/16

Key Plan

L0.01 L0.02 L0.03 L0.04

North

Scale: 1"=20'

Date

Phase
CONSTRUCTION DOCUMENT
Job Number
TLS-JOB#COB401

Drawing Title
EXISTING CONDITIONS SURVEY – 11TH STREET

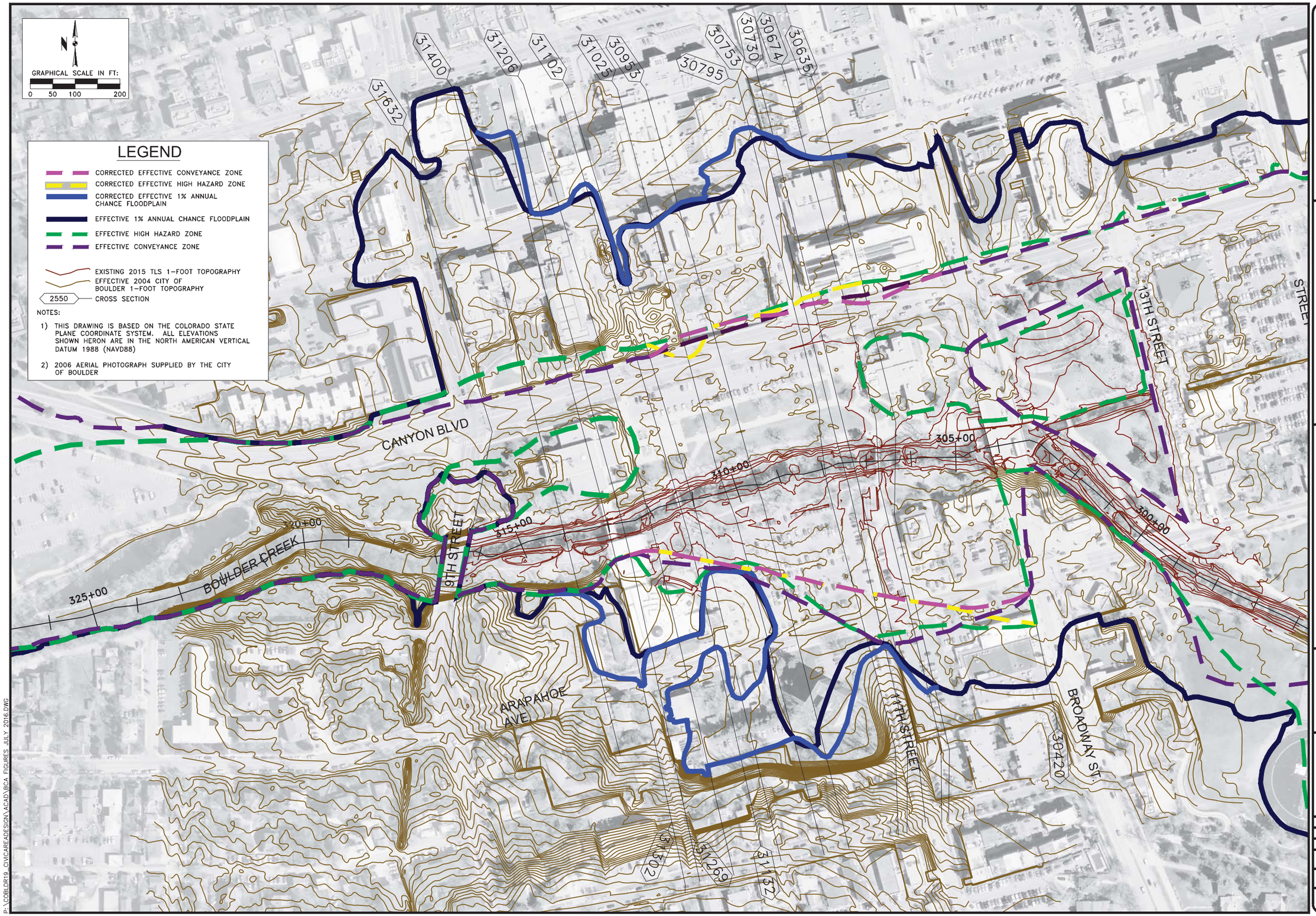
Drawing Number
L0.04

APPENDIX C

FLOOD HAZARD WORK MAPS

APPENDIX C.1

CORRECTED EFFECTIVE WORK MAP



ANDERSON CONSULTING ENGINEERS, INC
Civil • Water Resources • Environmental
575 East Hunter Avenue, Suite 2, Castle Rock, CO 80108
Phone (970) 236-0120/ Fax (970) 236-0121
www.aceweb.com

CORRECTED EFFECTIVE WORKMAP

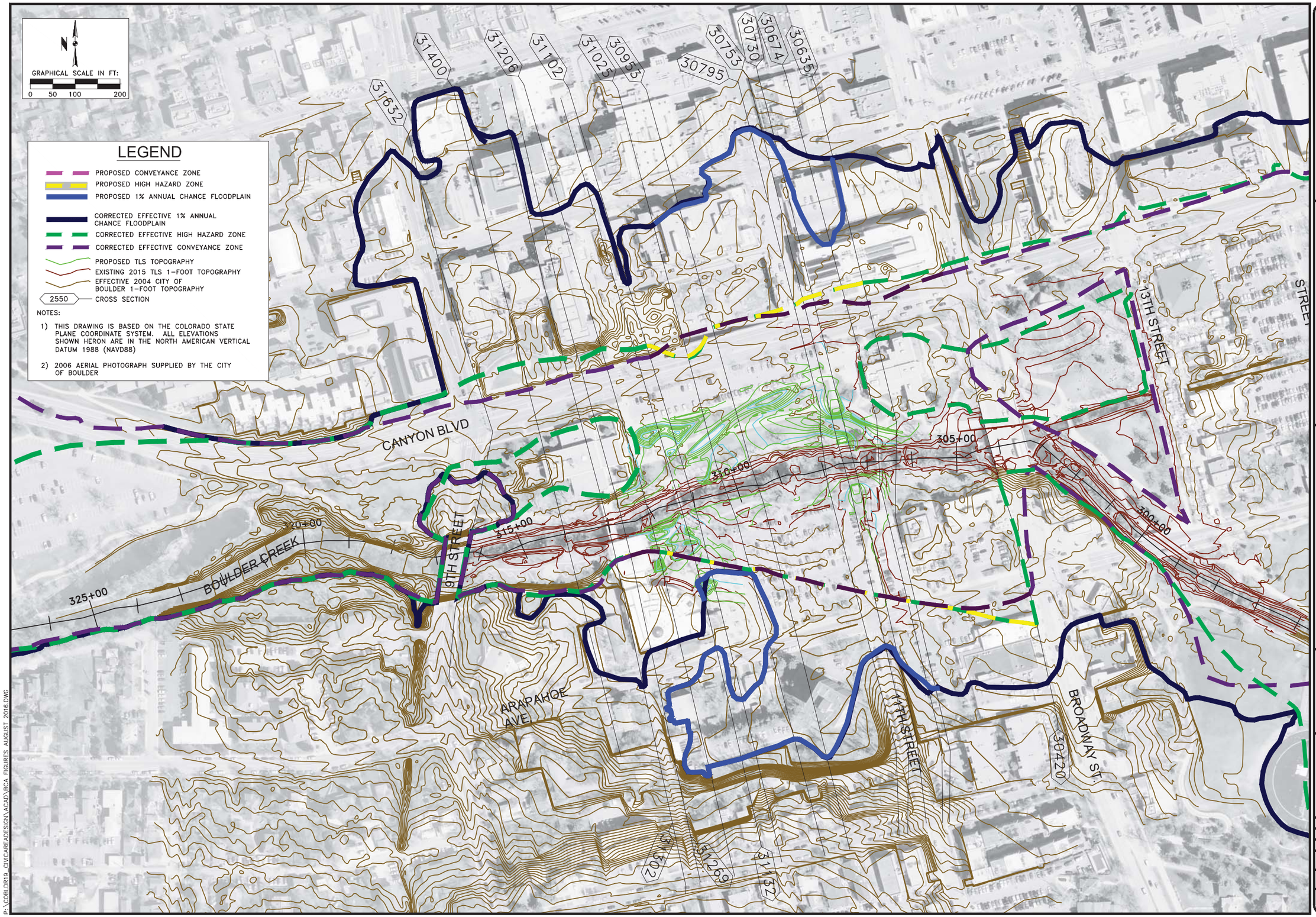
BOULDER CIVIC AREA

DRAWN BY:	MRC
DESIGNED BY:	JMA
CHECKED BY:	GJK
PROJECT NUMBER:	COCWCB19
DATE:	7/29/2016
SHEET:	C.1

P:\COBLDR19_CIVICAREADESIGN\ACAD\BCA FIGURES JULY 2016.DWG

APPENDIX C.2

PROPOSED CONDITION WORK MAP



P:\COBLDR19_CIVICAREADESIGN\ACAD\BCA FIGURES AUGUST 2016.DWG

Anderson Consulting Engineers, Inc
Civil • Water Resources • Environmental
575 East Hunter Avenue, Suite 2, Castle Rock, CO 80108-8225
Phone (970) 236-0120 Fax (970) 236-0121
www.acewater.com

PROPOSED CONDITION WORKMAP

BOULDER CIVIC AREA

DRAWN BY:	MRC
DESIGNED BY:	JMA
CHECKED BY:	GJK
PROJECT NUMBER:	COBLDR19
DATE:	8/22/2016
SHEET:	C.2

APPENDIX D

BLOCKED OBSTRUCTION METHODOLOGY

3.3 Modeling Considerations for Boulder Creek Stream Crossings

A total of 23 bridges over Boulder Creek are included in the HEC-RAS model of the current study reach; an additional three bridges that cross watercourses functioning as distributary flow paths for Boulder Creek flood flows are also included in the current hydraulic model. Twenty of these bridges carry vehicular or train traffic, while seven are fixed bridges that primarily serve pedestrians and bicycles. Field survey notes for each of these bridges, prepared by King Surveyors as part of this study, are provided in Appendix D.1. There are eight additional pedestrian bridges over Boulder Creek and one over the Skunk Creek split flow path that the City of Boulder has constructed to break away during flood events; these bridges are not included in the current hydraulic model.

There is one small culvert installation on the Skunk Creek split flow path which was assumed to be fully obstructed for the purposes of flood hazard analysis and mapping. Finally, in addition to the BNRR Bridge over Boulder Creek, there are two box culverts through the railroad embankment that serve to convey flood flows associated with Boulder Creek. The large box culvert that serves as the pedestrian trail crossing under the railroad was included in the hydraulic model. The small box culvert east of the creek was not modeled due to its relatively limited conveyance capacity which is further restricted by blockage of the downstream end of the culvert by a significant amount of depositional material.

Hydraulic modeling associated with the effective FIS for Boulder Creek considered debris blockage for the bridges through the City of Boulder. As noted in the 1983 report, a debris blockage factor equivalent to 25 percent of the bridge opening was applied to each major stream crossing by lowering the low chord of each bridge to achieve an effective bridge opening equivalent to 75 percent of the actual bridge opening.

Based on historical hydraulic modeling precedent in the City of Boulder, as well as a high degree of debris accumulation at the 30th Street Bridge over Boulder Creek during the 1969 flood, the City of Boulder prescribed the use of the following assumptions and methodology to specify debris blockage for each non-breakaway bridge within the study reach. As directed by City Staff, bridges were assigned a percentage of debris obstruction of 15 percent or higher, except in a limited number of special cases where local conditions would support a lesser degree of obstruction. The relative degree of potential debris obstruction was assigned based on field reconnaissance efforts which identified debris obstruction categories for each bridge. Each bridge was placed in one of four debris obstruction potential categories based on the following: (a) debris production potential upstream of the subject bridge; (b) bank erosion potential upstream of the bridge; (c) shielding of the bridge from debris due to the presence of nearby upstream structures; and (d) pier nose shape. The debris obstruction category defined for each bridge and the percentage of obstruction assigned to each bridge are both identified in Table 3.2.

With the percentage of debris obstruction defined, the hydraulic model was modified as follows.

The actual open area below the bridge deck was determined, as shown in Table 3.2. For bridges with

Table 3.2 Debris Obstruction Data for Bridges within the Boulder Creek Study Reach.

Location	Total Open Area Below Bridge Low Chord (SF)	Number of Piers	Debris Obstruction Category	Assumed Debris Obstruction (%)	Width of Debris at Each Abutment (FT)	Total Width of Debris at Each Pier (FT)	Net Open Area Below Bridge Low Chord (SF)
Arapahoe Avenue (near canyon)	1,108	0	2	15	9.5	N/A	944
6th Street	1,236	1	4	25	2.0	29.0	927
9th Street	1,754	1	3	20	2.0	22.0	1,409
Library	1,499	6	4	25	2.0	6.5	1,124
Library Path	350	0	2	15	7.5	N/A	298
Broadway Street	624	0	2	15	8.5	N/A	532
Arapahoe Avenue	601	0	1	5	6.0	N/A	569
Boulder High School Path	586	0	3	20	11.0	N/A	469
17th Street	1,120	0	3	20	14.0	N/A	894
19th Street Pedestrian Bridge	286	0	3	20	5.0	N/A	229
Stadium Path	664	2	4	25	2.0	9.0	497
Folsom Field Path	528	0	3	20	6.5	N/A	422
Folsom Street	561	0	2	15	4.8	N/A	478
28th Street	778	2	4	25	2.0	10.5	581
30th Street	500	0	3	20	6.0	N/A	400
Arapahoe Avenue (upstream)	757	3	4	25	2.0	12.0	564
Arapahoe Avenue (downstream)	831	1	1	5	2.0	2.0	791
Foothills Parkway	2,825	3	2	15	2.0	17.6	2,404
BN Railroad Bridge	275	1	4	25	2.0	12.5	206
55th Street	1,852	1	3	20	2.0	32.5	1,477
Valmont Street (old RR crossing)	1,281	1	2	15	2.0	23.0	1,087
Valmont Street (South Boulder Creek)	1,363	1	1	5	2.0	23.0	1,295
Old Valmont Road	228	0	4	25	5.0	N/A	170
Private Road	133	0	4	25	2.5	N/A	99

piers, a 2-foot encroachment into the bridge opening was assumed at each abutment (represented in the model as a full height flow obstruction at each abutment), while full height debris was applied at the pier(s) effectively increasing the pier width as necessary to achieve the assigned percent obstruction of the actual open area below the bridge deck. For bridges without piers, full height flow obstructions were defined at the abutments to the width necessary to achieve the assigned percent obstruction of the actual open area below the bridge deck.

In addition to the debris obstruction parameters applied to each bridge based on the information provided in the table, all handrails and guardrails associated with each structure were assumed to be completely obstructed by debris. In the case of the large box culvert, which serves as the pedestrian crossing under the BNRR and is largely offline relative to the main channel and bridge, no debris obstruction was assumed.

Standard contraction and expansion coefficients of 0.3 and 0.5, respectively, were used at all stream crossings. General contraction and expansion coefficients of 0.1 and 0.3 were used elsewhere in the hydraulic model, except when two or more bridges were situated in close succession (wherein values of 0.3 and 0.5 were used for the intervening one or two cross sections) or when topographic conditions indicated that more conservative coefficient values of 0.3 and 0.5 were applicable.

3.4 Modeling Considerations in the Vicinity of the Burlington Northern Railroad

Due to the limited conveyance capacity of both the BNRR Bridge over Boulder Creek and the pedestrian trail culvert under the BNRR, flow patterns during relatively large flood events will be fairly complex in the vicinity of the BNRR. During the 100-year event, right overbank flows would become disconnected from the main channel approximately 700 feet upstream of the BNRR. These overbank flows would be conveyed along the Railroad Overtopping Flow Path east of Boulder Creek. As these "railroad overtopping" flows approach the railroad embankment, a secondary flow split occurs whereby a relatively small discharge is carried east along a narrow corridor along the south side of the embankment. These Railroad Split flows pass over the BNRR directly west of 55th Street, returning to the right overbank of Boulder Creek via a swale along the north side of the railroad. Both the Railroad Overtopping and Railroad Split flows rejoin right overbank flows contiguous to Boulder Creek between main channel Cross Sections 15365 and 15958.

In all cases other than the Railroad Overtopping Split Flow Path, discharges for distributary flow paths were defined by HEC-RAS through use of lateral weirs or junctions. For the RR Overtopping Split Flow Path, discharges for the various return periods were defined as a combination of lateral weir flow between Cross Sections 17164 and 16847, and the right overbank bank flow that is already present at Cross Section 17164. The right overbank flow at Cross Section 17164 was added to the lateral weir flow as this right overbank flow would not return to the main channel but simply continue along the Railroad Overtopping Flow Path toward the railroad embankment east of Boulder Creek.

Special consideration was given to the geometric definition of the BNRR embankment crossing of the Boulder Creek floodplain. Due to the limited conveyance capacity of the main channel bridge and

DEBRIS OBSTRUCTION AREA CALCULATION

ANDERSON CONSULTING ENGINEERS, INC Civil • Water Resources • Environmental	Project Number COBLDR19	Page 1 Of 1
Owner-Project BOULDER CIVIC AREA	By JMA	Date 6-7-16
Subject PROPOSED 11TH ST BRIDGE DEBRIS CALCULATION	Checked By	Date

- BRIDGE OPENING AREAS CALCULATED IN HEC-RAS
  - CONVEYANCE SWALE BRIDGE OPENING AREA = 354.3 SQ-FT
  - MAIN CHANNEL BRIDGE OPENING AREA = 758.6 SQ-FT

- 15% BLOCKAGE NEEDED
  - CONVEYANCE SWALE = 53.1 SQ-FT
  - MAIN CHANNEL = 113.8 SQ-FT

- BRIDGE OPENING MINUS 15% DEBRIS BLOCKAGE
  - CONVEYANCE SWALE = 301.2 SQ-FT
  - MAIN CHANNEL = 644.8 SQ-FT

- WIDTH OF BLOCKED OBSTRUCTION NEED TO ACHIEVE 15% REDUCTION
  - CONVEYANCE CHANNEL = 9.75 FT TOTAL AREA = 301.9 FT^2
  - MAIN CHANNEL = 14.0 FT TOTAL AREA = 641.1 FT^2

APPENDIX E

SELECTED COMMUNICATION

Greg Koch

From: Terri Fead <tfead@udfcd.org>
Sent: Friday, February 19, 2016 11:34 AM
To: Greg Koch
Cc: David Mallory
Subject: RE: Boulder Creek pedestrian bridge

Hello Greg,

David and I discussed the potential for the break-away bridges for use in your project reach along Boulder Creek. Even though we do not encourage them, he indicated that the City of Boulder has used these frequently. If the low chords are to be above the 100-yr WSEL, and the City of Boulder is willing to issue the floodplain permit, then modeling the crossings with XSs at the upstream and downstream faces without a deck would be acceptable.

Please let us know if you have additional questions.

Thanks,
Terri

Terri L. Fead, P.E., CFM
Project Manager
Floodplain Management Program
Urban Drainage and Flood Control District
tfead@udfcd.org
303-455-6277

From: Greg Koch [mailto:Greg.Koch@acewater.com]
Sent: Friday, February 19, 2016 9:13 AM
To: Terri Fead
Subject: Boulder Creek pedestrian bridge

Hi Terri,

Thank you for calling back yesterday and discussing the situation with the Boulder Creek ped bridge. If it would help your conversation with David to have more detail concerning site specifics, I'd be happy to show you mapping of this area and current design concepts. I could initiate a computer link up w/ a telephone call and show you around. And if you don't feel this is necessary for a policy-type discussion, I won't feel slighted in the least☺

Thanks again,

Greg

Gregory J. Koch, P.E.
Vice President
ANDERSON CONSULTING ENGINEERS, INC.
Greg.Koch@acewater.com
(970) 226-0120 x207

Greg Koch

From: Greg Koch
Sent: Friday, February 19, 2016 3:14 PM
To: 'Stafford, Edward'; 'Haley, Jeff'
Cc: 'Godfrey, Doug'; 'Erik Prince'; 'Cody F. Gratny'; 'Knapp, Katie'; 'Charlie R. Hager'; 'Mario Accordino'; Kerry Huang; Jason Albert
Subject: RE: 11th Street Bridge Memo
Attachments: RE: Boulder Creek pedestrian bridge

Hi Edward & Jeff,

Please see the attached email response from Urban Drainage. It appears that Urban Drainage will be okay with the breakaway bridge approach. To date we have been using a single cross section along the middle of the bridge alignment to evaluate this condition. We will need to modify the model to use two cross sections, one at each bridge face, to model the proposed condition. We will work on this first of next week.

Please feel free to give me a call if you'd like to discuss this further.

Thanks,

Greg

Gregory J. Koch, P.E.
Vice President
ANDERSON CONSULTING ENGINEERS, INC.
Greg.Koch@acewater.com
(970) 226-0120 x207

From: Greg Koch
Sent: Thursday, February 18, 2016 6:42 PM
To: 'Stafford, Edward' <StaffordE@bouldercolorado.gov>; Haley, Jeff <HaleyJ@bouldercolorado.gov>
Cc: Godfrey, Doug <GodfreyD@bouldercolorado.gov>; Erik Prince <erik@tomleader.com>; Cody F. Gratny <cgratny@jvajva.com>; Knapp, Katie <KnappK@bouldercolorado.gov>; Charlie R. Hager <chager@jvajva.com>
Subject: RE: 11th Street Bridge Memo

Hi Edward,

Here's a start regarding your comments. We can discuss these further in order to clarify what needs to be done to move forward.

We did check both the 100-year WSELs and the encroached WSELs computed in the CZ model and there is no rise in either case. At some point we should chat about using the CZ model to assess potential rises. I'm not sure I fully understand since regulatory flood elevations are set by the floodplain model; I'm probably just missing something.

Utilizing a 15% debris blockage was selected to be consistent with the blockage assumption previously discussed for the bridge. If this needs to be modified, we should discuss this immediately as that value can have a significant impact on the modeling results.

The concept with the breakaway bridge is that if circumstances were such that the bridge collected a sufficient amount of debris (even though the 100-year flood isn't shown to touch the low chord with the 15% blockage), it would be designed to be pushed off of its abutments and swing out of the main flow path. Charlie and I have talked about concepts that have been used in the past that could be refined for this bridge. We also understand that the functionality of these types of bridges is not always reliable; there are too many variables to definitively certify that a given bridge will breakaway every time it is supposed to. There are many existing ped bridges along Boulder Creek that are not included

in the current hydraulic model as it was assumed they would breakaway (as directed by City staff). However, if current City policy is firm on not wanting to consider installing new ped bridges that are intended to breakaway, due to reliability concerns or other issues, that would be helpful to know.

This afternoon I made a call to Urban Drainage to discuss the approach which is currently proposed (installing this bridge as a breakaway and not modeling with the bridge routine). Their initial response was two-fold: (a) if this is a fixed bridge it would most likely need to be modeled as such; and (b) they are trying to stay away from breakaway bridges in general. However, they will have an internal discussion concerning this specific situation and get back to me. I hope to hear back on Friday.

Given the various constraints at this location, to date we have not been able to identify an option that will show no rise when modeled using a standard bridge routine. If a breakaway bridge is not acceptable, we may not have a viable option for a new bridge in this location.

I do have one last strategy which may be stretch, and may or may not give us favorable results, but we can talk about that in the morning.

Thanks,

Greg

Gregory J. Koch, P.E.
Vice President
ANDERSON CONSULTING ENGINEERS, INC.
Greg.Koch@acewater.com
(970) 226-0120 x207

From: Stafford, Edward [mailto:StaffordE@bouldercolorado.gov]
Sent: Thursday, February 18, 2016 12:34 PM
To: Haley, Jeff <HaleyJ@bouldercolorado.gov>; Greg Koch <Greg.Koch@acewater.com>
Cc: Godfrey, Doug <GodfreyD@bouldercolorado.gov>; Erik Prince <erik@tomleader.com>; Cody F. Gratny <cgratny@jvajva.com>; Knapp, Katie <KnappK@bouldercolorado.gov>; Charlie R. Hager <chager@jvajva.com>
Subject: RE: 11th Street Bridge Memo

Thank you for the opportunity to review this document. Katie and I have read it and have some concerns about the approach and if it will be considered acceptable for both City regulations and FEMA.

For the modeling and analysis the Conveyance Zone model should be used to assess whether or not the proposed grading will cause a rise in the WSE. It looks like the results in the table are from the 100-year model. Please confirm if this is accurate if so what is shown on the CZ model.

As for using the breakaway bridge and not using the bridge routine in the model, we are still concerned about this approach. With the bridge deck above the 100-year WSE how would it be considered a breakaway bridge? While using some debris obstruction might be appropriate, it seems that 15% is then an arbitrary selection and some study would be needed to show how this is determined. It also seems that this approach is a way to avoid the obvious bridge routine and may not be acceptable for FEMA/UDFCD.

Has Anderson reached out to UDFCD for feedback on this approach? We do not want to have a project that we approve, and then when the LOMR is submitted it is denied and the acceptable model for FEMA shows a rise in WSE (and even worse a rise against an insured building). This could cause the city problems in participating in the National Flood Insurance Program and could also harm our current CRS rating (which is directly related to discounts the community receives on flood insurance).

Edward Stafford, P.E. PTOE
Development Review Manager - Public Works
City of Boulder

From: Haley, Jeff
Sent: Tuesday, February 9, 2016 7:12 AM
To: Stafford, Edward; Knapp, Katie
Cc: Godfrey, Doug; Erik Prince; Greg Koch; Cody F. Gratny; Charlie R. Hager
Subject: FW: 11th Street Bridge Memo

Edward and Katie,

Please see the attached memo outlining the consultants work on the bridge for the Civic Area. If you remember from our last meeting, you asked us to revise the topography so as not to warrant running the bridge model and not having to categorize this as breakaway. You can see the results of this analysis and please let us know what further questions you have.

Thanks,

Jeff

From: Greg Koch [mailto:Greg.Koch@acewater.com]
Sent: Thursday, February 04, 2016 12:24 PM
To: Haley, Jeff
Cc: Erik Prince; Charlie Hager (chager@jvajva.com); Cody F. Gratny
Subject: 11th Street Bridge Memo

Hi Jeff,

Please find attached our memo discussing the analysis of the 11th Street Bridge, explaining how we ended up with a crossing that is currently proposed to be a breakaway bridge.

Please let me know if you have any questions or comments.

Thanks,

Greg

Gregory J. Koch, P.E.
Vice President
ANDERSON CONSULTING ENGINEERS, INC.
Greg.Koch@acewater.com
(970) 226-0120 x207

APPENDIX F

EROSION CONTROL DESIGN

APPENDIX F.1

RIPRAP CALCULATIONS

ANDERSON CONSULTING ENGINEERS, INC Civil • Water Resources • Environmental	Project Number COBLDR 19	Page Of 1
Owner-Project BOULDER CIVIC AREA	By JMA	Date 7-29-2016
Subject RIP RAP SIZING INPUT	Checked By	Date

- HYDRAULIC PARAMETERS @ PROPOSED RIPRAP LOCATIONS (SIZED USING HYDRAULIC TOOLBOX)

- CROSS SECTION 30635, DS OF 11TH ST

SIDE SLOPE (LEFT BANK) = 2.4:1
VELOCITY = 6.5-12.0 FPS
TOPWIDTH = 66 FT
DEPTH = 5-10.3 FT
SPECIFIC GRAVITY = 2.65

SF = 1.5
CLASS VI RIPRAP
D_{50} = 15.5"
MIN RR THICKNESS = 30"

USE CLASS 18 RIPRAP

- CROSS SECTION 31025

SIDE SLOPE (LEFT BANK) = 2.4:1
VELOCITY = 6.2-12.0 FPS
TOPWIDTH = 55 FT
DEPTH = 8.9-11.3 FT
SG = 2.65

SF = 1.5
CLASS III
D_{50} = 12.5"
MIN RR THICKNESS = 24"

USE CLASS 12 RIPRAP

- CROSS SECTION 31206

SIDE SLOPE (RIGHT BANK) 2.2:1
VELOCITY = 7.5-10.1 FPS
TOP WIDTH = 74 FT
DEPTH = 9-12.8 FT
SG = 2.65

SF = 1.5
CLASS II
D_{50} = 9.5"
MIN RR THICKNESS = 18"

USE CLASS 12 RIPRAP TO BE CONSISTENT WITH U.S. OF N. SWALE RIPRAP

Hydraulic Analysis Report

Project Data

Project Title:

Designer:

Project Date: Friday, July 29, 2016

Project Units: U.S. Customary Units

Notes:

Riprap Analysis: DS of 11th

Notes:

Input Parameters

Riprap Type: Revetment

The channel is a natural channel

Local Depth of Flow: 10.3 ft

Riprap Shape is Angular

Stability Coefficient: 0.3

This value is updated by the selected Riprap Shape

Blanket Thickness Coefficient: 1

Channel Cross-sectional Average Velocity: 12 ft/s

Which is the Average Velocity with Spurs

Centerline Radius of Curvature of Channel Bend: 1e+009 ft

Width of Water Surface at Upstream End of Channel Bend: 66 ft

Bank Angle: 2.4 :1 H:V

.966 < Bank Angle < 4.011

The location of the revetment protection is on a straight channel

Specific Gravity of Riprap: 2.65

Safety Factor: 1.5

Result Parameters

Side slope Correction Factor: 0.931359

Velocity Distribution Coefficient: 1

Design Velocity: 12 ft/s

Design velocity never less than average channel velocity

Computed D30: 11.4685 in

Computed D50: 13.7621 in

Riprap Class

Riprap Class Name: CLASS IV

Riprap Class Order: 4

The following values are an 'average' of the size fraction range for the selected riprap class.

d100: 30 in

d85: 21 in

d50: 15.5 in

d15: 10.5 in

Layout Recommendations

Minimum Riprap Thickness: 360 in

No channel used in calculations

Riprap Analysis: US end of North Swale

Notes:

Input Parameters

Riprap Type: Revetment

The channel is a natural channel

Local Depth of Flow: 11.3 ft

Riprap Shape is Angular

Stability Coefficient: 0.3

This value is updated by the selected Riprap Shape

Blanket Thickness Coefficient: 1

Channel Cross-sectional Average Velocity: 12 ft/s

Which is the Average Velocity with Spurs

Centerline Radius of Curvature of Channel Bend: 1e+009 ft

Width of Water Surface at Upstream End of Channel Bend: 55 ft

Bank Angle: 3.4 :1 H:V

.966 < Bank Angle < 4.011

The location of the revetment protection is on a straight channel

Specific Gravity of Riprap: 2.65

Safety Factor: 1.5

Result Parameters

Side slope Correction Factor: 0.991406

Velocity Distribution Coefficient: 1

Design Velocity: 12 ft/s

Design velocity never less than average channel velocity

Computed D30: 10.364 in

Computed D50: 12.4368 in

Riprap Class

Riprap Class Name: CLASS III

Riprap Class Order: 3

The following values are an 'average' of the size fraction range for the selected riprap class.

d100: 24 in

d85: 17 in

d50: 12.5 in

d15: 9 in

Layout Recommendations

Minimum Riprap Thickness: 288 in

No channel used in calculations

Riprap Analysis: Nature Play

Notes:

Input Parameters

Riprap Type: Revetment

The channel is a natural channel

Local Depth of Flow: 12.8 ft

Riprap Shape is Angular

Stability Coefficient: 0.3

This value is updated by the selected Riprap Shape

Blanket Thickness Coefficient: 1

Channel Cross-sectional Average Velocity: 10.1 ft/s

Which is the Average Velocity with Spurs

Centerline Radius of Curvature of Channel Bend: 1e+009 ft

Width of Water Surface at Upstream End of Channel Bend: 74 ft

Bank Angle: 2.2 :1 H:V

.966 < Bank Angle < 4.011

The location of the revetment protection is on a straight channel

Specific Gravity of Riprap: 2.65

Safety Factor: 1.5

Result Parameters

Side slope Correction Factor: 0.905692

Velocity Distribution Coefficient: 1

Design Velocity: 10.1 ft/s

Design velocity never less than average channel velocity

Computed D30: 7.31026 in

Computed D50: 8.77231 in

Riprap Class

Riprap Class Name: CLASS II

Riprap Class Order: 2

The following values are an 'average' of the size fraction range for the selected riprap class.

d100: 18 in

d85: 13 in

d50: 9.5 in

d15: 7 in

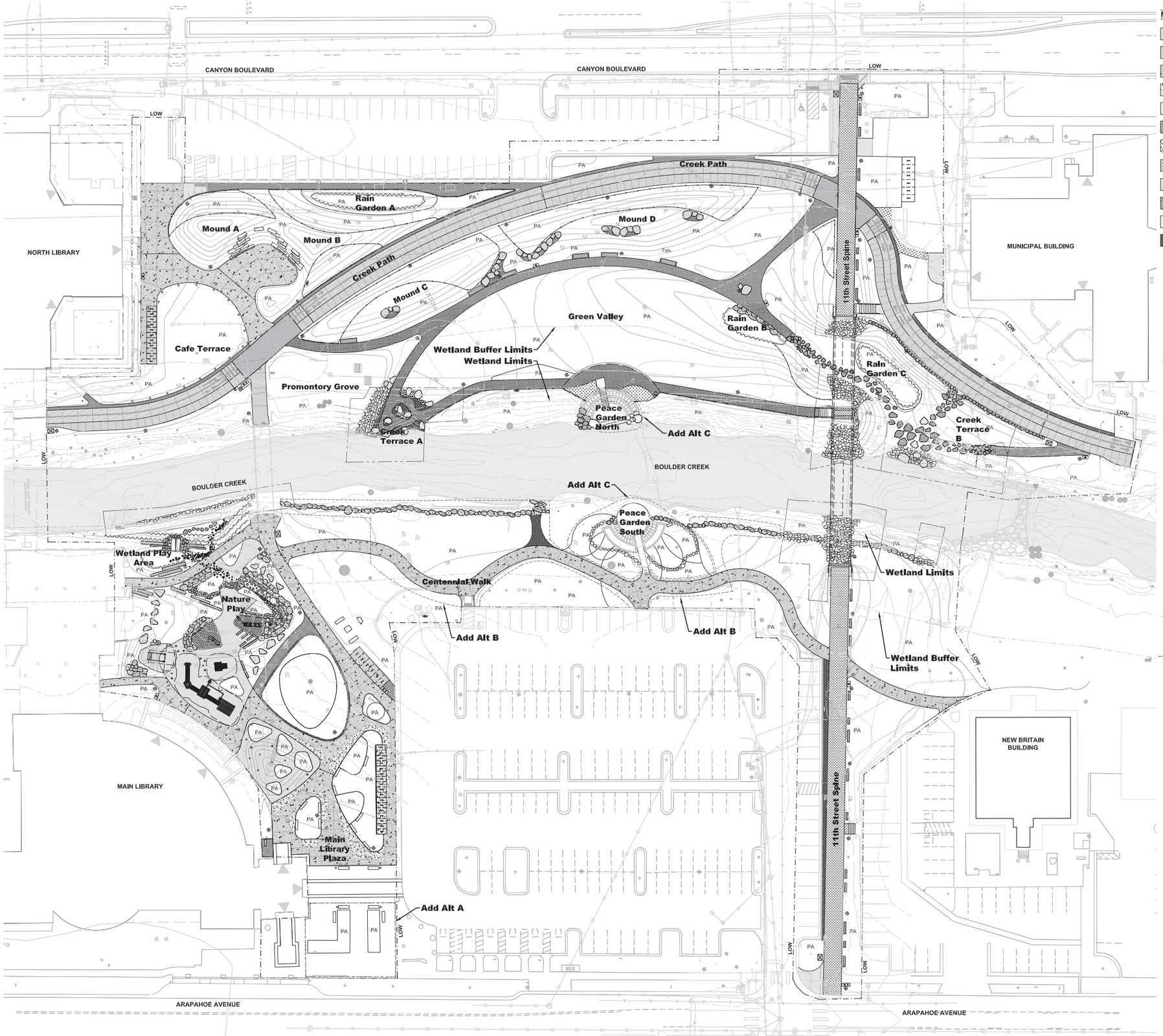
Layout Recommendations

Minimum Riprap Thickness: 216 in

No channel used in calculations

APPENDIX F.2

RIPRAP PLACEMENT AND DETAILS



MATERIALS LEGEND

- C.I.P. Concrete Pavement - Bike Path, See Specs. (Vehicular Grade)
- C.I.P. Concrete Pavement, Type A, See Specs. (Vehicular Grade)
- C.I.P. Concrete Pavement, Type B, See Specs. (Pedestrian Grade)
- C.I.P. Concrete Pavement, Type D, See Specs.
- C.I.P. Standard Concrete Pavement, See specs. (Vehicular Grade)
- Stabilized Decomposed Granite
- Decomposed Granite Mulch
- C.I.P. Concrete Pavement - 11th Street Spine See L6.04
- Nature Play Rubber Surface
- Play Sand
- Cobble Channel
- Creek Cobbles
- Landscape Seating Boulders
- Boulders at Embankment
- Boulders Steps at Peace Garden
- Boulders at Peace Garden
- RipRap Extents
- RipRap - Exposed
- RipRap - Seating Boulders
- RipRap - Stepping Stones
- Salvaged Stone Steps
- Bicycle Racks
- Cordwood Gateway
- Cordwood Seatwall
- Salvaged Seating Terrace Logs
- Salvaged Silver Maple Seating Logs
- Picnic Tables at Promontory Grove
- Rance Fencing
- Salvaged Log Steps/Vertical Posts
- Salvaged Vertical Posts
- Not Used
- Coir Fascine Logs
- RipRap Extents
- Paving Joint
- PA Planted Area
- Building Entrance
- Light Poles, See LE.01-LE.04
- Bear Proof Trash Receptacles
- 53 Proposed Contour
- (5350) Existing Contour, S.C.D.
- Existing Trunk to Remain
- LOW Limit of Work

CIVIC AREA PARK DEVELOPMENT PLAN

Boulder, CO

City of Boulder
Boulder Parks & Recreation
3198 Broadway
Boulder, CO 80304
Tel: 303.413.7233

TOM LEADER STUDIO
1015 Cornelia Street, Berkeley, CA 94710 | 510.524.3363

Date	Issuance	By	Check
11.13.2015	100% SD		
01.08.2016	50% DD		
01.28.2016	100% DD		
05.02.2016	90% CD (TECH DOC 01)		
06.20.2016	100% CD (TECH DOC 02)		
08.01.2016	100% CD (TECH DOC 03)		

Seal/Signature

ERIK DUANE PRINCE 1170 — 07/22/2016 — Original Signature Required — 7.27.16 — STATE OF COLORADO — LICENSED LANDSCAPE ARCHITECT

Key Plan

A B C D

North

Scale: 1"=30'

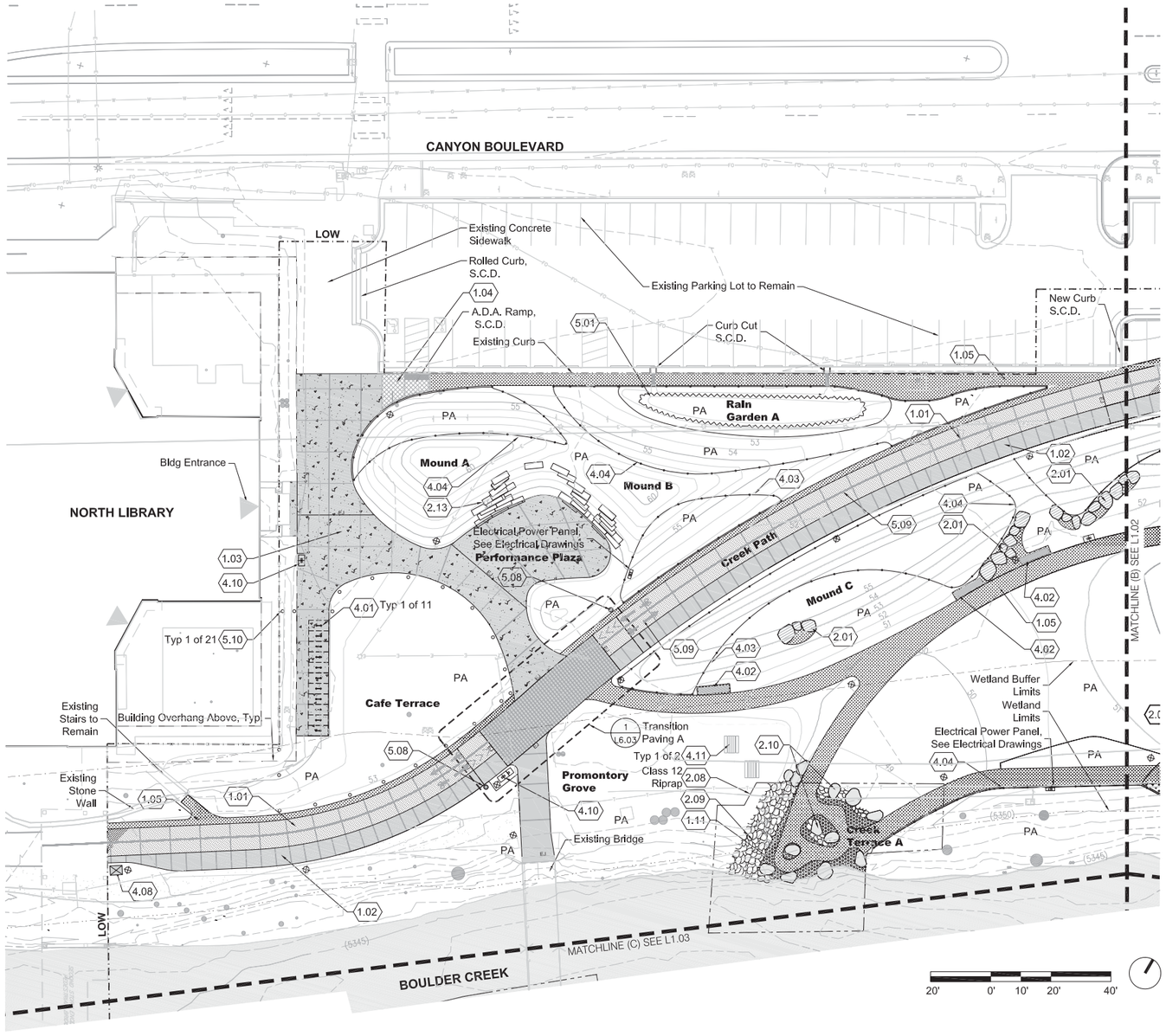
FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title
OVERALL MATERIALS PLAN

Drawing Number

L1.00



MATERIALS LEGEND

- C.I.P. Concrete Pavement - Bike Path, See Specs. (Vehicular Grade)
- C.I.P. Concrete Pavement, Type A, See Specs. (Vehicular Grade)
- C.I.P. Concrete Pavement, Type B, See Specs. (Pedestrian Grade)
- C.I.P. Concrete Pavement, Type D, See Specs.
- C.I.P. Standard Concrete Pavement, See Specs. (Vehicular Grade)
- Stabilized Decomposed Granite
- Decomposed Granite Mulch
- C.I.P. Concrete Pavement - 11th Street Spine, See L6.04
- Nature Play Rubber Surface
- Play Sand
- Cobble Water Channel
- Creek Cobbles
- Landscape Boulder Seating, See L6.09, L6.10, & L7.21
- Boulders at Embankment, See L6.09, L6.10, & L7.21
- Boulders Steps at Peace Garden, See L6.09, L6.10, & L7.21
- Boulders at Peace Garden, See L6.09, L6.10, & L7.21
- RipRap Extents, See L6.09, L6.10, & L7.21
- RipRap - Exposed, See L6.09, L6.10, & L7.21
- RipRap - Seating Boulders, See L6.09, L6.10, & L7.21
- RipRap Stepping Stones / Boulder Stepping Stones, See L6.09, L6.10, & L7.21
- Salvaged Stone Steps
- Bicycle Racks
- Cordwood Gateway
- Cordwood Seatwall
- Salvaged Seating Terrace Logs
- Salvaged Wood Benches
- Rance Fencing
- Salvaged Log Steps/Vertical Posts
- Salvaged Vertical Posts
- Steel Header
- Coir Fascine Logs
- Expansion Joint
- PA — Planted Area
- Building Entrance
- Light Poles, See LE.01-LE.04
- Bear Proof Trash Receptacles
- 53 — Proposed Contour
- (5350) — Existing Contour, S.C.D.
- Boulder Regulatory Wetlands Limits
- Boulder Regulatory Wetlands Buffer Limits
- Existing Tree to Remain
- LOW — Limit of Work

MATERIALS KEY

1.00 Pavement

1.01	C.I.P. Concrete Pavement - Bike Path (Vehicular Grade)	1/L6.01
1.02	C.I.P. Concrete Pavement, Type A (Vehicular Grade)	1/L6.01
1.03	C.I.P. Concrete Pavement, Type B (Pedestrian Grade)	2/L6.01
1.04	C.I.P. Standard Concrete Pavement (Vehicular Grade)	1/L6.01
1.05	Stabilized Decomposed Granite	3/L6.01
1.06	Decomposed Granite Mulch	4/L6.01
1.07	C.I.P. Concrete Pavement - 11th Street Spine, (Vehicular Grade)	1/L6.01 1/L6.04
1.08	Nature Play Rubber Surface	1/L7.60
1.09	Rubber Steps at Planting	3/L7.72
1.10	Play Sand	5/L7.60
1.11	Creek Cobbles	6/L6.02
1.12	C.I.P. Concrete Pavement, Type D	2/L6.01
1.13	Nature Play Rubber Surface at Slope	4/L7.60

2.00 Stone

2.01	Landscape Boulder Seating	1–2/L6.12
2.02	Boulder Embankment	1/L6.11
2.03	Small Boulder Embankment at Play Sand	2/L7.70
2.04	Large Boulder Embankment at Play Sand	1/L7.70
2.05	Boulders at Weir	1–4/L7.73
2.06	Boulder Embankment (at Peace Garden)	1–2/L6.18
2.07	Boulder Stepping Stone in Planting	2–3/L6.11
2.08	RipRap Profile Below	1/L6.14 1/L6.15
2.09	RipRap - Exposed	3/L6.13
2.10	RipRap - Seating Boulders	2/L6.13
2.11	RipRap - Stepping Stones	1/L6.13
2.12	RipRap - Exposed at Creek Path	4/L6.12
2.13	Salvaged Stone Steps	1/L6.16 1–5/L6.17

3.00 Stairs

3.01	Stair A	1/L6.31
3.02	Stair B	1/L6.32
3.02	Stair C	3/L6.33

4.00 Site Furnishings

4.01	Bicycle Racks	1/L6.41
4.02	Cordwood Seatwalls	1/L6.22
4.03	Steel Header	8–9/L6.01 2–3/L6.21
4.04	Range Fencing	1/L6.21
4.05	Log Steps	1–3/L7.71
4.06	Salvaged Seating Terrace Logs	4–5/L7.71
4.07	Salvaged Wood Benches	1–3/L6.25
4.08	Cordwood Gateway	1–4/L6.24
4.09	Library Plaza Benches	3/L6.41
4.10	Bear-Proof Trash Receptacles	4–5/L6.41
4.11	Picnic Tables at Promontory Grove	2/L6.42

5.00 Miscellaneous

5.01	Coir Fascine Logs	2–3/L4.06
5.02	Salvaged Stone Wall	3/L6.12
5.03	V-Notched Weir Structure	1–5/L7.73
5.04	Concrete Curb at Cottonwood	2/L7.72
5.05	Cobble Water Channel	7/L7.60
5.06	Salvaged Vertical Posts	1/L7.72
5.07	Concrete Curb at Play Sand	6/L7.60
5.08	Pedestrian Crossing Signage	1/L6.42
5.09	Bike Lane Striping	3/L6.42
5.10	Temporary Fence Post Footing	1/L6.33

CIVIC AREA PARK DEVELOPMENT PLAN
Boulder, CO

City of Boulder
Boulder Parks & Recreation
3198 Broadway
Boulder, CO 80304
Tel: 303.413.7233

TOM LEADER STUDIO
1015 Cornelia Street, Berkeley, CA 94710 | 510.524.3363

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06.20.2016	100% CD (TECH DOC 02)		
08.01.2016	100% CD (TECH DOC 03)		

Seal/Signature

ERIK DUANE PRINCE 1170 — 07/27/2016 — Original Signature Confirmed — 7-27-16 — STATE OF COLORADO — LICENSED LANDSCAPE ARCHITECT

Key Plan

North

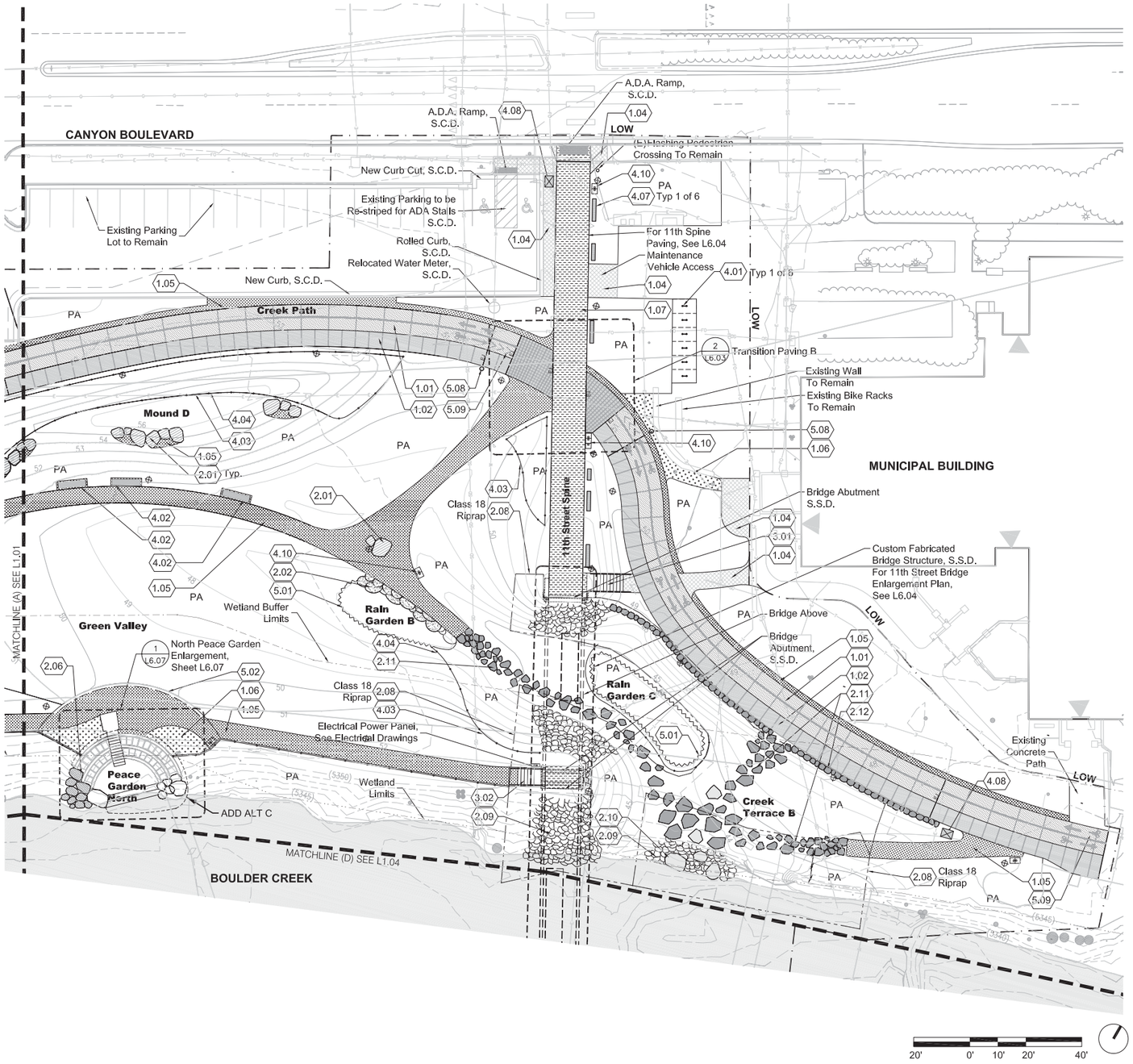
Scale: 1"=20'

FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title
MATERIALS PLAN – GREEN VALLEY WEST

Drawing Number
L1.01



MATERIALS LEGEND

- C.I.P. Concrete Pavement - Bike Path, See Specs. (Vehicular Grade)
- C.I.P. Concrete Pavement, Type A, See Specs. (Vehicular Grade)
- C.I.P. Concrete Pavement, Type B, See Specs. (Pedestrian Grade)
- C.I.P. Concrete Pavement, Type D, See Specs.
- C.I.P. Standard Concrete Pavement, See Specs. (Vehicular Grade)
- Stabilized Decomposed Granite
- Decomposed Granite Mulch
- C.I.P. Concrete Pavement - 11th Street Spine, See L6.04
- Nature Play Rubber Surface
- Play Sand
- Cobble Water Channel
- Creek Cobbles
- Landscape Boulder Seating, See L6.09, L6.10, & L7.21
- Boulders at Embankment, See L6.09, L6.10, & L7.21
- Boulders Steps at Peace Garden, See L6.09, L6.10, & L7.21
- Boulders at Peace Garden, See L6.09, L6.10, & L7.21
- RipRap Extents, See L6.09, L6.10, & L7.21
- RipRap - Exposed, See L6.09, L6.10, & L7.21
- RipRap - Seating Boulders, See L6.09, L6.10, & L7.21
- RipRap Stepping Stones / Boulder Stepping Stones, See L6.09, L6.10, & L7.21
- Salvaged Stone Steps
- Bicycle Racks
- Cordwood Gateway
- Cordwood Seatwall
- Salvaged Seating Terrace Logs
- Salvaged Wood Benches
- Rance Fencing
- Salvaged Log Steps/Vertical Posts
- Salvaged Vertical Posts
- Steel Header
- Coir Fascine Logs
- EJ Expansion Joint
- PA Planted Area
- Building Entrance
- Light Poles, See LE.01-LE.04
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- Boulder Regulatory Wetlands Limits
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- Existing Tree to Remain
- LOW Limit of Work

MATERIALS KEY

1.00 Pavement

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1.03	C.I.P. Concrete Pavement, Type B (Pedestrian Grade)	2/L6.01
1.04	C.I.P. Standard Concrete Pavement (Vehicular Grade)	1/L6.01
1.05	Stabilized Decomposed Granite	3/L6.01
1.06	Decomposed Granite Mulch	4/L6.01
1.07	C.I.P. Concrete Pavement - 11th Street Spine, (Vehicular Grade)	1/L6.01 1/L6.04
1.08	Nature Play Rubber Surface	1/L7.60
1.09	Rubber Steps at Planting	3/L7.72
1.10	Play Sand	5/L7.60
1.11	Creek Cobbles	6/L6.02
1.12	C.I.P. Concrete Pavement, Type D	2/L6.01
1.13	Nature Play Rubber Surface at Slope	4/L7.60

2.00 Stone

2.01	Landscape Boulder Seating	1–2/L6.12
2.02	Boulder Embankment	1/L6.11
2.03	Small Boulder Embankment at Play Sand	2/L7.70
2.04	Large Boulder Embankment at Play Sand	1/L7.70
2.05	Boulders at Weir	1–4/L7.73
2.06	Boulder Embankment (at Peace Garden)	1–2/L6.18
2.07	Boulder Stepping Stone in Planting	2–3/L6.11
2.08	RipRap Profile Below	1/L6.14 1/L6.15
2.09	RipRap - Exposed	3/L6.13
2.10	RipRap - Seating Boulders	2/L6.13
2.11	RipRap - Stepping Stones	1/L6.13
2.12	RipRap - Exposed at Creek Path	4/L6.12
2.13	Salvaged Stone Steps	1/L6.16 1–5/L6.17

3.00 Stairs

3.01	Stair A	1/L6.31
3.02	Stair B	1/L6.32
3.02	Stair C	3/L6.33

4.00 Site Furnishings

4.01	Bicycle Racks	1/L6.41
4.02	Cordwood Seatwalls	1/L6.22
4.03	Steel Header	8–9/L6.01 2–3/L6.21
4.04	Range Fencing	1/L6.21
4.05	Log Steps	1–3/L7.71
4.06	Salvaged Seating Terrace Logs	4–5/L7.71
4.07	Salvaged Wood Benches	1–3/L6.25
4.08	Cordwood Gateway	1–4/L6.24
4.09	Library Plaza Benches	3/L6.41
4.10	Bear-Proof Trash Receptacles	4–5/L6.41
4.11	Picnic Tables at Promontory Grove	2/L6.42

5.00 Miscellaneous

5.01	Coir Fascine Logs	2–3/L4.06
5.02	Salvaged Stone Wall	3/L6.12
5.03	V-Notched Weir Structure	1–5/L7.73
5.04	Concrete Curb at Cottonwood	2/L7.72
5.05	Cobble Water Channel	7/L7.60
5.06	Salvaged Vertical Posts	1/L7.72
5.07	Concrete Curb at Play Sand	6/L7.60
5.08	Pedestrian Crossing Signage	1/L6.42
5.09	Bike Lane Striping	3/L6.42
5.10	Temporary Fence Post Footing	1/L6.33

CIVIC AREA PARK DEVELOPMENT PLAN
Boulder, CO

BOULDER CIVIC AREA

City of Boulder
Boulder Parks & Recreation
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Seal/Signature

ERIK DUANE PRINCE 1170 — STATE OF COLORADO — LICENSED LANDSCAPE ARCHITECT

Key Plan

North

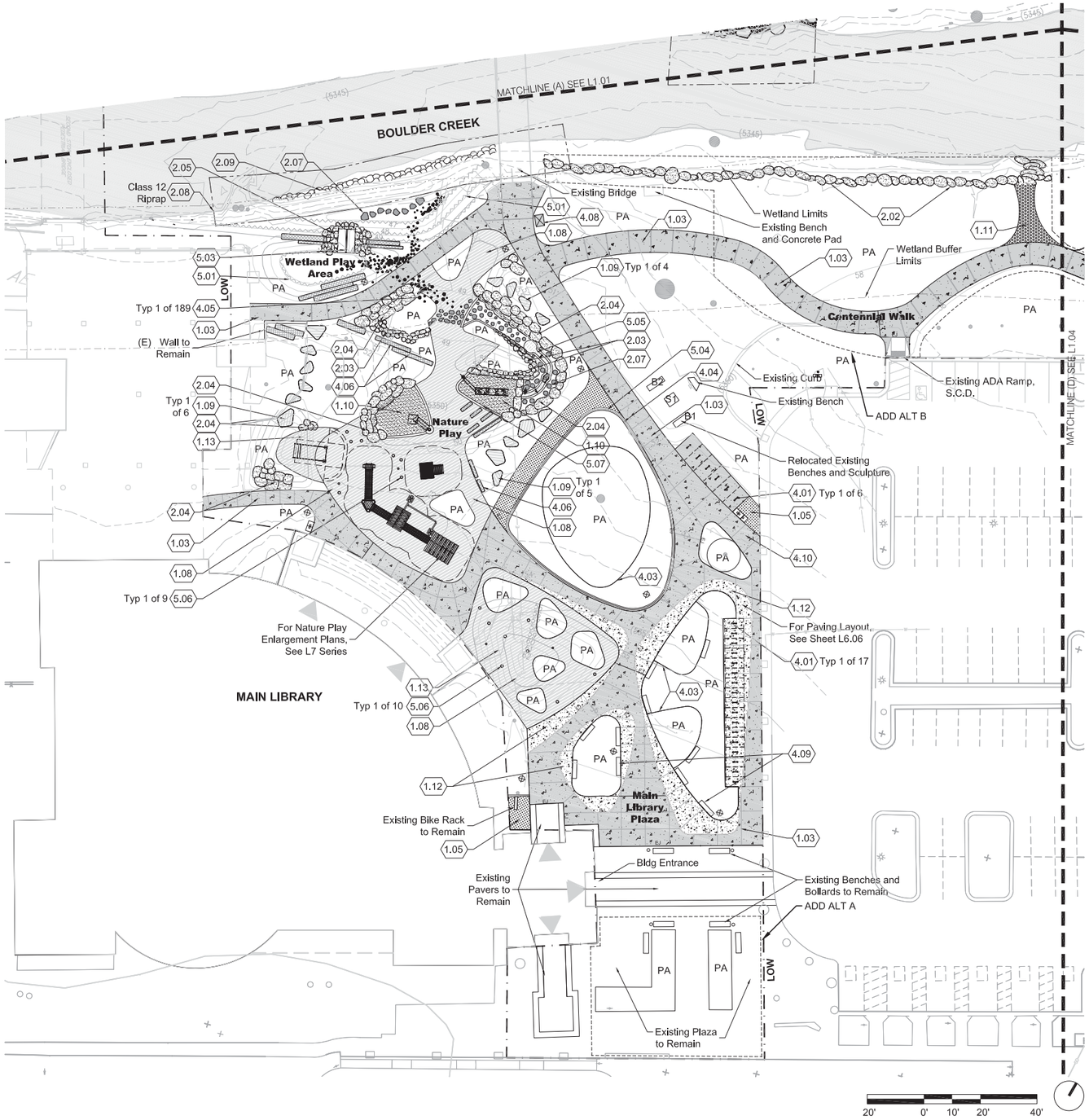
Scale: 1"=20'

FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title
MATERIALS PLAN – GREEN VALLEY EAST

Drawing Number
L1.02



MATERIALS LEGEND

- C.I.P. Concrete Pavement - Bike Path, See Specs. (Vehicular Grade)
- C.I.P. Concrete Pavement, Type A, See Specs. (Vehicular Grade)
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- C.I.P. Concrete Pavement, Type D, See Specs.
- C.I.P. Standard Concrete Pavement, See Specs. (Vehicular Grade)
- Stabilized Decomposed Granite
- Decomposed Granite Mulch
- C.I.P. Concrete Pavement - 11th Street Spine, See L6.04
- Nature Play Rubber Surface
- Play Sand
- Cobble Water Channel
- Creek Cobbles
- Landscape Boulder Seating, See L6.09, L6.10, & L7.21
- Boulders at Embankment, See L6.09, L6.10, & L7.21
- Boulders Steps at Peace Garden, See L6.09, L6.10, & L7.21
- Boulders at Peace Garden, See L6.09, L6.10, & L7.21
- RipRap Extents, See L6.09, L6.10, & L7.21
- RipRap - Exposed, See L6.09, L6.10, & L7.21
- RipRap - Seating Boulders, See L6.09, L6.10, & L7.21
- RipRap Stepping Stones / Boulder Stepping Stones, See L6.09, L6.10, & L7.21
- Salvaged Stone Steps
- Bicycle Racks
- Cordwood Gateway
- Cordwood Seatwall
- Salvaged Seating Terrace Logs
- Salvaged Wood Benches
- Rance Fencing
- Salvaged Log Steps/Vertical Posts
- Salvaged Vertical Posts
- Steel Header
- Coir Fascine Logs
- EJ — Expansion Joint
- PA — Planted Area
- Building Entrance
- Light Poles, See LE.01-LE.04
- Bear Proof Trash Receptacles
- 53 — Proposed Contour
- (5350) — Existing Contour, S.C.D.
- Boulder Regulatory Wetlands Limits
- Boulder Regulatory Wetlands Buffer Limits
- Existing Tree to Remain
- LOW — Limit of Work

MATERIALS KEY

1.00 Pavement

1.01	C.I.P. Concrete Pavement - Bike Path (Vehicular Grade)	1/L6.01
1.02	C.I.P. Concrete Pavement, Type A (Vehicular Grade)	1/L6.01
1.03	C.I.P. Concrete Pavement, Type B (Pedestrian Grade)	2/L6.01
1.04	C.I.P. Standard Concrete Pavement (Vehicular Grade)	1/L6.01
1.05	Stabilized Decomposed Granite	3/L6.01
1.06	Decomposed Granite Mulch	4/L6.01
1.07	C.I.P. Concrete Pavement - 11th Street Spine (Vehicular Grade)	1/L6.01, 1/L6.04
1.08	Nature Play Rubber Surface	1/L7.60
1.09	Rubber Steps at Planting	3/L7.72
1.10	Play Sand	5/L7.60
1.11	Creek Cobbles	6/L6.02
1.12	C.I.P. Concrete Pavement, Type D	2/L6.01
1.13	Nature Play Rubber Surface at Slope	4/L7.60

2.00 Stone

2.01	Landscape Boulder Seating	1–2/L6.12
2.02	Boulder Embankment	1/L6.11
2.03	Small Boulder Embankment at Play Sand	2/L7.70
2.04	Large Boulder Embankment at Play Sand	1/L7.70
2.05	Boulders at Weir	1–4/L7.73
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2.10	RipRap - Seating Boulders	2/L6.13
2.11	RipRap - Stepping Stones	1/L6.13
2.12	RipRap - Exposed at Creek Path	4/L6.12
2.13	Salvaged Stone Steps	1/L6.16, 1–5/L6.17

3.00 Stairs

3.01	Stair A	1/L6.31
3.02	Stair B	1/L6.32
3.02	Stair C	3/L6.33

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ERIK DUANE PRINCE 1170 STATE OF COLORADO LICENSED LANDSCAPE ARCHITECT

Key Plan

North

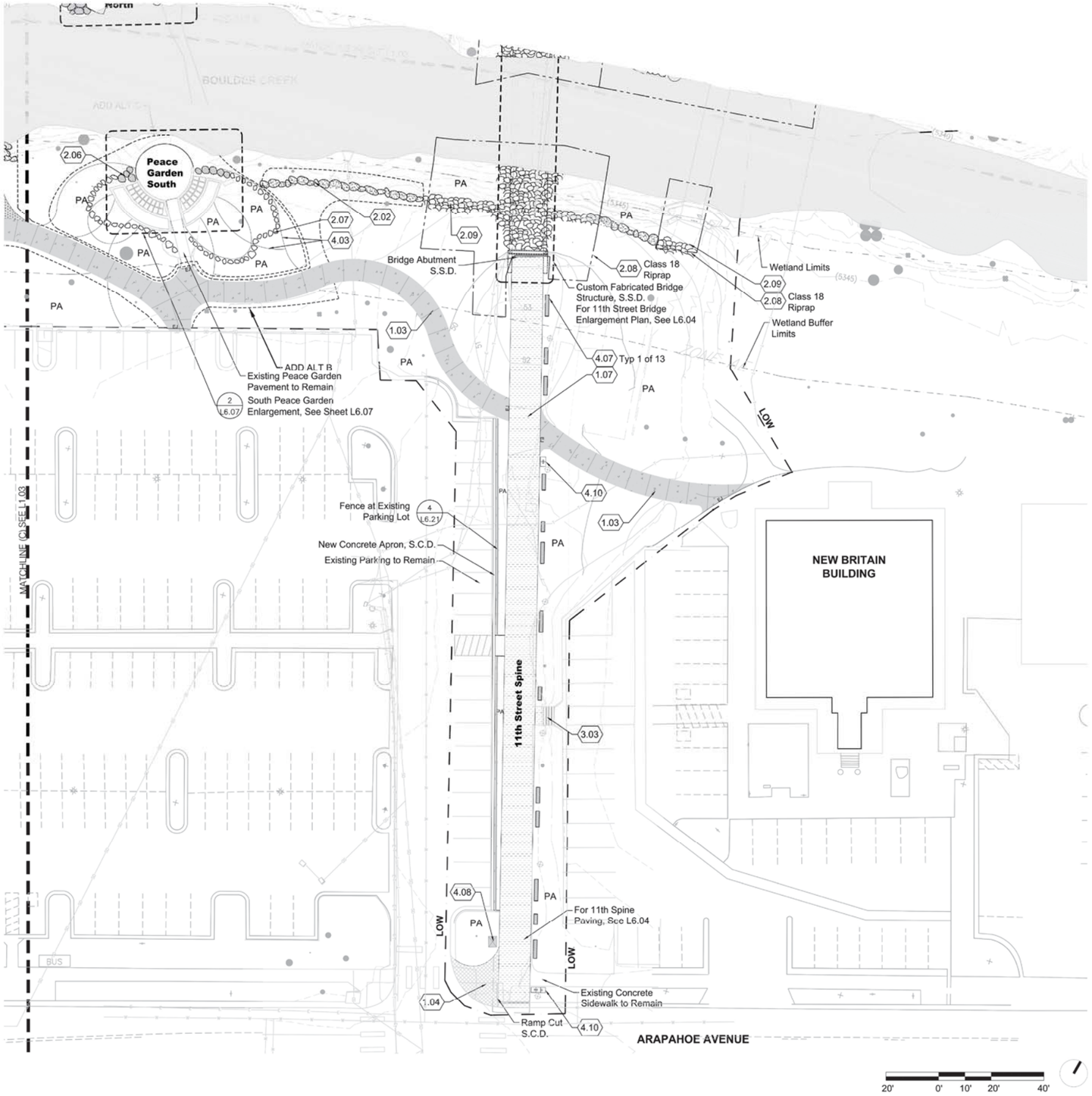
Scale: 1"=20'

FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title
MATERIALS PLAN – NATURE PLAY

Drawing Number
L1.03



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1.08	Nature Play Rubber Surface	1/L7.60
1.09	Rubber Steps at Planting	3/L7.72
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1.11	Creek Cobbles	6/L6.02
1.12	C.I.P. Concrete Pavement, Type D	2/L6.01
1.13	Nature Play Rubber Surface at Slope	4/L7.60

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2.02	Boulder Embankment	1/L6.11
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2.04	Large Boulder Embankment at Play Sand	1/L7.70
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2.09	RipRap - Exposed	3/L6.13
2.10	RipRap - Seating Boulders	2/L6.13
2.11	RipRap - Stepping Stones	1/L6.13
2.12	RipRap - Exposed at Creek Path	4/L6.12
2.13	Salvaged Stone Steps	1/L6.16 1–5/L6.17

3.00 Stairs

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3.02	Stair C	3/L6.33

4.00 Site Furnishings

4.01	Bicycle Racks	1/L6.41
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4.06	Salvaged Seating Terrace Logs	4–5/L7.71
4.07	Salvaged Wood Benches	1–3/L6.25
4.08	Cordwood Gateway	1–4/L6.24
4.09	Library Plaza Benches	3/L6.41
4.10	Bear-Proof Trash Receptacles	4–5/L6.41
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5.10	Temporary Fence Post Footing	1/L6.33

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Key Plan

A B C D

North

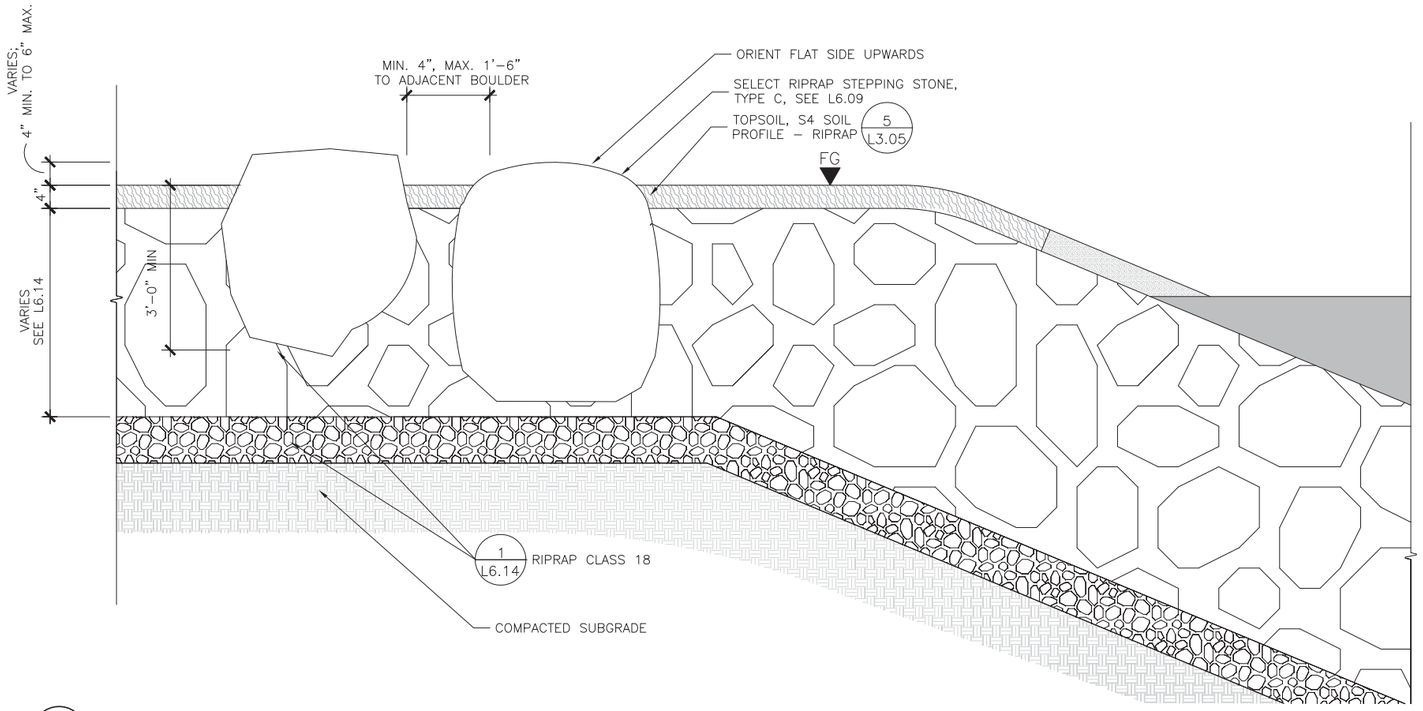
Scale: 1"=20'

FINAL LANDSCAPE PLANS

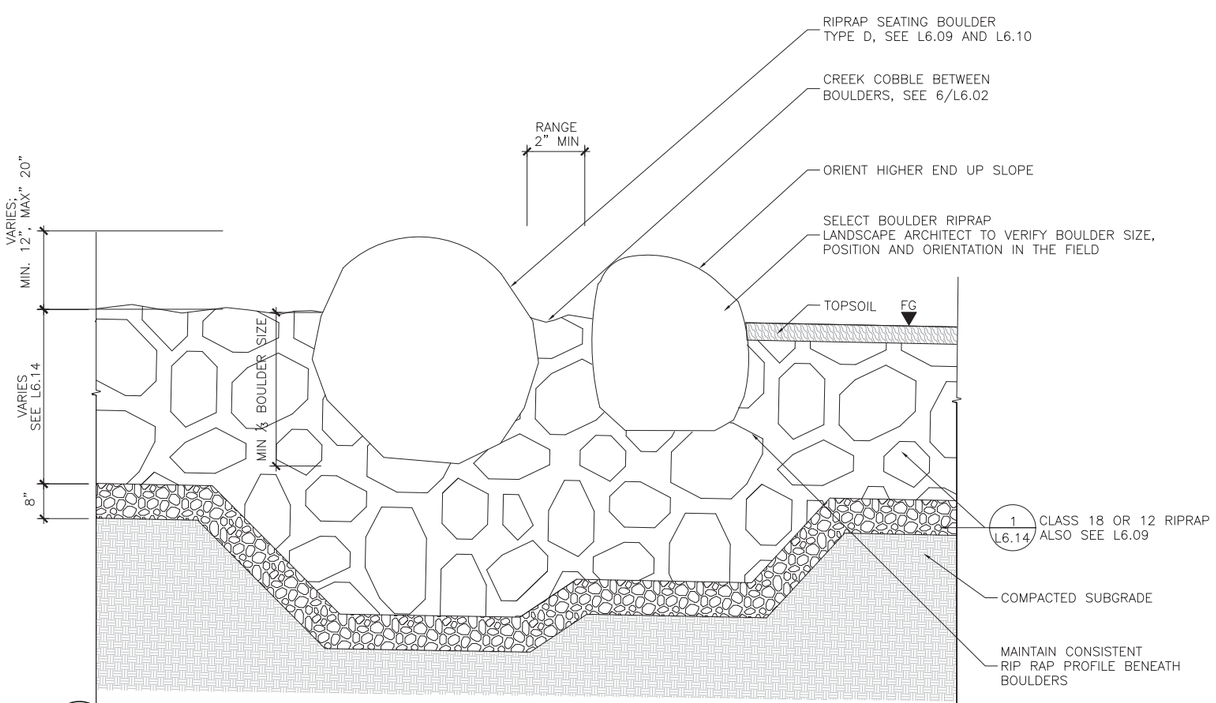
Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title
MATERIALS PLAN - 11TH STREET

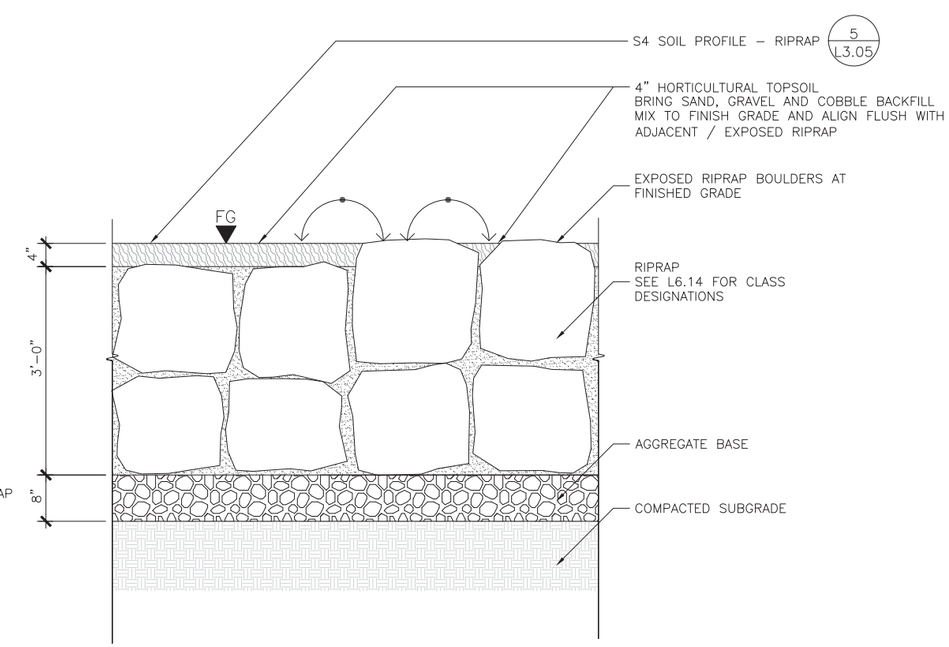
Drawing Number
L1.04



1 L6.13 RIPRAP - STEPPING STONES
SCALE: 1" = 1'-0"



2 L6.13 RIPRAP - SEATING BOULDERS
SCALE: 3/4" = 1'-0"



3 L6.13 RIPRAP EXPOSED
SCALE: 1" = 1'-0"

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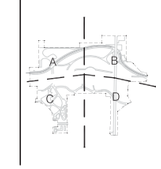


North

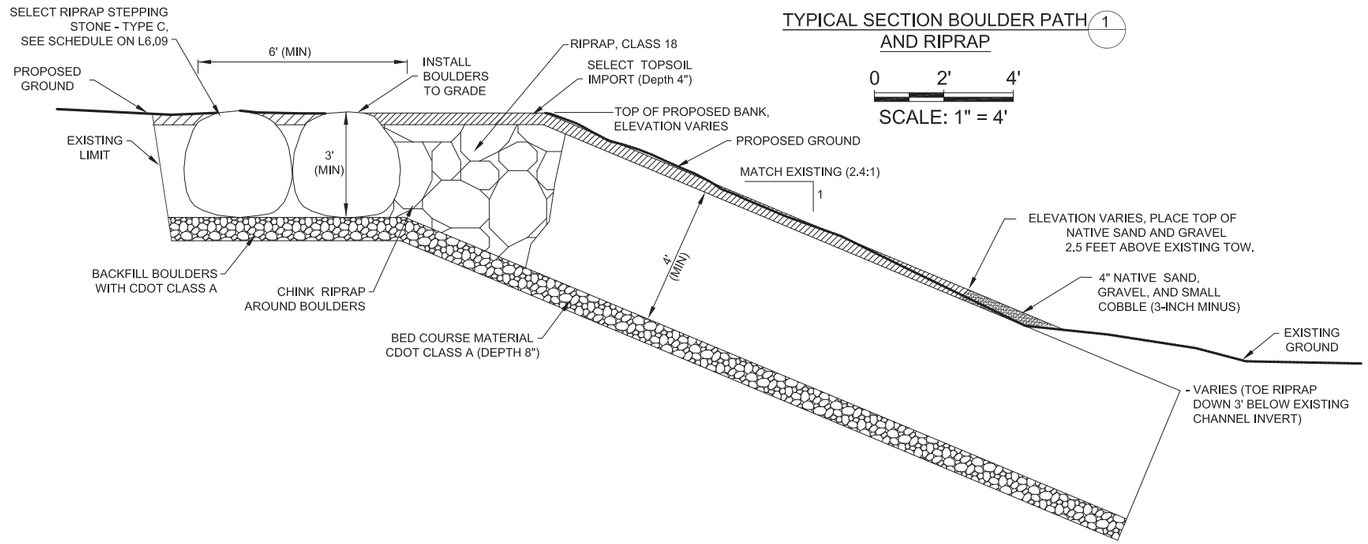
Scale: VARIES

FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title
BOULDER DETAILS

Drawing Number
L6.13



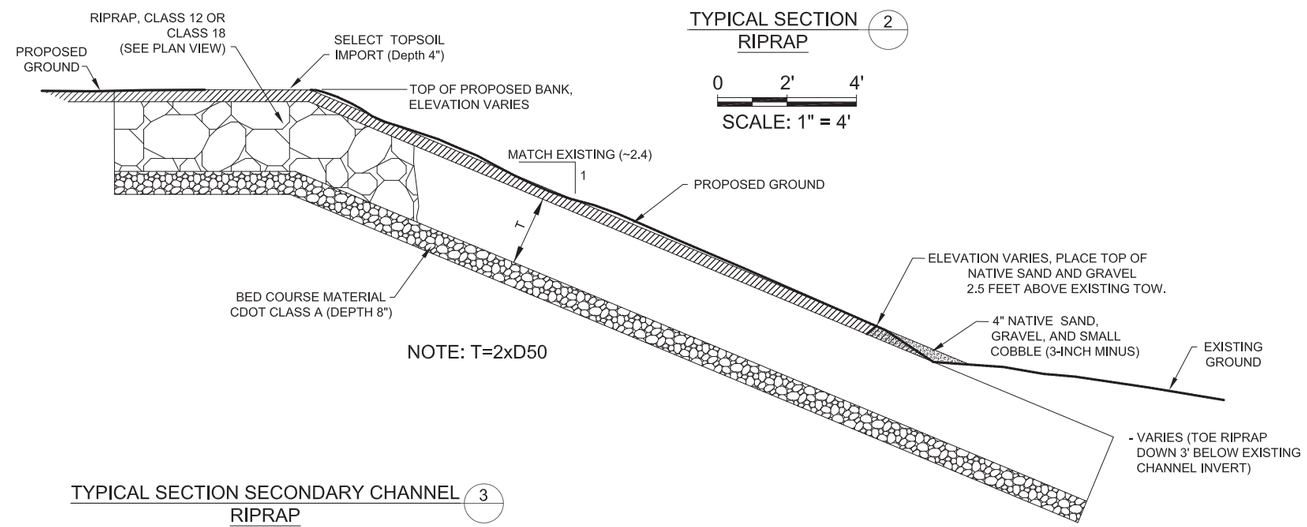
TYPICAL SECTION BOULDER PATH AND RIPRAP (1)

0 2' 4'

SCALE: 1" = 4'

RIPRAP BACKFILL:

1. UPON COMPLETION OF ROCK RIPRAP PLACEMENT, A MIXTURE OF NATIVE SAND, GRAVEL AND SMALL COBBLE (3-INCH MINUS) SHALL BE USED TO BACKFILL ALL RIPRAP UP TO THE TOP OF RIPRAP.
2. APPLY WATER TO ALL RIPRAP AREAS TO FORCE THE IRRIGATION OF BACKFILL MATERIAL DEEP INTO RIPRAP VOIDS.
3. MANUALLY PROBE BACKFILL ARE WITH A ROD TO CONFIRM FULL PENETRATION OF THE BACKFILL MATERIALS.
4. REPEAT STEPS #1, #2, AND #3 TWO ADDITIONAL TIMES.
5. PLACE A FINAL LAYER OF BACKFILL MATERIAL TO BRING THE BACKFILL MATERIAL UP TO THE FINISHED GRADE, OR TO THE BASE OF TOPSOIL, AS SHOWN IN THIS TYPICAL SECTION.



TYPICAL SECTION RIPRAP (2)

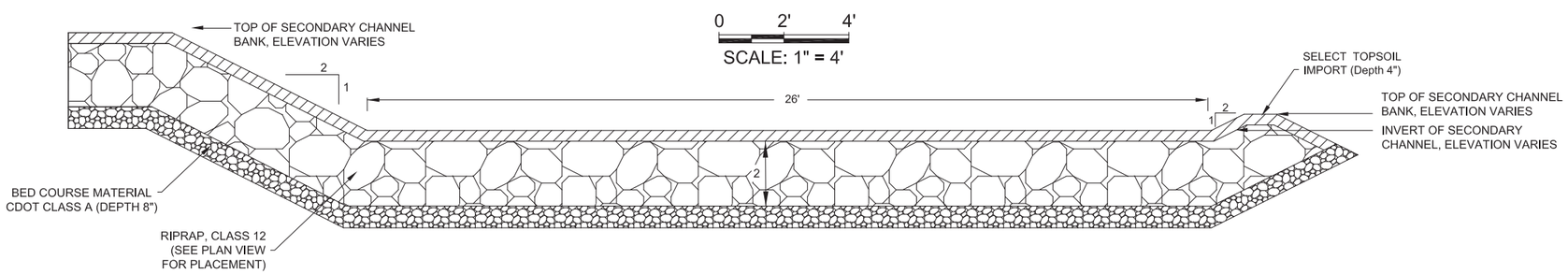
0 2' 4'

SCALE: 1" = 4'

TYPICAL SECTION SECONDARY CHANNEL RIPRAP (3)

0 2' 4'

SCALE: 1" = 4'



1 L6.14 RIPRAP DETAILS

SCALE: 1" = 4'

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Boulder, CO

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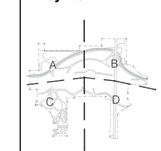
Seal/Signature

Key Plan



North

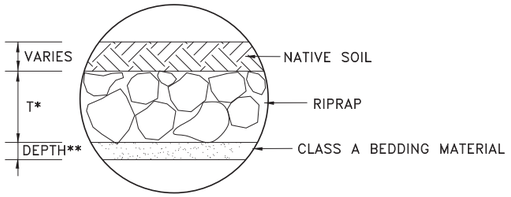
Scale: VARIES

FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title
RIPRAP DETAILS

Drawing Number
L6.14



* DEPTH = 2X CLASS IN INCHES
(E.G., CLASS 18 = 36 INCHES)
** DEPTH = 8 INCHES FOR CLASS 18 RIPRAP

NOTES:

1. ALL RIPRAP PLACED ON CHANNEL SLOPES SHALL BE INSTALLED TO FINAL GRADES, THEN BACKFILLED WITH NATIVE SOIL OR SAND/GRAVEL TO FILL THE ROCK INTERSTICES TO RIPRAP SURFACE (SEE DETAIL 3, SHEET 18).
2. GENERAL PLACEMENT TECHNIQUES SHOULD RESULT IN LARGER ROCK AT THE SURFACE WITH ROCK SECURELY INTERLOCKED AT THE DESIGN THICKNESS AND GRADE. COMPACTION AND LEVELING SHOULD RESULT IN MINIMAL VOIDS AND PROJECTIONS ABOVE GRADE.
3. REFER TO SPECIFICATIONS FOR MATERIALS AND PLACEMENT REQUIREMENTS FOR RIPRAP AND GRANULAR BEDDING MATERIAL.
4. THE COLOR OF THE RIPRAP SHALL BE BEIGE WITH WHITE/BEIGE/GRAY HUES AND APPROVED BY THE ENGINEER AND LANDSCAPE ARCHITECT PRIOR TO DELIVERY TO THE PROJECT SITE. COLOR SHALL BE CONSISTENT ON THE ENTIRE PROJECT AND SHALL MATCH THE COLOR OF ROCK TO BE USED FOR ALL OTHER PORTIONS OF THE WORK.

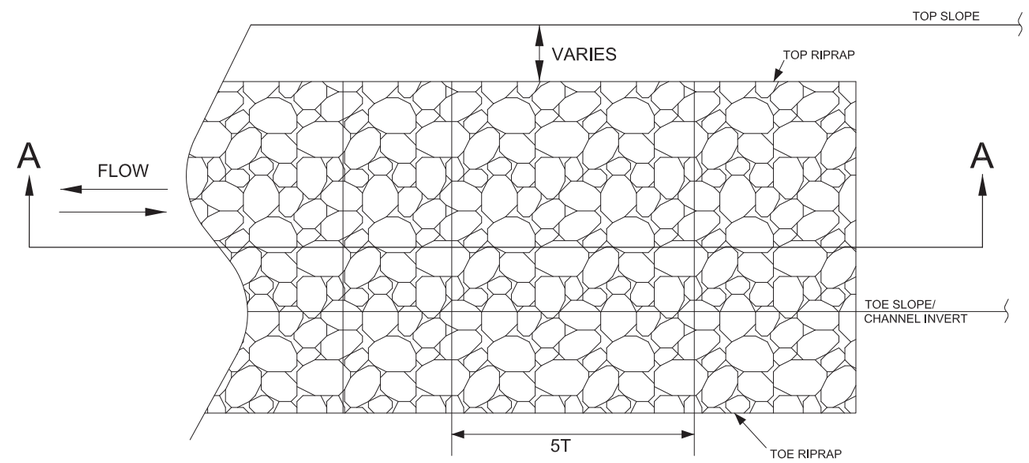
GRADATION OF CDOT CLASS A BEDDING MATERIAL	
SIEVE SIZE	PERCENT PASSING (BY WEIGHT)
3"	90–100
3/4"	20–90
#4	0–20
#200	0–3

GRADATION OF ROCK FOR CLASS 18 RIPRAP	
PERCENT SMALLER THAN GIVEN SIZE (BY WEIGHT)	INTERMEDIATE ROCK DIMENSION (POUNDS, INCHES)
70–100	1275, 30
50–70	655, 24
35–50	275, 18
2–10	10, 6

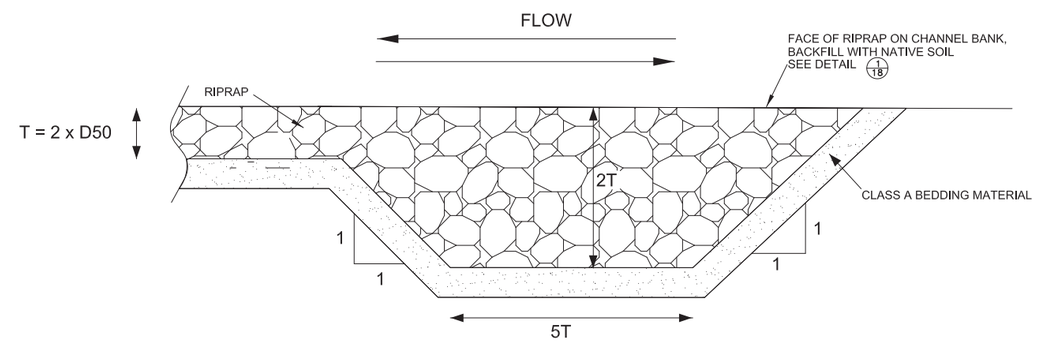
GRADATION OF ROCK FOR CLASS 12 RIPRAP	
PERCENT SMALLER THAN GIVEN SIZE (BY WEIGHT)	INTERMEDIATE ROCK DIMENSION (POUNDS, INCHES)
70–100	440, 21
50–70	275, 18
35–50	85, 12
2–10	3, 4

TYPICAL SECTION FOR RIPRAP (4)

N.T.S.



PLAN VIEW



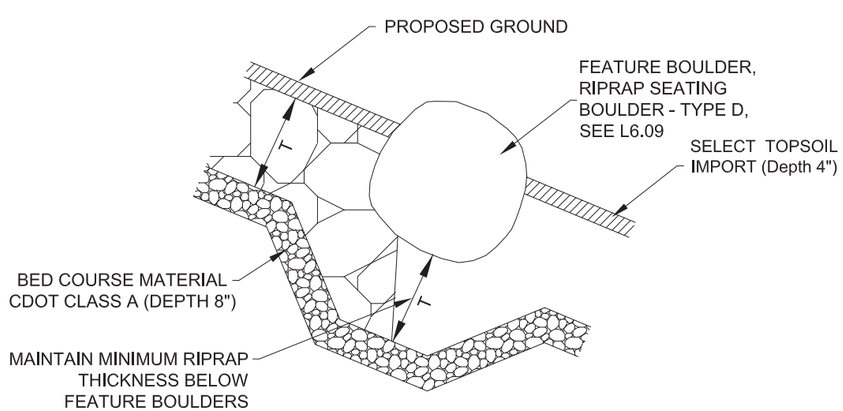
SECTION A–A
(TOE OF SLOPE TO TOP OF RIPRAP)

RIPRAP END PROTECTION (5)

N.T.S.

TYPICAL FEATURE BOULDER RIPRAP PLACEMENT (6)

N.T.S.



1 / L6.15 RIPRAP DETAILS
SCALE: NTS

CIVIC AREA PARK DEVELOPMENT PLAN
Boulder, CO

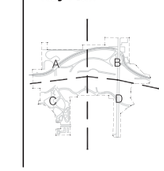
City of Boulder
Boulder Parks & Recreation
3198 Broadway
Boulder, CO 80304
Tel: 303.413.7233

TOM LEADER STUDIO
1015 Cornelia Street, Berkeley, CA 94710 | 510.524.3363

Date	Issuance	By	Check
11.13.2015	100% SD		
01.08.2016	50% DD		
01.28.2016	100% DD		
05.02.2016	90% CD (TECH DOC 01)		
06.20.2016	100% CD (TECH DOC 02)		
08.01.2016	100% CD (TECH DOC 03)		

Seal/Signature

Key Plan



North

Scale: VARIES

FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title
RIPRAP DETAILS

Drawing Number
L6.15

MEMORANDUM

Anderson Consulting Engineers, Inc.
Civil • Water Resources • Environmental

DATE: September 28, 2016 **ACE PROJECT NO.:** COBLDR19

TO: Jessica Stephens, City of Boulder Floodplain and Wetland Administrator

FROM: Jason Albert, Anderson Consulting Engineers, Inc. JMA
Greg Koch, Anderson Consulting Engineers, Inc. GJK

SUBJECT: Addendum to "Flood Hazard Analysis and Hydraulic Design of Erosion Countermeasures for the Boulder Civic Area Project": Construction Equipment and Trailer Flood Hazard Analysis

Construction Staging Flood Hazard Review

Staging Areas and Construction Fencing

ACE reviewed the proposed construction staging area and construction fence detail located in Attachment A along with the Section 9.3.3 (3) (B) of the Boulder Revised Code where it states; "All new construction, substantial improvements, and substantial modifications shall be constructed using methods and practices that minimize flood damage." and prepared the following response:

- In the event that flooding occurs during construction, it appears that the proposed temporary, chain link construction fencing would likely be pushed over, thereby limiting the potential flow obstruction. It is our understanding that the proposed tethering of the temporary construction fence is intended to prevent the fence from traveling downstream, thus not creating an obstruction at downstream bridges and culverts.

- In addition, besides the 6 connexes just east of the library, temporary buildings and other construction equipment will be located within existing parking lots thus eliminating public parking in these areas.

- The 6 connexs located just east of the library will be placed within ineffective flow areas and would not raise water surface elevations where they are located.

- In an effort to minimize potential adverse impacts, it is recommended that the contractor evacuate parked equipment from the floodplain if a flood warning is issued.

- The contractor has indicated that which would be located within the limits of the Municipal Building parking lot include the following:
  - PCL storage Conex Storage container
  - Storage for site signage and fencing
  - Storage for BMP materials
  - Equipment parking
  - Concrete washout area
  - Spill kit station
  - First aid station
  - Construction debris dumpster

All uncontained storage of movable objects such as first aid kits, spill kits, fencing materials, BMP maintenance materials, and extra signage will be kept inside the secure Conex storage trailers. All water closets will be located within the building flood shadows and secured.

- Finally, the proposed temporary structures and staging areas were modeled as blocked obstructions at Cross Sections 30795 and 30953 in the Corrected Effective model. Table 1 shows the resulting Proposed Staging 100-year water surface elevations compared to the Corrected Effective WSELs. The Proposed Staging model shows slightly lower 100-year WSELs at Cross Sections 30795 and 30953, therefore the temporary buildings within the 100-year floodplain will not adversely affect flood hazards. The proposed staging plan model will be included on the disc attached to the report.

Table 1. Corrected Effective vs Proposed Staging Condition 100-Year Water Surface Elevation Comparison.

Cross Section	100-Yr WSEL (ft, NAVD) Corrected Effective	100-Yr WSEL (ft, NAVD) Proposed Staging	ΔWSEL (feet) Staging – CE	Location
30635	5350.27	5350.27	0.00	
30674	5351.04	5351.04	0.00	
30730	5352.25	5352.25	0.00	DS Face of Proposed 11th Street Bridge
30753	5352.50	5352.50	0.00	US Face of Proposed 11th Street Bridge
30795	5353.36	5353.33	-0.03	Proposed Construction Staging Area
30953	5353.41	5353.40	-0.01	Proposed Construction Staging Area
31025	5353.31	5353.31	0.00	
31102	5354.58	5354.58	0.00	DS of Pedestrian Bridge
31132	5356.48	5356.48	0.00	US of Pedestrian Bridge
31206	5356.51	5356.51	0.00	
31269	5356.43	5356.43	0.00	Downstream of Library
31302	5358.94	5358.94	0.00	Upstream of Library
31400	5359.35	5359.35	0.00	
31632	5359.55	5359.55	0.00	Downstream of 9th Street

Construction Trailer Placement

The placement of the construction trailer for the BCA improvements is required to be placed in an area where it will not adversely impact flood hazards. Attachment B shows the proposed location of the Construction trailer, the 2013 Boulder Creek 100-year floodplain, the FEMA Effective 100-year floodplain and FEMA's Effective 100-year WSELs plotted on existing toprography floodplain. It should be noted that

in the vicinity of the proposed trailer location the Conveyance Zone is concurrent with the 100-year floodplain for both the 2013 and Effective flood hazard zones. The proposed placement of the trailer would be outside of the FEMA reviewed and approved 2013 Boulder Creek flood hazard zones; however, a small portion of the trailer will be inside the FEMA Effective 100-year floodplain and conveyance zone. To demonstrate that the proposed location of the construction trailer would not adversely affect effective flood hazards, the effective 100-year WSELs, published in the Boulder County FIS (December 2012), were plotted on existing topography; the resulting 100-year floodplain is shown on Attachment B as the Effective Water Surface Floodplain. The proposed location of the construction trailer was then moved outside of this floodplain. Consequently, it appears that the proposed trailer location will not adversely impact flood hazards, or be adversely affected by flood hazards, up to that associated with the 100-year event. The effective FIS profile showing the WSELs used to plot the Effective Water Surface Floodplain is located in Attachment C.

In addition, to the trailer, temporary parking spaces and construction fencing will be installed in the area, see Attachment B. All construction fencing will be anchored (see detail in Attachment A) and the majority of the fencing will be placed outside of the FEMA Effective flood hazards. It should be noted that all fencing being placed will be outside of the 2013 Boulder Creek 100-year flood hazard zones and the majority of the fencing being placed in the FEMA effective flood hazard zones will be located within ineffective flow areas, thus not adversely affecting the 100-year flood hazards. In the unlikely event that flooding occurs during construction, it appears that the proposed temporary, chain link construction fencing surrounding the construction trailer is designed to be pushed over by flood flows, thereby limiting the potential flow obstruction. It is our understanding that the proposed tethering of the temporary construction fence is intended to prevent the fence from traveling downstream, thus not creating an obstruction at downstream bridges and culverts. The maximum depth of water within the fenced area surrounding the construction trailer is approximately 12 inches.

Attachments:

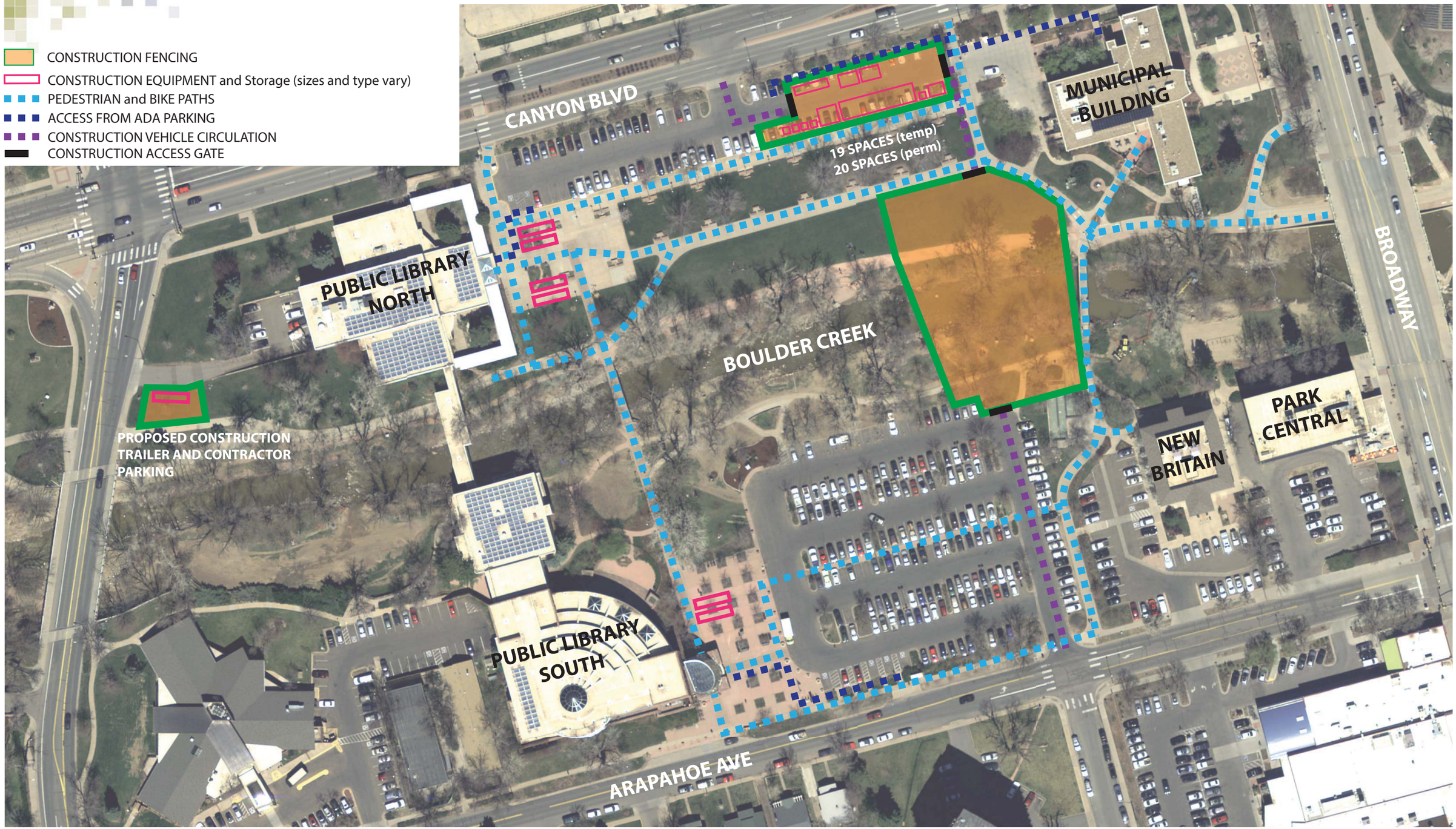
Attachment A: Proposed Staging Areas and Fencing Detail
Attachment B: Construction Trailer Location and Floodplain Figure
Attachment C: Effective FIS Profile

ATTACHMENT A

PROPOSED STAGING AREAS AND FENCING DETAIL

BOULDER CIVIC AREA PARK DEVELOPMENT
PHASE 1 CONSTRUCTION PHASING AND LOGISTICS PLAN
September 2016

COMMUNITY CULTURE & SAFETY



BOULDER CIVIC AREA PARK DEVELOPMENT
PHASE 2 CONSTRUCTION PHASING AND LOGISTICS PLAN
October 2016 through January 2017

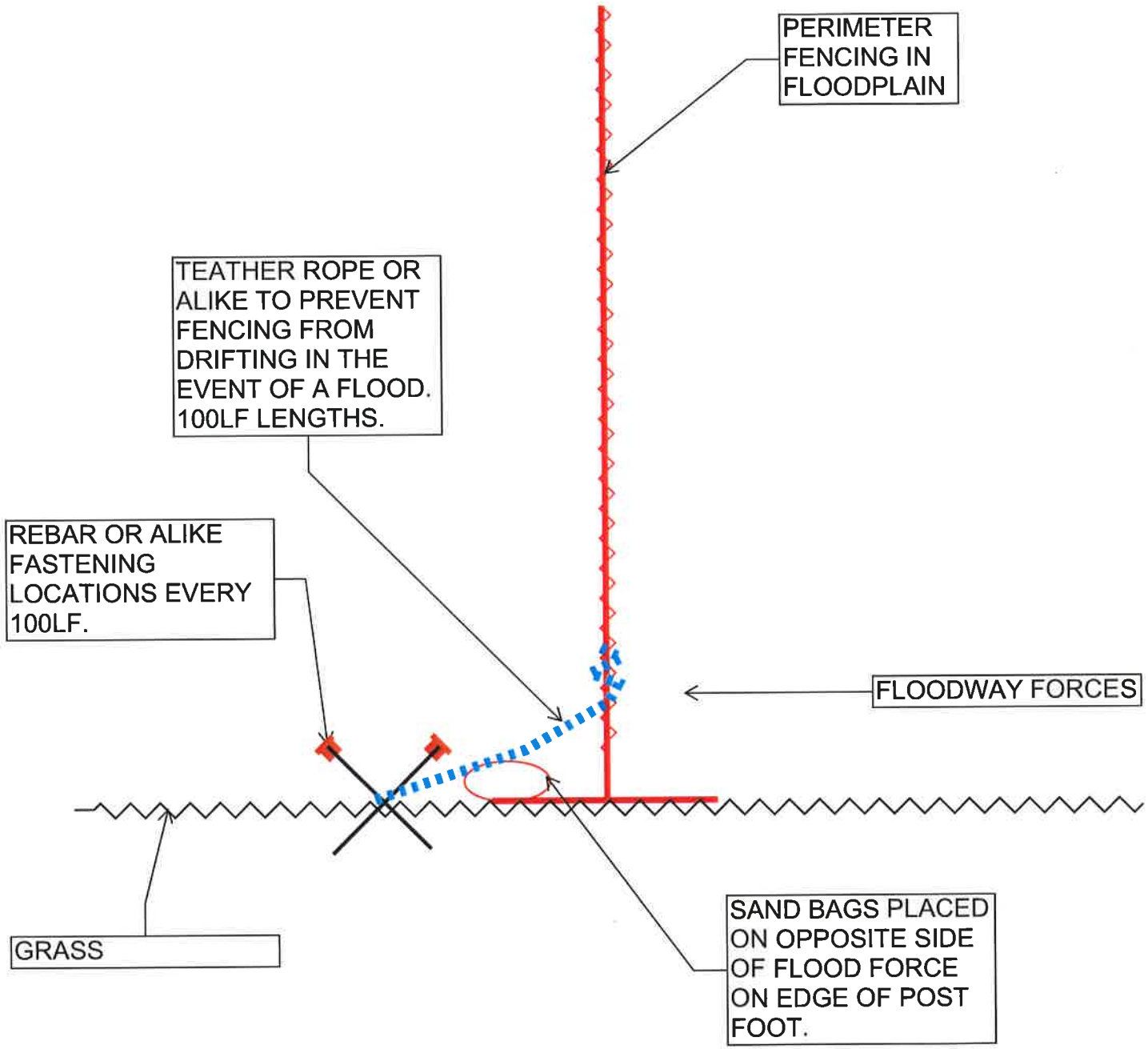
COMMUNITY CULTURE & SAFETY

BOULDER CIVIC AREA PARK DEVELOPMENT
PHASE 2 CONSTRUCTION PHASING AND LOGISTICS PLAN
February 2017 through March 2017

BOULDER CIVIC AREA PARK DEVELOPMENT
PHASE 3 CONSTRUCTION PHASING AND LOGISTICS PLAN
April 2017 through August 2017

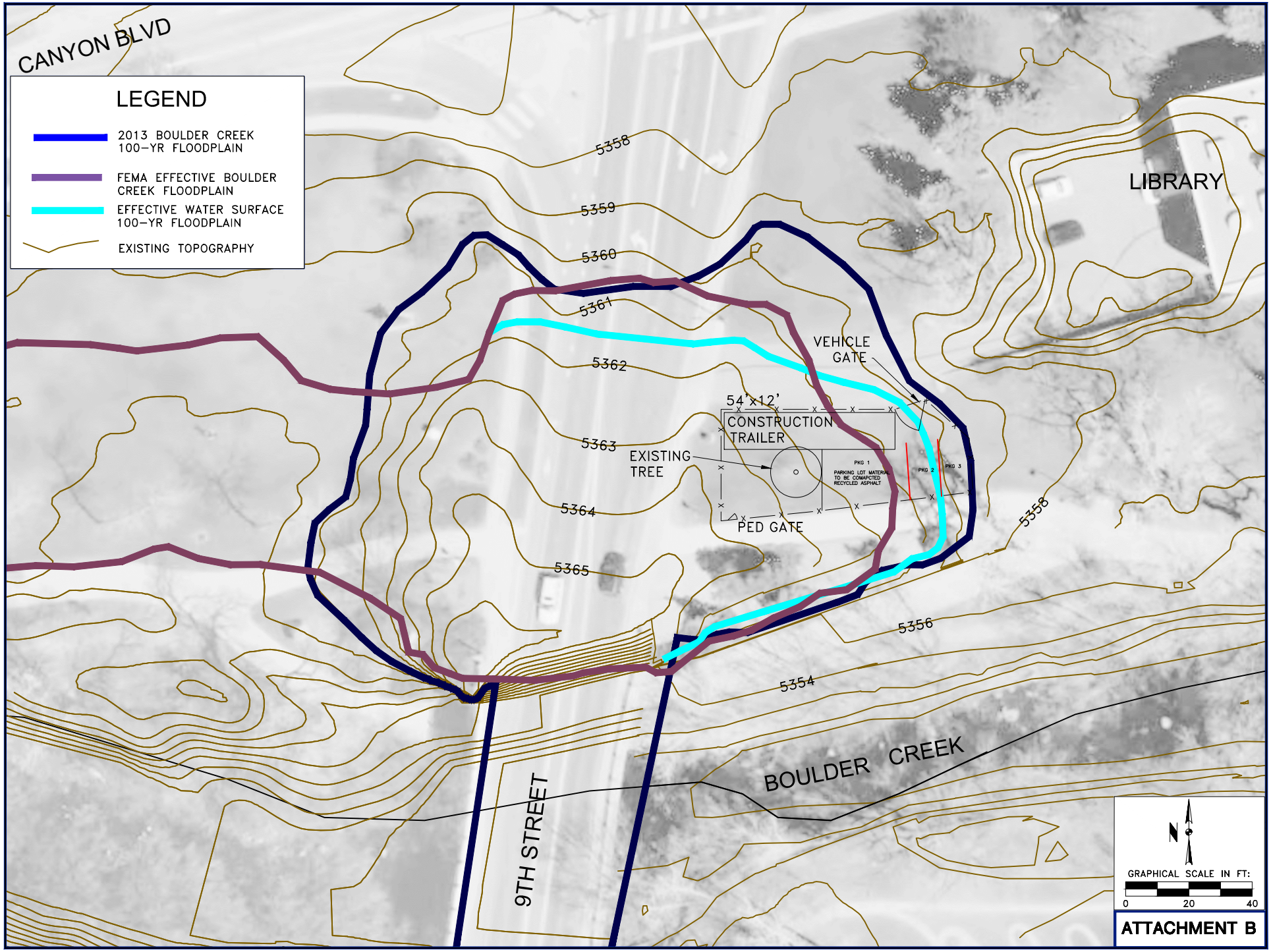
COMMUNITY CULTURE & SAFETY

- CONSTRUCTION FENCING
- CONSTRUCTION EQUIPMENT and Storage (sizes and type vary)
- PEDESTRIAN and BIKE PATHS
- ACCESS FROM ADA PARKING
- CONSTRUCTION VEHICLE CIRCULATION
- CONSTRUCTION ACCESS GATE


PERIMETER FENCING IN FLOODPLAIN
TEATHER ROPE OR ALIKE TO PREVENT FENCING FROM DRIFTING IN THE EVENT OF A FLOOD. 100LF LENGTHS.
REBAR OR ALIKE FASTENING LOCATIONS EVERY 100LF.
FLOODWAY FORCES
GRASS
SAND BAGS PLACED ON OPPOSITE SIDE OF FLOOD FORCE ON EDGE OF POST FOOT.

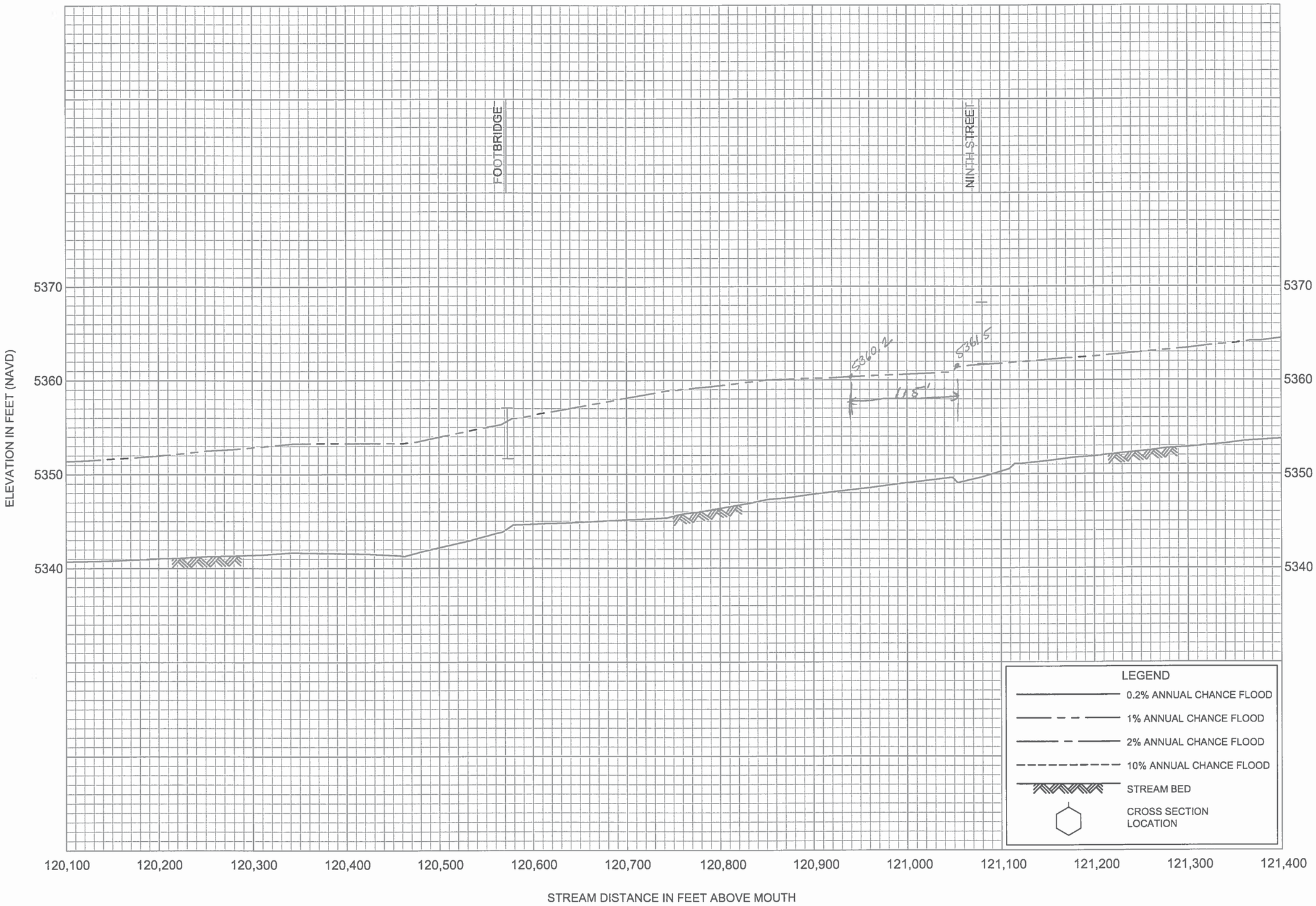
ATTACHMENT B

CONSTRUCTION TRAILER LOCATION AND FLOODPLAIN FIGURE


CANYON BLVD
LEGEND
2013 BOULDER CREEK 100-YR FLOODPLAIN
FEMA EFFECTIVE BOULDER CREEK FLOODPLAIN
EFFECTIVE WATER SURFACE 100-YR FLOODPLAIN
EXISTING TOPOGRAPHY
5358
5359
5360
5361
5362
5363
5364
5365
5356
5354
LIBRARY
VEHICLE GATE
54'x12'
CONSTRUCTION TRAILER
EXISTING TREE
PED GATE
PKG 1
PARKING LOT MATERIAL TO BE COMPACTED RECYCLED ASPHALT
PKG 2
PKG 3
BOULDER CREEK
9TH STREET
N
GRAPHICAL SCALE IN FT:
0
20
40
ATTACHMENT B

ATTACHMENT C

EFFECTIVE FIS PROFILE



FLOOD PROFILES

BOULDER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO

AND INCORPORATED AREAS

52P

MEMORANDUM

Anderson Consulting Engineers, Inc.
Civil • Water Resources • Environmental

DATE: September 28, 2016 **ACE PROJECT NO.:** COBLDR19

TO: Jessica Stephens, City of Boulder Floodplain and Wetland Administrator

FROM: Jason Albert, Anderson Consulting Engineers, Inc. JMA
Greg Koch, Anderson Consulting Engineers, Inc. GJK

SUBJECT: Addressing Factors from Boulder Revised Code Section 9-3-6 (d)

Anderson Consulting Engineers, Inc. (ACE) was tasked with addressing the 15 factors listed in the Boulder Revised Code 9-3-6 (d) for the proposed Boulder Civic Area 11th Street Bridge Project. Listed is BRC Section 9-3-6 (d) along with responses to the factors that were considered. In addition, relevant review criteria in Section 9-3-2(a) B.R.C 1981 pertaining to regulations governing the issuance of floodplain development permits, BRC Section 9-3-2 "Floodplains", 9-3-3 "Regulations Governing the 100-Year Floodplain", 9-3-4 "Regulations Governing the Conveyance Zone", and 9-3-5 "Regulations Governing the High Hazard Zone" have been met and addressed following the responses to 9-3-6 (d) as well as being reported in "Flood Hazard Analysis and Hydraulic Design of Erosion Countermeasures for the Boulder Civic Area Project" (ACE, August 2016).

Addressing Boulder Revised Code Section 9-3-6 (d)

Boulder Revised Code Section 9-3-6 (d)

When reviewing an application for a permit, the city manager shall determine which portions of the floodplain are affected by the particular development request and shall then apply the provisions of Sections 9-3-2, "Floodplains," 9-3-3, "Regulations Governing the One Hundred-Year Floodplain," 9-3-4, "Regulations Governing the Conveyance Zone," and 9-3-5, "Regulations Governing the High Hazard Zone," B.R.C. 1981, as applicable. The manager also shall determine whether the application meets the intent of this chapter prescribed by Subsection 9-3-2(a), B.R.C. 1981, after considering the following factors:

1. *The effects upon the efficiency or capacity of the conveyance zone and high hazard zone;*
    - The proposed 11th Street bridge and enhancements in the Boulder Civic Area will not adversely affect the Boulder Creek 100-year floodplain, conveyance zone and High Hazard Zone. A secondary swale like area was designed to convey flood waters more efficiently through the Boulder Civic Area increasing the capacity of the conveyance zone and high hazard zone.

2. *The effects upon lands upstream, downstream, and in the immediate vicinity;*
    - The proposed 11th Street bridge and enhancements in the Boulder Civic Area will not adversely affect the Boulder Creek 100-year floodplain, conveyance zone and High Hazard Zone. The proposed Boulder Creek flood hazard mapping and modeling match the corrected effective flood hazard mapping and modeling just downstream of the library and just downstream of the proposed 11th Street Bridge, therefore, lands upstream, downstream and within project area will not be adversely affected by the proposed enhancements for the Boulder Civic Area.
3. *The effects upon the one hundred-year flood profile;*
    - The proposed 11th Street bridge and enhancements in the Boulder Civic Area will not adversely affect the Boulder Creek 100-year floodplain, conveyance zone and High Hazard Zone. Proposed Boulder Creek 100-year water surface elevations are equal to or lower than corrected effective 100-year WSELs through the Boulder Civic Area, maintaining or reducing the 100-year flood profile.

4. *The effects upon any tributaries to the main stream, drainage ditches, and any other drainage facilities or systems;*
    - The proposed 11th Street bridge and enhancements in the Boulder Civic Area will not adversely affect the Boulder Creek 100-year floodplain, conveyance zone and High Hazard Zone. Therefore; the proposed Boulder Civic Area enhancements will not adversely affect any tributaries to the main stream, drainage ditches, and any other drainage facilities or systems within the project area. In addition, proposed grading within the Boulder Civic Area promotes improved drainage through the project area.

5. *Whether additional public expenditures for flood protection or prevention will be required;*
    - The proposed 11th Street bridge and enhancements in the Boulder Civic Area will not adversely affect the Boulder Creek 100-year floodplain, conveyance zone and High Hazard Zone. Proposed Boulder Creek 100-year water surface elevations are equal to or lower than corrected effective 100-year WSELs through the Boulder Civic Area, therefore, additional public expenditures for flood protection or prevention will not be required.

6. *Whether the proposed use is for human occupancy;*

    - No new inhabitable structures are proposed in the Boulder Civic Area Project.

7. *The potential danger to persons upstream, downstream, and in the immediate vicinity;*

    - The proposed 11th Street bridge and enhancements in the Boulder Civic Area will not adversely affect the Boulder Creek 100-year floodplain, conveyance zone and High Hazard Zone. The proposed Boulder Creek flood hazard mapping and modeling match the corrected effective flood hazard mapping and modeling just downstream of the library and just downstream of proposed 11th Street Bridge. Potential dangers to persons upstream, downstream and within project area will not be adversely affected by the proposed enhancements for the Boulder Civic Area.

8. *Whether any proposed changes in a watercourse will have an adverse environmental effect on the watercourse, including, without limitation, stream banks and streamside trees and vegetation;*

    - The Boulder Civic Area project will not adversely impact the watercourse of the Boulder Creek.

      The proposed 11th Street bridge and enhancements in the Boulder Civic Area will not adversely affect the Boulder Creek 100-year floodplain, conveyance zone and High Hazard Zone. In addition, the Boulder Civic Area design includes plantings and bank protection to limit, and enhance, the environmental impact of the project area.

      The proposed project will reestablish a streambank and wetland buffer severely degraded by years of unimpeded park use. Areas of the streambank will be reinforced with rip rap to minimize erosion. Also, areas of the wetland buffer will be re-established with a variety of native plantings.

9. *Whether any proposed water supply and sanitation systems and other utility systems can prevent disease, contamination, and unsanitary or hazardous conditions during a flood;*
    - Proposed water supply systems will be installed with appropriate back flow prevention devices or other best management practices to prevent disease, contamination, and unsanitary or hazardous conditions during a flood.

10. *Whether any proposed facility and its contents will be susceptible to flood damage and the effect of such damage;*
    - There are not any proposed facilities as part of the Boulder Civic Area project.

11. *The relationship of the proposed development to the Boulder Valley Comprehensive Plan and any applicable floodplain management programs;*
    - The proposed 11th Street bridge and enhancements in the Boulder Civic Area will not adversely affect the Boulder Creek 100-year floodplain, conveyance zone and High Hazard Zone.

      The proposed Boulder Civic Area project has a relationship to several goals of the current Boulder Valley Comprehensive Plan related to floodplain management. These include
      - Natural Environment: Restoring and enhancing habitat areas around the creek. Removal of non-native plant species.
      - Facilities and services: The proposed plan will meet or exceed all current flood related codes and regulations for streambank restoration.

12. *Whether safe access is available to the property in times of flood for ordinary and emergency vehicles;*
    - The proposed 11th Street bridge and enhancements in the Boulder Civic Area will not adversely affect the Boulder Creek 100-year floodplain, conveyance zone and High Hazard Zone. In addition, there are not any proposed inhabitable structures within the Boulder Civic Area design that will require access for

emergency vehicles during a flood, however, current access to the project area will not be adversely affected due to the enhancements.

13. *Whether the applicant will provide flood warning systems to notify floodplain occupants of impending floods;*
    - No flood warning systems are currently planned as part of the Boulder Civic Area project.

14. *Whether the cumulative effect of the proposed development with other existing and anticipated uses will increase flood heights; and*
    - The proposed 11th Street bridge and enhancements in the Boulder Civic Area will not adversely affect the Boulder Creek 100-year floodplain, conveyance zone and High Hazard Zone. Anticipated uses of the Boulder Civic Area are reflected in the proposed Boulder Creek hydraulic model, and the 100-year water surface elevations are equal to or lower than corrected effective 100-year WSELs through the Boulder Civic Area.

15. *Whether the expected heights, velocities, duration, rate of rise, and sediment transport of the floodwaters expected at the site will adversely affect the development or surrounding property.*
    - The proposed 11th Street bridge and enhancements in the Boulder Civic Area will not adversely affect the Boulder Creek 100-year floodplain, conveyance zone and High Hazard Zone. In addition;
        - The project will have no adverse impact on the development or surrounding property.
        - Proposed Boulder Creek 100-year water surface elevations are equal to or lower than corrected effective 100-year WSELs through the Boulder Civic Area
        - Floodwater velocities through the Boulder Civic Area are slightly higher due to the proposed enhancements, however since the Boulder Civic Area is located within the corrected effective 100-year floodplain, conveyance zone and high hazard zone and the proposed enhancements do not adversely

affect flood hazards, therefore, future development is not adversely impacted.

- The proposed enhancements will not affect the duration of floodwaters in Boulder Creek.
- The proposed enhancements will not change the rate of rise of floodwaters in Boulder Creek.
- The proposed enhancements will not change sediment transport characteristics of Boulder Creek.

Addressing Boulder Revised Code Section 9-3-4

9-3-4. - Regulations Governing the Conveyance Zone.
In the conveyance zone, the following standards apply:

a. *The provisions of Section 9-3-3, "Regulations Governing the One Hundred-Year Floodplain," B.R.C. 1981.*

- The provisions of section 9-3-3 are addressed in the previous section as well as reported in Flood Hazard Analysis and Hydraulic Design of Erosion Countermeasures for the Boulder Civic Area Project" (ACE, August 2016).

b. *The provisions of Section 9-3-5, "Regulations Governing the High Hazard Zone," B.R.C. 1981, if the land is also located in the high hazard zone.*

- The provisions of section 9-3-5 are addressed in the following section as well as reported in Flood Hazard Analysis and Hydraulic Design of Erosion Countermeasures for the Boulder Civic Area Project" (ACE, August 2016).

c. *All uses allowed under the provisions of Section 9-3-3, "Regulations Governing the One Hundred-Year Floodplain," B.R.C. 1981, if they are not prohibited by the underlying zoning district or any ordinance of this city, may be established, except that no person shall establish or change any use that results in any rise in the elevation of the one hundred-year flood.*

- Proposed Boulder Creek 100-year water surface elevations are equal to or lower than corrected effective 100-year WSELs through the Boulder Civic Area. In addition, the proposed 11th Street Bridge and Boulder Civic Area enhancements were designed to not adversely affect flood hazards.

d. *All structures allowed under Section 9-3-3, "Regulations Governing the One Hundred-Year Floodplain," B.R.C. 1981, may be established except that no person shall:*

1. Place any structure in the conveyance zone that will result in any rise in the elevation of the one hundred-year flood; or

2. Place any obstruction in the conveyance zone, except a device reasonably necessary for flood management if the device is designed and constructed to minimize the potential hazards to life and property.

- Proposed Boulder Creek 100-year water surface elevations are equal to or lower than corrected effective 100-year WSELs through the Boulder Civic Area. In addition, the proposed 11th Street Bridge and Boulder Civic Area enhancements were designed to not adversely affect flood hazards and to minimize the potential flood hazards to life and property.

e. *No person shall carry out any other development that results in any rise in the elevation of the one hundred-year flood.*

- Proposed Boulder Creek 100-year water surface elevations are equal to or lower than corrected effective 100-year WSELs through the Boulder Civic Area. In addition, the proposed 11th Street Bridge and Boulder Civic Area enhancements were designed to not adversely affect flood hazards.

f. *Localized rises within flood channels or on a specific parcel that is being developed are permissible if there is no adverse impact on nearby properties and there is no increase in the average water surface elevations along the cross sections of the floodplain.*

- Proposed Boulder Creek 100-year water surface elevations are equal to or lower than corrected effective 100-year WSELs through the Boulder Civic Area. In addition, the proposed 11th Street Bridge and Boulder Civic Area enhancements were designed to not adversely affect flood hazards within the project area and nearby properties.

g. *Localized rises on land owned or controlled by a government or government subdivision or agency, or within public drainage or flood control easements, are permissible if the following requirements have been satisfied:*

1. *The applicant has necessary property interests or permission to use land to allow the increase in any water surface elevation or there is no adverse impact to such land;*
2. *There are no insurable structures under the FEMA National Flood Insurance Program affected by the localized rise;*
3. *The applicant minimizes the amount of the localized rise in a flood elevation; and*
4. *The applicant complies with all necessary FEMA requirements, including, without limitation, obtaining a Conditional Letter of Map Revision (CLOMR) prior to development and a Letter of Map Revision (LOMR) upon completion of a project causing a localized rise in flood elevation.*

- Proposed Boulder Creek 100-year water surface elevations are equal to or lower than corrected effective 100-year WSELs through the Boulder Civic Area, therefore, there are not any localized rises in 100-year water surface elevations within the project area. In addition, the proposed 11th Street Bridge and Boulder Civic Area enhancements were designed to not adversely affect flood hazards within the project area and nearby properties. Following the completion of the proposed construction a LOMR reflecting the changes made in the project area will be prepared and submitted.

Addressing Boulder Revised Code Section 9-3-5

9-3-5. - Regulations Governing the High Hazard Zone.

In the high hazard zone of the floodplain, the following standards apply:

a) *The provisions of Section 9-3-3, "Regulations Governing the One Hundred-Year Floodplain," B.R.C. 1981.*

- The provisions of section 9-3-3 are addressed in a previous section as well as reported in Flood Hazard Analysis and Hydraulic Design of Erosion Countermeasures for the Boulder Civic Area Project" (ACE, August 2016).

b) *The provisions of Section 9-3-4, "Regulations Governing the Conveyance Zone," B.R.C. 1981, if the land is also located in the conveyance zone.*

- The provisions of section 9-3-4 are addressed in the previous section as well as reported in Flood Hazard Analysis and Hydraulic Design of Erosion Countermeasures for the Boulder Civic Area Project" (ACE, August 2016).

c) *All uses allowed under the provisions of Section 9-3-3, "Regulations Governing the One Hundred-Year Floodplain," B.R.C. 1981, if they are not prohibited by the underlying zoning district or any other ordinance of the city, may be established, except that no person shall:*

1. *Change the use of an existing structure intended for human occupancy from a nonresidential use to a residential use or use as a school, daycare center, group home, residential care facility, or congregate care facility.*

   - There are no changes to inhabitable structures as part of the Boulder Civic Area project.

2. *Establish any new parking lot for motor vehicles.*

   - There is no new permanent parking lot for motor vehicles as part of the Boulder Civic Area project.

3. *Establish any campground.*

   - The Boulder Civic Area project will not establish a new campground.

d) *All structures allowed under the provisions of Section 9-3-3, "Regulations Governing the One Hundred-Year Floodplain," B.R.C. 1981, may be established, except that no person shall:*

1. *Construct or place any new structure intended for human occupancy.*

   - There are no new inhabitable structures proposed as part of the Boulder Civic Area project.

2. *Expand, enlarge, or make a substantial modification or substantial improvement to any existing structure intended for human occupancy. Notwithstanding this provision, a person may reconstruct a non-flood-damaged structure or portion thereof, which otherwise does constitute a substantial improvement, under the provisions of Subparagraphs 9-3-3(a)(16)(C) and (a)(16)(D), B.R.C. 1981.*

   - There are no changes to inhabitable structures as part of the Boulder Civic Area project.

e) Unconditioned, unenclosed building elements such as balconies, awnings, and roof overhangs may extend up to four feet into the high hazard zone if completely located above the flood protection elevation and the remainder of the structure complies with this chapter.

- There are no changes to inhabitable structures as part of the Boulder Civic Area project, including the addition of balconies, awnings, and roof overhangs

Consultants in Natural Resources and the Environment

DENVER • DURANGO • HOTCHKISS • IDAHO

CITY OF BOULDER
WETLAND PERMIT APPLICATION
BOULDER CIVIC AREA
BOULDER COUNTY, COLORADO

Prepared for—

City of Boulder, Public Works - Utilities
1739 Broadway Street
Boulder, Colorado 80302
303-441-4077

Prepared by—

ERO Resources Corporation
1842 Clarkson Street
Denver, Colorado 80218
303-830-1188

ERO Project #6439

Revised September 2, 2016

ERO Resources Corp.
1842 Clarkson St.
Denver, CO 80218
303.830.1188
www.eroresources.com

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CITY OF BOULDER
WETLAND PERMIT APPLICATION
BOULDER CIVIC AREA
BOULDER COUNTY, COLORADO

REVISED SEPTEMBER 2, 2016

Introduction

On behalf of the City of Boulder (City) Parks and Recreation, ERO Resources Corporation (ERO) submits this document as a portion of the application for a City Standard Wetland Permit as described in Chapter 9-3-9 of the City's Streams, Wetlands and Water Body Protection Ordinance (wetland ordinance) for a rehabilitation and enhancement project for the Boulder Civic Area along Boulder Creek in Boulder County, Colorado (project area). The project area is located within the Boulder Creek corridor in downtown Boulder, Colorado, between 9th Street and 13th Street. Boulder Creek is 10 to 30 feet wide in the project area and is a City-regulated stream.

The riparian corridor within the project area has undergone significant disturbance in previous years due to public park functions and continuous open access points down steep embankments to the creek. Much of the ground within the regulated buffers is bare or compacted and dominated by non-native, manicured Kentucky bluegrass. The proposed activities would renovate the landscaped upland areas and improve the aesthetic and functional value of the project area by restoring a mix of native riparian and upland plants within regulated wetland buffers. Planting a mix of native riparian species within the project area will improve the functions and values of the area by providing more diverse wildlife habitat, and offering protection to portions of the creek by limiting human access to specified access points. As part of the project, the City proposes to add a widened, spanning pedestrian bridge along 11th Street to provide vegetated flood plain "creek terrace" while maintain flood conveyance capacity, add educational nature-play areas, reduce turf areas and replace with native vegetation, and enhance the riparian corridor along Boulder Creek. Riprap would be placed in some areas along the channel banks to minimize erosion.

Location

The project area is in Sections 30 and 31, Township 1 North, Range 70 West, and Sections 25 and 36, Township 1 North, Range 71 West of the 6th Principal Meridian in Boulder County, Colorado (Figure 1). The UTM coordinates of the approximate center of the project area are 476065mE, 4429423mN, Zone 13. The latitude/longitude of the project area is 40.014669°N/105.28046°W. The elevation of the project area is approximately 5,360 feet above sea level.

Existing Conditions

The project area is located in downtown Boulder, Colorado and consists of the Boulder Creek corridor and civic facilities such as the Boulder Public Library, City offices, and a park. In addition, the project area is surrounded by commercial and residential developments (Figure 2). The project area is bounded by 9th Street on the west, Arapahoe Avenue on the south, 13th Street on the east, and Canyon Boulevard on the north. Boulder Creek flows from west to east through the middle of the project area. Just downstream of Broadway Street, the Boulder and Left Hand Ditch diversion structure splits the river flow, with ditch water flowing east, while Boulder Creek continues southeast.

The banks of Boulder Creek are heavily disturbed throughout the project area and generally consist of compacted bare ground with exposed roots and rocks (Photos 1 and 2). Some understory vegetation is present, typically consisting of Kentucky bluegrass (*Poa pratensis*). The tree overstory of the riparian area along Boulder Creek consists of green ash (*Fraxinus pennsylvanica*), plains cottonwood (*Populus deltoides* ssp. *monilifera*), crack willow (*Salix fragilis*), and peachleaf willow (*Salix amygdaloides*) (Photo 4; Figure 2). Vegetation in the landscaped uplands consists of Kentucky bluegrass and ash, cottonwood, and oak (*Quercus* sp.) trees (Photo 3). The project area is predominantly used as an open park near downtown Boulder.

In August 2004, a function assessment for Boulder Creek from the western City boundary to Foothills Parkway was conducted (Land Stewardship Consulting 2004). The majority of the functions and values were rated medium to high, but varied depending on season and location. The assessment also stated that heavy recreational use occurs

throughout the reach. While this provides a high heritage value, it has resulted in degradation of some of the ecological functions along the creek. Because of the high recreational use of the creek in this area, soils have become very compacted allowing for very little understory vegetation to become established. Additionally many of the trees are non-native crack willow and green ash.

Streams, Wetlands, and Water Body Protection

The City's wetland ordinance was amended and formally adopted in 2009. Streams, wetlands, and various water bodies are protected under the wetland ordinance. The boundaries of streams include the bankfull width of the channel, and the boundaries of water bodies are defined by the presence of a bed and bank or ordinary high water mark (OHWM). The City defines wetlands based on procedures specified in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). The manual defines wetlands as an area containing three wetland indicators (e.g., hydrophytic vegetation, supportive hydrology, and hydric soils). Additionally, the City has established a 25- or 50-foot protected wetland buffer on either side of City-regulated wetlands, depending on the location and functional rating of the wetlands. The City regulates wetlands and wetland buffers on lands within the City limits and on City-owned land outside the City limits.

On September 19, 2014, Henry Konker with ERO assessed the project area for streams, wetlands, and other water bodies (2014 field survey). The dimensions of Boulder Creek and the boundaries of identified wetlands either were drawn onto aerial photographs or mapped using a Trimble GeoXT Global Positioning System (GPS) unit (Figure 2). Data were differentially corrected using the CompassCom base station. All differential corrections were completed using Trimble Pathfinder Office 5.4 software. GPS data were incorporated onto base mapping using ARC Geographic Information System (GIS) software.

Because of previous disturbance that has taken place throughout the project area along the banks of Boulder Creek, no wetlands occur in the project area. The dominant vegetation observed during the 2014 field survey was observed along the upper terraces above the creek and consisted of upland herbaceous species and riparian shrubs and trees.

Boulder Creek is shown as a perennial stream on the U.S. Geological Survey (USGS) Boulder topographic quadrangle. Boulder Creek has a connection with the South Platte River, a traditionally navigable water. Waters tributary to navigable waters are considered waters of the U.S. and are subject to the U.S. Army Corps of Engineers' (Corps) jurisdiction. Boulder Creek is a known jurisdictional tributary. Since the work would be primarily focused on stabilizing the creek, A preconstruction notification requesting authorization under the appropriate Section 404 permit was submitted to the Corps on April 25, 2016. On May 24, 216 the Corps authorized the project under Nationwide Permit (NWP) 13 for bank stabilization (Appendix A).

Boulder Creek and its abutting vegetation are regulated under the City's wetland ordinance. The City also regulates a 50-foot wetland buffer consisting of a 25-foot inner buffer and 25-foot outer buffer on the south side of Boulder Creek (Figure 3). Boulder Creek is about 10 to 30 feet wide within the project area. Fragmented patches of riparian habitat occur along the banks of Boulder Creek. The Boulder Creek channel and its associated buffers are regulated under the City's wetland ordinance.

Threatened, Endangered, and Candidate Species

As part of the proposed project, ERO assessed the project area for suitable habitat for federally listed threatened and endangered species protected under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) (ESA). The project area does not fall within U.S. Fish and Wildlife Service (Service) habitat or survey guidelines for the majority of the species listed by the Service as potentially occurring in Boulder County (Table 1). Because the project area falls within survey guidelines for Preble's meadow jumping mouse (*Zapus hudsonius preblei* or Preble's) and Ute ladies'-tresses orchid (*Spiranthes diluvialis* or ULTO), ERO assessed the project area for suitable habitat for these species.

Table 1. Federally threatened, endangered, and candidate species potentially found in Boulder County or potentially affected by projects in Boulder County.

Common Name	Scientific Name	Status*	Habitat	Suitable Habitat Present
Mammals				
Canada lynx	*Lynx canadensis*	T	Climax boreal forest with a dense understory of thickets and windfalls	No habitat, no potential to affect
Preble's meadow jumping mouse	*Zapus hudsonius preblei*	T	Shrub riparian/wet meadows	No
Birds				
Interior least tern**	*Sterna antillarum athalassos*	E	Sandy/pebble beaches on lakes, reservoirs, and rivers	No habitat and no depletions anticipated
Mexican spotted owl	*Strix occidentalis*	T	Closed canopy forests in steep canyons	No habitat, no potential to affect
Piping plover**	*Charadrius melodus*	T	Sandy lakeshore beaches and river sandbars	No habitat and no depletions anticipated
Whooping crane**	*Grus americana*	E	Mudflats around reservoirs and in agricultural areas	No habitat and no depletions anticipated
Fish				
Greenback cutthroat trout	*Oncorhynchus clarki stomias*	T	Cold, clear, gravel headwater streams and mountain lakes	No
Pallid sturgeon**	*Scaphirhynchus albus*	E	Large, turbid, free-flowing rivers with a strong current and gravel or sandy substrate	No habitat and no depletions anticipated
Plants				
Colorado butterfly plant	*Gaura neomexicana* ssp. *coloradensis*	T	Subirrigated, alluvial soils on level floodplains and drainage bottoms between 5,000 and 6,400 feet in elevation	No
Ute ladies'-tresses orchid	*Spiranthes diluvialis*	T	Moist to wet alluvial meadows, floodplains of perennial streams, and around springs and lakes below 6,500 feet in elevation	No
Western prairie fringed orchid**	*Platanthera praeclara*	T	Moist to wet prairies and meadows	No habitat and no depletions anticipated

*T = Federally Threatened Species, E = Federally Endangered Species.
**Water depletions in the South Platte River may affect the species and/or critical habitat in downstream reaches in other counties or states.
Source: Service 2016.

The proposed project would not affect the Canada lynx, Mexican spotted owl, or greenback cutthroat trout because of the lack of suitable habitat in the project area. The interior least tern, piping plover, whooping crane, pallid sturgeon, and western prairie

fringed orchid are species that are affected by continued or ongoing water depletions to the Platte River system. This project would not result in any depletions to the South Platte River. Because of the lack of habitat and depletions, the proposed project would not affect these species. Suitable habitat for Preble's, Colorado butterfly plant, and ULTO is not present in the project area due to the lack of sufficient riparian and wetland habitat required by these species.

On January 20, 2016, ERO submitted a habitat assessment to the Service requesting concurrence that the proposed project would have no effect on any threatened or endangered species in Boulder County. On February 16, 2016, the Service concurred that there are no concerns regarding threatened or endangered species in the project area (Appendix B).

Description of Activities

In order to enhance the Boulder Civic Area, the City is proposing to renovate the upland recreation areas, add designated access points to the creek with new grading to minimize disturbance the entire riparian corridor, and add a nature play area on the south side of the creek. As part of the project, a combination of riparian enhancements and bridge construction at 11th Street are proposed along the Boulder Creek channel. The construction drawing set including plan and profile, cross-sections, and detail sheets are in Appendix C.

Project Area Enhancements

As part of the restoration activities in the Boulder Civic Area, the City is proposing to renovate the existing plazas, paths, and increase a diversity of green spaces. The overall plan calls for a net reduction of lawn areas by 15,700 sf and a net reduction of hardscape area by 10,000 sf. The enhancements would allow for a larger amount of green space and use dynamic topography to create a diversity of spaces, including green space (i.e., native meadow area), nature play areas, and plaza areas. Creek access would be minimized to designated access points using stepping stones and salvaged wood logs to protect other areas along the riparian corridor and allow a greater diversity of riparian vegetation. The existing bridge along 11th Street would be removed and replaced with a longer spanning bridge The replacement bridge is in a different location about 70 feet west of the existing

bridge. The removal the bridge will require removal of portions of the current bridge abutments. The north concrete abutment will have to come out entirely to a depth of +/- 3 feet to place new erosion control riprap. The south abutment nearest the creek edge, consisting of a stone gabion foundation can be maintained to limit the disturbance to the creek edge. While the relocation of the bridge creates a disturbance to the riparian buffer as opposed to the maintaining the bridge at the existing location, the new location and alignment includes the following important benefits:

- Meets community and online engagement outcomes from the Design Inspiration Initiative, which invited the public to participate by responding to questions and submit ideas to help inform design. The ideas were collected and shared with the community as part of an open house on July 15, 2015. The outcomes were then shared with City Council at a briefing on July 30, 2015. The initiative focused on options related to the 11the Street Spine and Bridge. A goal of the Civic Area design and adopted Master Plan is to provide physical connectivity from Pearl Street and University Hill to the Civic Area accomplished with the proposed new pathway aligning with 11th Street through the Civic Area and crossing Boulder Creek with an iconic bridge that becomes a destination. The public was encouraged to provide input on the design. The proposed bridge and its location were reviewed is part of the City's Community Environmental Assessment Process (CEAP). The Civic Area Master Plan was approved by City Council in November of 2015.
- Improves Views and safety Viewpoints – Building on the legacy of Frederick Law Olmstead Jr., the new bridge alignment allows better views to the foothills as well as the stream to focus on the natural spaces within the park. Similarly, the creation of the proposed bridge will allow better visibility into the park from Canyon as well as Arapahoe and provide better access into the park. The new alignment helps view corridors for safety, security and access.
- The proposed location allows for a larger vegetated floodplain "creek terrace" at existing bridge location with beneficial connections to stormwater flows and water quality treatment areas.

- Better construction phasing sequence. The proposed bridge location allows for the construction of the new bridge while maintaining access over the existing bridge. When the proposed bridge is finished and open to access, the existing bridge will be removed. This construction sequence would not be possible with a new bridge in the current location.
- From the wetland perspective, the wider bridge allows for a more eased, wider terrace of riparian planting underneath i.e. diversity of riparian vegetation near the creek as opposed to narrow steep embankment of riparian vegetation with lawn on top of slope. The relocated bridge reduces the chance of blocking/constricting flood waters as opposed to the existing bridge.

Other Project Elements

The City is proposing improvements to the uplands in the regulated wetland buffer areas adjacent to Boulder Creek in the project area. Several habitat restoration areas would be created, as well as new trails and designated seating and picnic areas. The habitat restoration areas would be planted with native seed, plugs, shrubs, and trees.

The repair and maintenance activities would permanently impact about 0.14 acre (5,876 square feet) of regulated stream channel, 0.28 acre (12,093 square feet) of inner buffer, and 0.22 acre (9,726 square feet) of outer buffer. The project would temporarily impact about 0.10 acre (4,425 square feet) of regulated stream channel, 0.39 acre (16,980 square feet) of inner buffer, and 0.50 acre (21,655 square feet) of outer buffer.

Public Need

The Boulder Civic Area is used primarily for as a public park/open space area. The restoration and enhancement of the park and bridges are in response to the high volume of public access to areas along the creek and high flows during storm events. The proposed work would improve site safety and establish high ecological value for the site, while maintaining the public use component of the park.

Description of Impacts

The creek banks are heavily disturbed throughout the project area, and characterized by bare/compacted ground with exposed roots (due in part to public park functions and an

open circulation of people down steep embankments to the creek). Some understory vegetation is present, typically consisting of Kentucky bluegrass. Generally the disturbance proposed to the regulatory wetland is an effort to improve and restore ecological function of an already disturbed area through an improved vertical structure of riparian habitat (reference Figure III-1 in Boulder's Greenways Design Guidelines).

Two primary types of permanent impacts would occur within City-regulated wetlands and buffers: riprap placement for bank stabilization purposes, and pavement of realigned trails. Temporary impacts from grading and landscaping would also occur throughout the regulated areas. Table 2 summarizes the impacts to City-regulated areas by project component.

The overall project activities would permanently impact about 0.14 acre (5,876 square feet) of regulated stream channel, 0.28 acre (12,093 square feet) of inner buffer, and 0.22 acre (9,726 square feet) of outer buffer. The project would temporarily impact about 0.10 acre (4,425 square feet) of regulated stream channel, 0.39 acre (16,980 square feet) of inner buffer, and 0.50 acre (21,655 square feet) of outer buffer. It is anticipated that the utility and quality of the Boulder Civic Area in the project area would improve following the project. Boulder Creek and the regulated buffer would remain largely intact and would likely contain higher functions and values due to planting native vegetation.

Extent of Permanent Adverse Effects

Permanent Impacts consist of a series of improved soft "creek access/terrace" soft paved paths graded down to the creek to focus circulation and limit soil compaction to select areas along the buffers. The "soft" paved paths will allow for water infiltration consisting of a stabilized decomposed granite surface and areas of a creek cobble mix. Additional Permanent Impacts consist of the placement of riprap for erosion control and to stabilize the stream bank. 79% of the riprap will have a mix of native soil in the top 4" and be planting with native live stake shrubs, bare root native trees and seeded with native grass groundcover. This approach is consistent with the recommendations from Boulder's Greenways Design Guidelines, "Stabilizing Stream Banks" - Section D, 2, a-e. In addition the re-grading of the "Creek Terraces" on the north embankment are

consistent with Boulder's Greenways Design Guidelines, "Restoring Altered Stream Channels" - Section D, 3, a-c, by "widening the top width of an existing trapezoidal channel; providing a stable narrow, soft bottom low flow channel; and floodplain terraces with appropriate vegetation; better water quality, wildlife habitat, and wetland lands can be created while maintaining flood conveyance capacity".

A total of 0.13 acre (5,656 square feet) of regulated stream channel, 0.15 acre (6,410 square feet) of inner buffer, and 0.08 acre (3,296 square feet) of outer buffer would be permanently impacted by placement of riprap and bank stabilization activities. A total of 0.005 acre (220 square feet) of regulated stream channel, 0.13 acre (5,683 square feet) of inner buffer, and 0.15 acre (6,430 square feet) of outer buffer would be permanently impacted by paved trail construction. Additional permanent impacts would occur outside of regulate buffer areas from other proposed project area enhancements, which include new bike and walking paths and playground equipment.

Temporary impacts would occur from grading and landscaping associated with renovation of existing green spaces into dynamic green spaces with rolling topography. The impacted area consists of a small segment of the Boulder Creek riparian corridor, which is dominated primarily by trees and shrubs including green ash, crack willow, boxelder (*Acer negundo*), plains cottonwood, and sandbar willow (*Salix exigua*). Many areas along the creek do not contain understory vegetation consists of Kentucky bluegrass, with some isolated patches of orchardgrass (*Dactylis glomerata*), and smooth brome (*Bromis inermis*). The improvements would repair the functionality of the Boulder Civic Area, minimize access along the banks of Boulder Creek by establishing designated access points, and enhance the high ecological value of the site. Efforts are made to preserve mature native trees along Creek embankment with tree removals focused on non-native tree species and native trees that are in poor or compromised conditions. Impacts from the project would be mitigated by restoration of native seed and riparian tree and shrub plantings in the proposed habitat restoration areas (Appendix D). The proposed planting plans is informed by a mitigation and restoration goal to increase ecological function through improving the vertical structure of the riparian habitat - consistent with Fig. III-1 in the Boulder's Greenways Design Guidelines. The

planting plan proposes a layered mosaic of large and small trees, shrubs and groundcover that has high habitat value. The loss of trees are mitigated with a layered mosaic of native vegetation - increasing the overall health and resilience of the creek corridor. Tables 2 and 3 summarize permanent and temporary impacts from project components.

Table 2. Summary of permanent impacts.

Type of Activity	Regulated Wetland (acre/ft^2)	Inner Buffer (acre/ft^2)	Outer Buffer (acre/ft^2)
Bank Stabilization (riprap placement)	0.130/5,656	0.147/6,410	0.076/3,296
Pavement	0.005/220	0.130/5,683	0.148/6,430
Total Permanent Impacts	**0.135/5,876**	**0.277/12,093**	**0.223/9,726**

Table 3. Summary of temporary impacts.

Type of Activity	Regulated Wetland (acre/ft^2)	Inner Buffer (acre/ft^2)	Outer Buffer (acre/ft^2)
Grading/Landscaping	0.102/4,425	0.390/16,980	0.497/21,655
Total Temporary Impacts	**0.102/4,425**	**0.390/16,980**	**0.497/21,655**

Cumulative Effects

The project area is in an existing recreation park within the City limits in the Boulder Creek riparian corridor. No reasonably foreseeable actions are known regarding proposed development in the area. It is anticipated that land use will remain the same in the future.

Uniqueness or Scarcity of Wetlands

Due to the impact activity throughout the project area along the banks of Boulder Creek, no wetland vegetation occurs in the project area. The dominant vegetation observed during the 2014 field survey was observed along the upper terraces above the boulder edging and consisted of upland herbaceous species and riparian shrubs. The riparian trees and shrubs consist of mostly native species (boxelder, sandbar willow, and plains cottonwood). Boulder Creek contains a large amount of riparian habitat upstream and downstream of the project area, similar to what occurs on-site. The riparian corridor within the project area contains species found within a majority of the riparian corridors in the Boulder Valley and Colorado. The project would provide riparian enhancement areas along portions of Boulder Creek in the project area.

Alternatives Analysis

Three alternatives were evaluated for the proposed project. These alternatives are:

1. **No Action.** This alternative was rejected because it does not satisfy the project need. The no action alternative does not meet the goals and policies of the Boulder Valley Comprehensive Plan and the Boulder Civic Area Master Plan. Under this alternative, public safety and the ecological value of the park and Boulder Creek riparian corridor could be compromised.

2. **Creek Valley/ Creek Grove/ Creek Promenade Options.** These alternatives contained various design aspects proposed and presented to the public. These design aspects include a continuous green space with dynamic topography of various sizes and a through path that would separate the creek path from Boulder Creek, depending on the option. Consistent elements included improved park/green space, pedestrian circulation, improved access to the creek, nature play along the south side of the creek, a signature pedestrian bridge, and improved plazas. The key differences for each scheme are:

   a. **Creek Grove:** Large plaza or hardscape space, small and focused lawn with smaller more frequent creek-access gathering areas, and a minor Creek Path detour around central green space.

   b. **Creek Valley:** Large "Green Valley" continuous green space with dynamic topography, smaller plaza or hardscape spaces, two discrete creek access areas, and larger Creek Path detour around central green space.

   c. **Creek Promenade:** Large flat lawn at the core (similar to existing conditions), limited grading for creek access (maintaining the existing creek embankment), medium sized plaza or hardscape spaces, Creek Path straight along the top of existing creek embankment. This option proposed a higher amount of bluegrass park and would not limit creek access, which is not the least environmentally damaging practicable alternative.

3. **Civic Area Park Development Plan (Preferred).** This is the preferred alternative because it incorporates a hybrid of the design elements of the previous options that were supported by the public. Primary features from the Creek Valley option were prioritized in the hybrid plan including the large Green Valley continuous green space with dynamic topography and two discrete creek access areas with primary circulation and hardscape areas pushed away from the creek and towards existing buildings and Canyon Boulevard. The preferred "hybrid" option lessens the impact on significant trees while enhancing the wetland/riparian nature of the creek. Generally, the ecological functions and values of the natural resources in the study area have been adversely affected by surrounding development and intense use by people. Limited wetlands are present, primarily due to almost constant foot traffic along the creek banks. Much of the vegetation consists of introduced species such as Kentucky bluegrass and landscape plants. Wildlife species using the area are

primarily those accustomed to human disturbance, although some foothills species may rarely move down the creek corridor. The preferred Plan aims to improve the functions and values of the ecology and the natural vegetation structure by restoring soil and native vegetation communities along the wetland buffer, protecting them from trampling while focusing the public access to the creek in select areas of the "Creek Terrace" along the north embankment. Stormwater and water quality will also be incorporated into the restored riparian vegetation areas. The preferred option supported the goal to have a central place to enjoy the outdoors in the middle of the city. The "green valley" along Boulder Creek will be a unifying focus, providing natural beauty, restored riparian function and flood safety as well as recreational, art, and cultural opportunities. These key elements included in the preferred hybrid plan enhances the environment of the Boulder Creek corridor through the Civic Area by providing water quality and habitat enhancement improvements. These improvements include replacing non-native and invasive species with native and non-invasive species. Furthering the BVCP policy goals presented in the Preservation and Enhance Biodiversity and Native Ecosystems, Protect and Enhance the Quality of the Urban Environment, Protect Geologic Resources and Manage Natural Hazards, and Protect and Improve Water and Air Quality sections. The project would meet the need of improving or maintaining the public value of the project area and enhance the riparian corridor along Boulder Creek by limiting access to the creek in two discrete creek terrace areas while restoring and improving the vertical structure of riparian habitat in-between. This alternative while disturbing riparian buffer areas will likely improve the ecological functions of the Boulder Civic Area by providing focused circulation and areas containing native vegetation.

Avoidance and Minimization of Wetland Impacts

Impacts on the regulated stream channel and wetland buffer from the project would be avoided and minimized to the greatest extent possible. This includes using the existing trails for access and reducing the footprint of the project by limiting use of concrete or grout, and leaving the root structure of trees and willows in place to allow for quick regeneration.

The Boulder Creek stream channel qualifies as a regulated area under the City's wetland ordinance and includes a 50-foot buffer. Of these regulated areas, about 0.14 acre (5,876 square feet) of regulated stream channel, 0.28 acre (12,093 square feet) of inner buffer, and 0.22 acre (9,726 square feet) of outer buffer would be permanently impacted by the project (Table 2). The project would temporarily impact about 0.10 acre (4,425 square feet) of regulated stream channel, 0.39 acre (16,980 square feet) of inner buffer, and 0.50 acre (21,655square feet) of outer buffer (Table 3). The project would

result in a net increase in native and natural turf areas and less hard surface areas (i.e., pavement). Table 4 summarizes the balance between features added and removed.

Table 4. Summary of features removed and features added.

Resource	Features Removed (acre/square feet)	Features Added (acre/square feet)	Net (acre/square feet)
Planting/ green area	1.34/58,347	2.58/112,415	1.24/54,068
Pavement	1.53/66,632	1.42/61,726	(0.11/4,905)
Riprap	N/A	1.49/64,868	1.49/64,868

Construction Methods and Best Management Practices

The existing trail would be used for construction access and staging, which would minimize impacts on vegetation. Silt fencing and construction fencing would be erected along the boundaries of the work limits, and straw wattles with stakes would be placed to prevent erosion. No areas outside of the project area limits would be disturbed. All equipment would be stored in uplands outside of the wetland buffer.

Wetland Impacts and Mitigation

The restoration of the Boulder Civic Area would result in permanent impacts on about 0.10 acre of stream channel and permanent impacts on 0.50 acre of inner and outer wetland buffers. Temporary and permanent impacts would occur from bank stabilization, grading activities, construction of trails and creek access areas, and creation of distributed habitat restoration areas.

A complete description of the proposed compensatory mitigation is provided in the attached Restoration Plan (Appendix D). The restoration plan would include mitigation of impacted areas in addition to enhancement of adjacent areas.

References

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report 7-87-1. Vicksburg, MS: U.S. Army Engineer Waterways. Experimental Station.

U.S. Fish and Wildlife Service (Service). 2016. Endangered, Threatened, Proposed and Candidate Species, Colorado Counties. Available at: http://ecos.fws.gov/ipac/wizard/chooseLocation!prepare.action. Last accessed: January 18, 2016.

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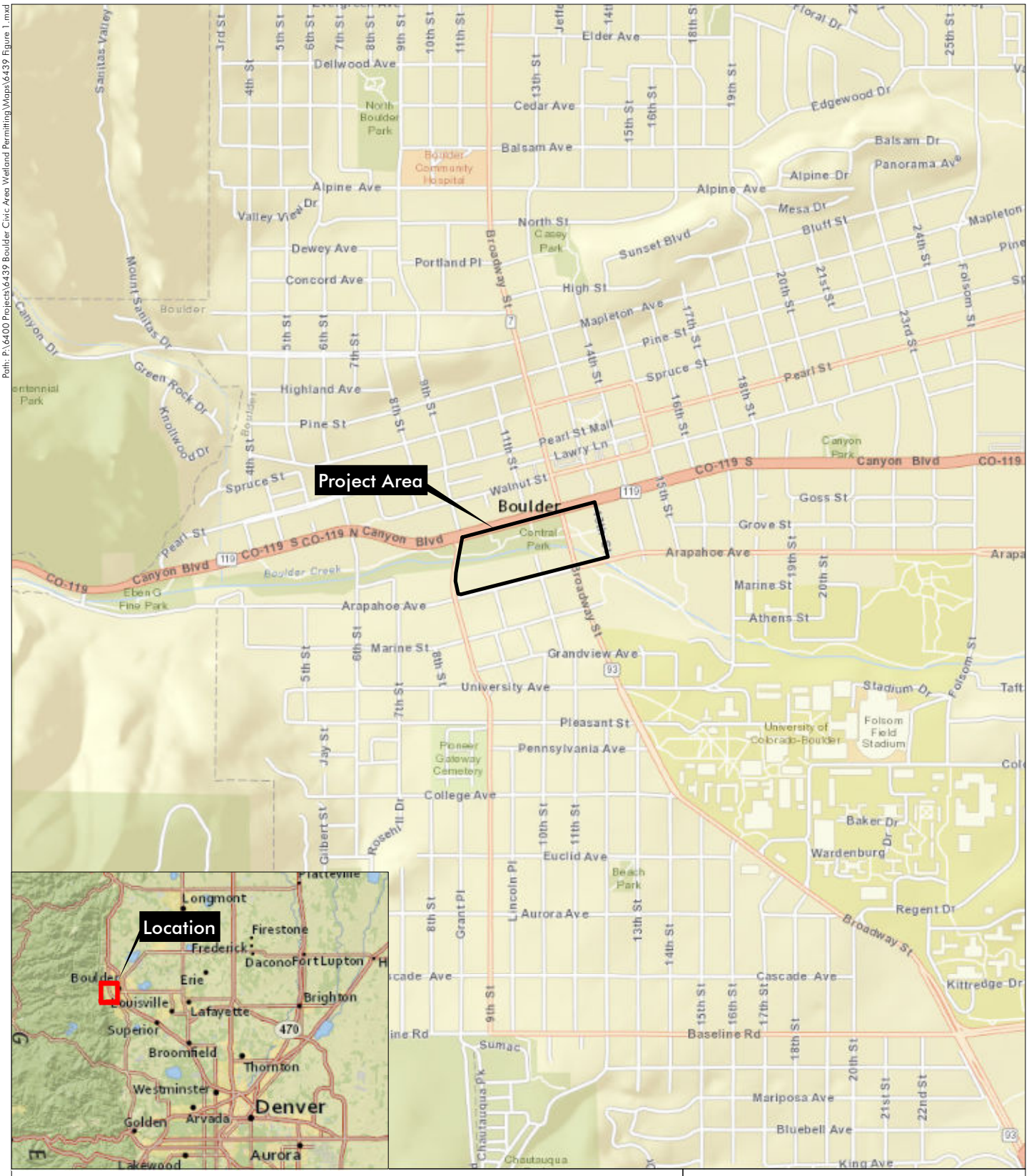

Boulder Civic Area

Sections 30 and 31, T1N, R70W; Sections 25 and 36, T1N, R71W; 6th PM

UTM NAD 83: Zone 13N; 476065mE, 4429423mN

Latitude, Longitude: 40.014669°N, 105.28046°W

USGS Boulder, CO Quadrangle

Boulder County, Colorado

0 750 1,500 Feet

N

Figure 1
Vicinity Map

Prepared for: City of Boulder
File: 6439 Figure 1.mxd (WH)
April 22, 2016

ERO Resources Corp.

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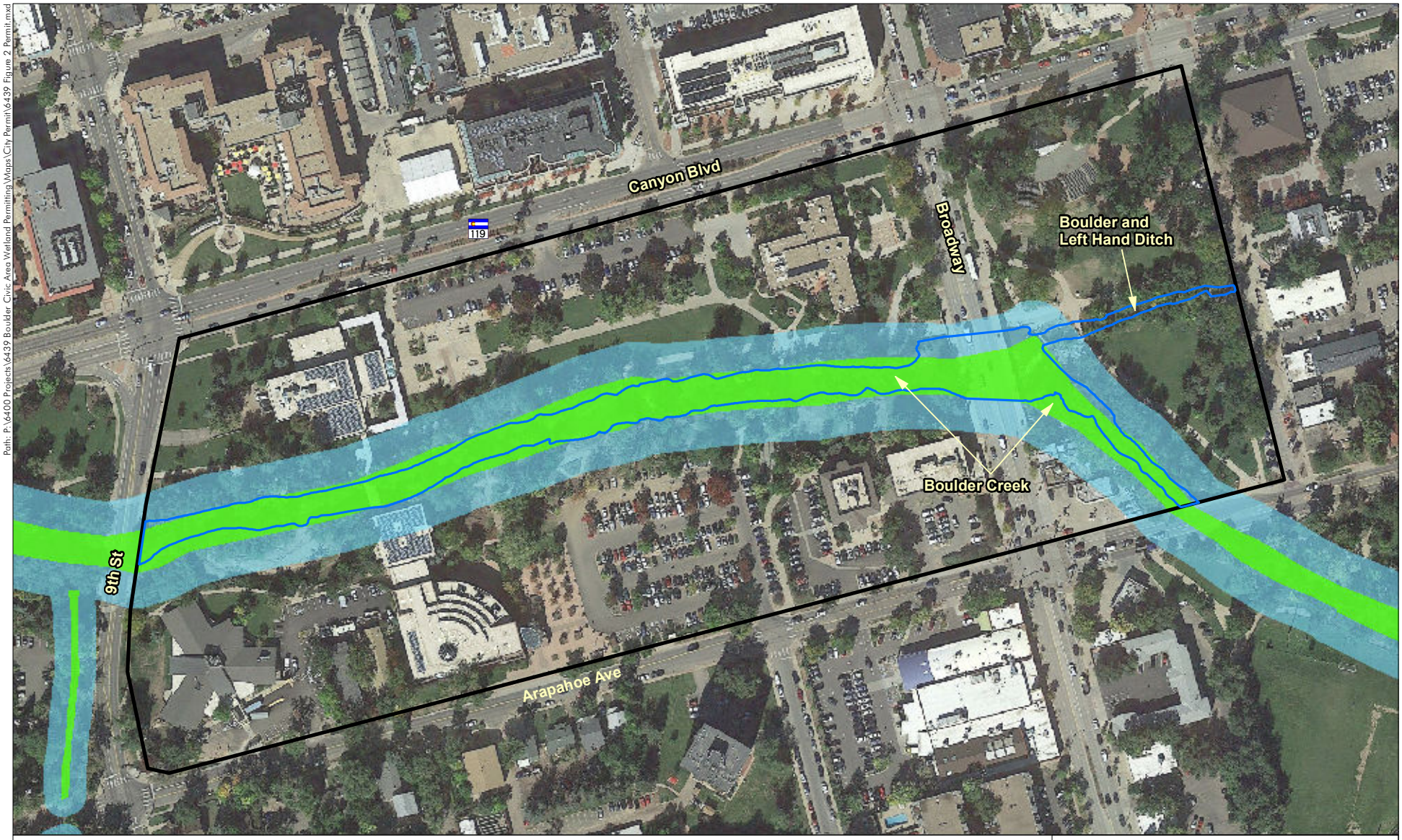


Boulder Civic Area

- Project Area
- Open Water
- Boulder Regulatory Wetlands (1.97 ac, 85,647 SF in Study Area)
- Boulder Regulatory Wetlands Buffer (Inner Buffer - 1.87 ac, 81,367 SF; Outer Buffer - 1.87 ac, 81,442 SF in Study Area)

0 100 200 feet

N

Image Source: Google Earth©, October 2013

Figure 2
Site Description

Prepared for: Tom Leader Studio
File: 6439 Figure 2 Permit.mxd (WH)
April 22, 2016

ERO
ERO Resources Corp.

Path: P:\6400 Projects\6439 Boulder Civic Area Wetland Permitting\Maps\City Permit\6439 Figure 3b Permit.mxd

Boulder Civic Area

- Open Water
- Boulder Regulatory Wetlands (BRW)
- Boulder Regulatory Wetlands Buffer (BRWB)
- Proposed Limits of Work
- Project Area
- Permanent Impact on Inner BRWB (0.28 ac)
- Temporary Impact on Inner BRWB (0.39 ac)
- Permanent Impact on Outer BRWB (0.22ac)
- Temporary Impact on Outer BRWB (0.50 ac)
- Permanent Impact on BRW (0.013 ac)
- Temporary Impact on BRW (0.10 ac)

0 40 80 feet

N

Figure 3b
Proposed Impacts Detail

Prepared for: Tom Leader Studio
File: 6439 Figure 3b Permit.mxd (WH)
June 10, 2016

ERO
ERO Resources Corp.

Image Source: Google Earth©, October 2013

Appendix A. Section 404 Permit Authorization

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
DENVER REGULATORY OFFICE, 9307 SOUTH WADSWORTH BOULEVARD
LITTLETON, COLORADO 80128-6901

RECEIVED
MAY 26 2016

May 24, 2016

SUBJECT: Nationwide Permit Verification – Action No. NWO-2016-01015-DEN, City of Boulder Civic Area - PCN

Jeff Haley
Boulder Parks and Recreation
3198 Broadway Street
Boulder, CO 80304

Dear Mr. Haley:

Reference is made to the above-mentioned proposed project located at approximately latitude 40.014669, longitude -105.28046, in Boulder County, Colorado. The work as described in your submittal will consist of grading, bank stabilization activities, and installation of appurtenant structures in association with park rehabilitation along Boulder Creek. The project will permanently impact approximately 0.058 acre of Boulder Creek.

Based on the information provided, this office has determined that the work is authorized by the **Department of the Army Nationwide Permit (NWP) NWP 13 Bank Stabilization and NWP 42 Recreational Facilities**, found in the February 21, 2012, Federal Register. Enclosed is a fact sheet, which fully describes this Nationwide Permit and lists the General Conditions, and Colorado Regional Conditions, which must be adhered to for this authorization to remain valid.

Although an Individual Department of the Army permit will not be required for this work, this does not eliminate the requirement that any other applicable federal, state, tribal or local permits be obtained as required. Please be advised that deviations from the original plans and specifications of this project could require additional authorization from this office.

The applicant is responsible for all work accomplished in accordance with the terms and conditions of the nationwide permit. If a contractor or other authorized representative will be accomplishing the work authorized by the nationwide permit on behalf of the applicant, it is strongly recommended that they be provided a copy of this letter and the enclosed conditions so that they are aware of the limitations of the applicable nationwide permit. Any activity which fails to comply with all the terms and conditions of the nationwide permit will be considered unauthorized and subject to appropriate enforcement action.

This verification will be valid until March 18, 2017. In compliance with General Condition 30, the enclosed "Certification of Completed Work" form (blue) must be signed

and returned to this office upon completion of the authorized work and any required mitigation.

Enclosed is a Preliminary Jurisdictional Determination (JD) which is a written indication that wetlands and waterways within your project area may be waters of the United States (enclosed). Such waters will be treated as jurisdictional waters of the US for purposes of computation of impacts and compensatory mitigation requirements. If you concur with the findings of the Preliminary JD, please sign it and return it to the letterhead address within two weeks. If you believe the Preliminary JD is inaccurate, you may request an Approved JD, which is an official determination regarding the presence or absence of waters of the US. If an approved JD is requested, the Corps will complete one and you may not begin work on the proposed project until after the Approved JD is complete. If you do not want the Corps to complete an Approved JD, you may proceed with the proposed project.

If there are any questions please feel free to contact Angelle Greer at (303) 979-4120 or by e-mail at Angelle.V.Greer@usace.army.mil, and reference **Corps File No. NWO-2016-01015-DEN**.

Sincerely,

Angelle Greer

Angelle Greer
Senior Project Manager
Denver Regulatory Office

Enclosure(s)

Copies Furnished:
U.S. Fish and Wildlife Service
Colorado Department of Public Health and Environment
Environmental Protection Agency
Colorado Parks and Wildlife

Clint Henke
ERO Resources Corporation
1842 Clarkson Street
Denver, CO 80218

Appendix B. U.S. Fish and Wildlife Service Concurrence

RECEIVED
JAN 25 2016

U.S. FISH AND WILDLIFE SERVICE
☒ NO CONCERNS
☐ CONCUR NOT LIKELY TO ADVERSELY AFFECT
☐ NO COMMENT
Leslie Ellwood 2/23/16
Drue L. DeBerry, Acting DATE
COLORADO FIELD SUPERVISOR

ERO
ERO Resources Corp.

January 20, 2016

Drue DeBerry
U.S. Fish and Wildlife Service
Colorado Field Office
Denver Federal Center (MS 65412)
PO Box 25486
Denver, Colorado 80225

Re: Threatened and Endangered Species Habitat Assessment – Boulder Civic Area, Boulder County, Colorado

Dear Mr. DeBerry:

The City of Boulder (City) is proposing improvements to the Boulder Civic Area located between 9th Street and Arapahoe Avenue in Boulder County, Colorado (study area; Figure 1). Additionally, the City proposes to improve a portion of the Boulder Creek path under Arapahoe Avenue. The proposed work would include enhancing the Boulder Civic Area, constructing a bridge over Boulder Creek along 11th Street, and stabilizing the Boulder Creek channel in the study area.

Federal Nexus

The City retained ERO Resources Corporation (ERO) to assess the study area for the presence of habitat suitable for federally listed threatened, endangered, and candidate species and to assist with environmental permitting for the project.

Boulder Creek flows from west to east through the study area. Boulder Creek is a known jurisdictional water of the U.S. Activities from the project would impact Boulder Creek and would require a Clean Water Act (CWA) Section 404 Permit. ERO will prepare a Preconstruction Notification, which will be submitted to the U.S. Army Corps of Engineers.

Project Location

The study area is in Sections 30 and 31, Township 1 North, Range 70 West and Sections 25 and 36, Township 1 North, Range 71 West of the 6th Principal Meridian in Boulder County, Colorado (Figure 1). The UTM coordinates of the approximate center of the study area are NAD 476163mE, 4429395mN, Zone 13. The latitude/longitude of the study area is 40.014419°N/105.279317°W. The elevation of the study area averages 5,360 feet above sea level.

Project Description

The City proposes to construct a 12-foot-wide bridge crossing Boulder Creek along 11th Street and install riprap along the banks near both embankments. The existing

Denver
1842 Clarkson St.
Denver, CO 80218
303.830.1188

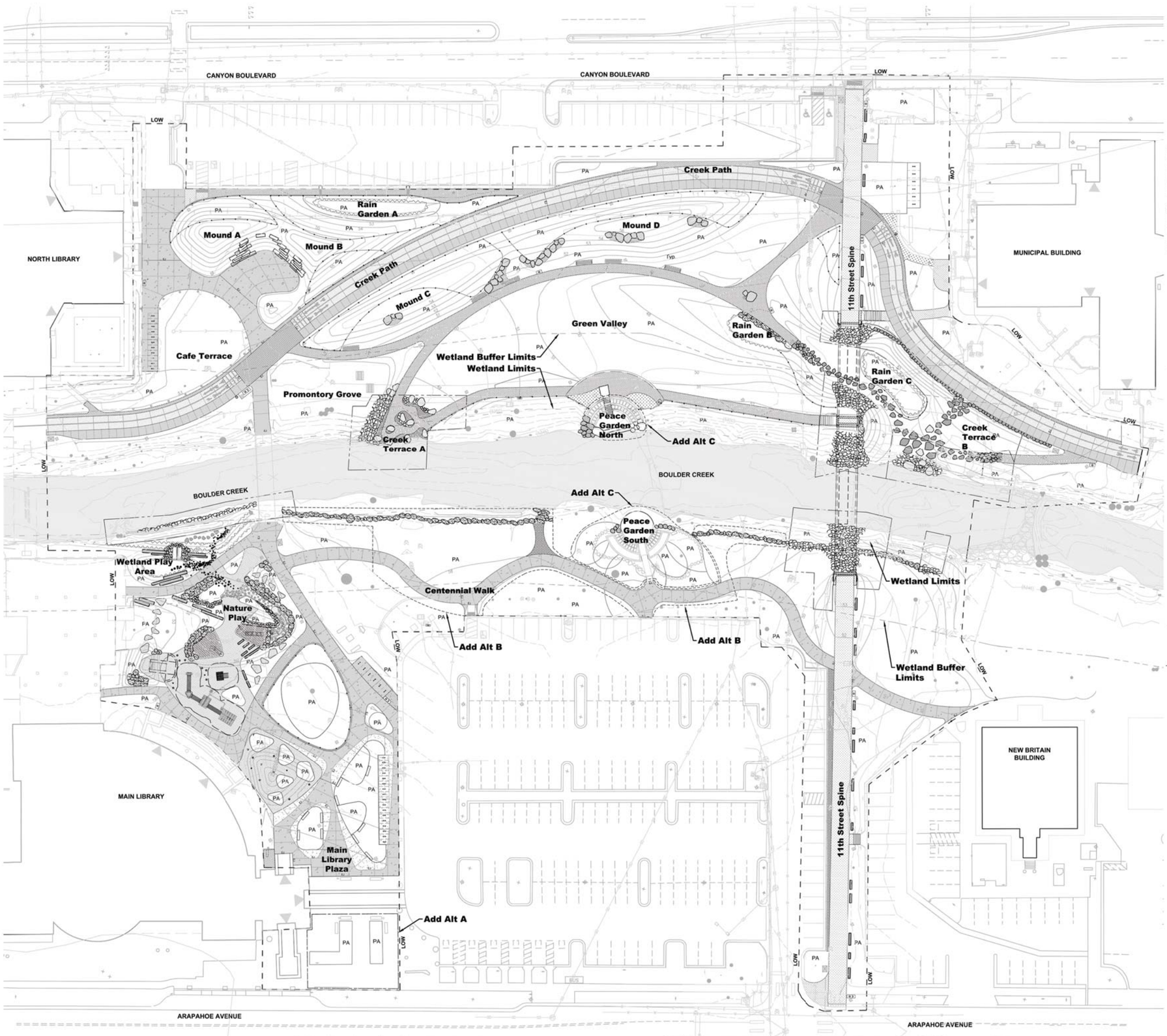
Durango
1015 ½ Main Avenue
Durango, CO 81301
970.422.2136

Hotchkiss
P.O. Box 932
161 South 2nd St.
Hotchkiss, CO 81419
970.872.3020

Idaho
4001 East Main Street
Emmett, ID 83617
208.365.7684

www.eroresources.com

Appendix C. Construction Drawing Set



MATERIALS LEGEND

- C.I.P. Concrete Pavement - Bike Path, See Specs. (Vehicular Grade)
- C.I.P. Concrete Pavement, Type A, See Specs. (Vehicular Grade)
- C.I.P. Concrete Pavement, Type B, See Specs. (Pedestrian Grade)
- C.I.P. Concrete Pavement, Type D, See Specs.
- C.I.P. Standard Concrete Pavement, See specs. (Vehicular Grade)
- Stabilized Decomposed Granite
- Decomposed Granite Mulch
- C.I.P. Concrete Pavement - 11th Street Spine See L6.04
- Nature Play Rubber Surface
- Play Sand
- Cobble Channel
- Creek Cobbles
- Landscape Seating Boulders
- Boulders at Embankment
- Boulders Steps at Peace Garden
- Boulders at Peace Garden
- RipRap Extents
- RipRap - Exposed
- RipRap - Seating Boulders
- RipRap - Stepping Stones
- Salvaged Stone Steps
- Bicycle Racks
- Cordwood Gateway
- Cordwood Seatwall
- Salvaged Seating Terrace Logs
- Salvaged Silver Maple Seating Logs
- Picnic Tables at Promontory Grove
- Rance Fencing
- Salvaged Log Steps/Vertical Posts
- Salvaged Vertical Posts
- Not Used
- Coir Fascine Logs
- RipRap Extents
- Paving Joint
- PA Planted Area
- Building Entrance
- Light Poles, See LE.01-LE.04
- Bear Proof Trash Receptacles
- 53 Proposed Contour
- (5350) Existing Contour, S.C.D.
- Existing Trunk to Remain
- LOW Limit of Work

CIVIC AREA PARK DEVELOPMENT PLAN
Boulder, CO

BOULDER CIVIC AREA

City of Boulder
Boulder Parks & Recreation
3198 Broadway
Boulder, CO 80304
Tel: 303.413.7233

TOM LEADER STUDIO
1015 Camelia Street, Berkeley, CA 94710 | 510.524.3363

Date	Issuance	By	Check
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01.08.2016	50% DD		
01.28.2016	100% DD		
05.02.2016	90% CD (TECH DOC 01)		
06.20.2016	100% CD (TECH DOC 02)		
08.01.2016	100% CD (TECH DOC 03)		

Seal/Signature

ERIK DUANE PRINCE 1170 — 07/12/2016 — Original Signature Required — 7-27-16 — STATE OF COLORADO — LICENSED LANDSCAPE ARCHITECT

Key Plan

A B C D

North

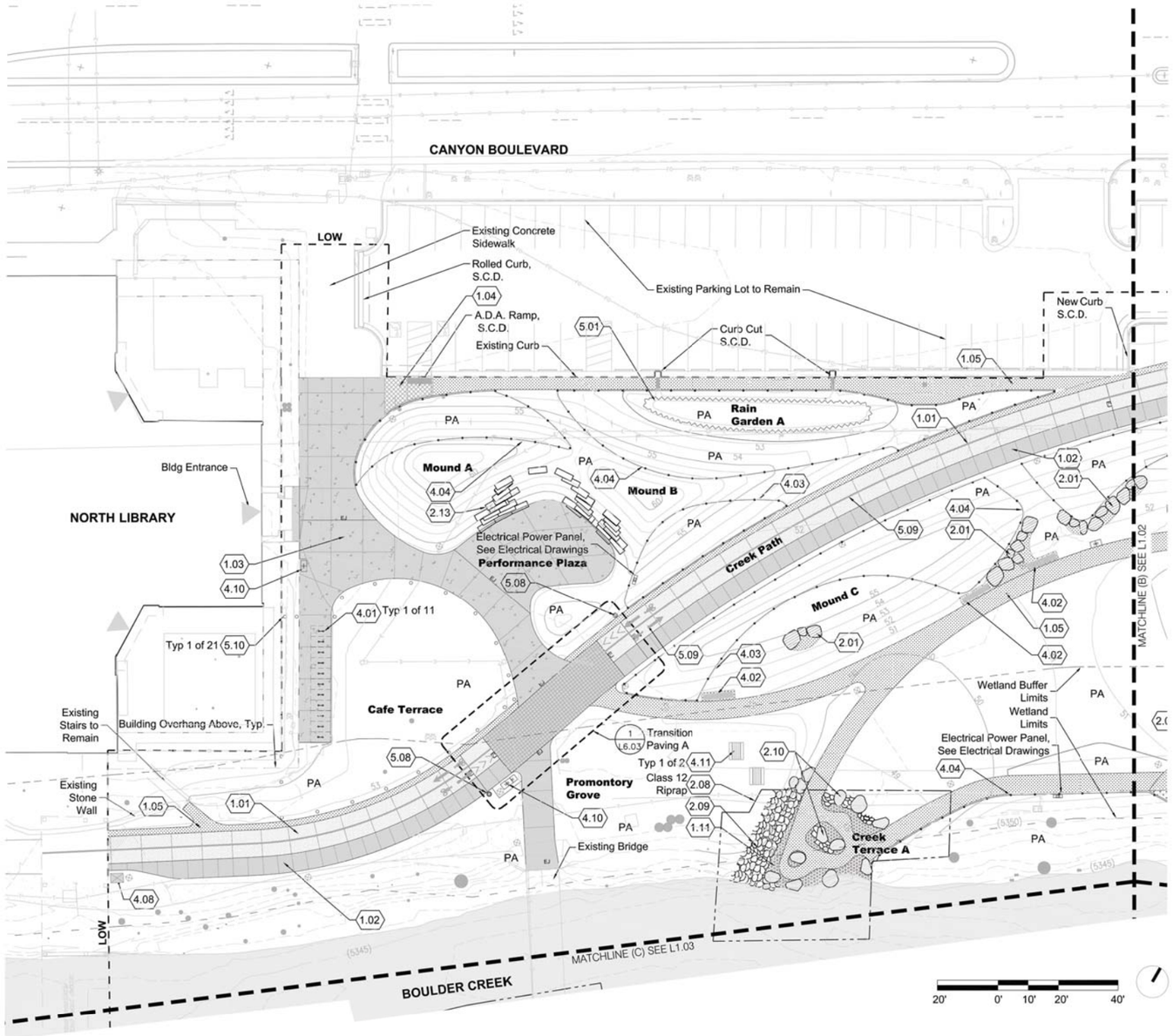
Scale: 1"=30'

FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title
OVERALL MATERIALS PLAN

Drawing Number
L1.00



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- C.I.P. Standard Concrete Pavement, See Specs. (Vehicular Grade)
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- Decomposed Granite Mulch
- C.I.P. Concrete Pavement - 11th Street Spine, See L6.04
- Nature Play Rubber Surface
- Play Sand
- Cobble Water Channel
- Creek Cobbles
- Landscape Boulder Seating, See L6.09, L6.10, & L7.21
- Boulders at Embankment, See L6.09, L6.10, & L7.21
- Boulders Steps at Peace Garden, See L6.09, L6.10, & L7.21
- Boulders at Peace Garden, See L6.09, L6.10, & L7.21
- RipRap Extents, See L6.09, L6.10, & L7.21
- RipRap - Exposed, See L6.09, L6.10, & L7.21
- RipRap - Seating Boulders, See L6.09, L6.10, & L7.21
- RipRap Stepping Stones / Boulder Stepping Stones, See L6.09, L6.10, & L7.21
- Salvaged Stone Steps
- Bicycle Racks
- Cordwood Gateway
- Cordwood Seatwall
- Salvaged Seating Terrace Logs
- Salvaged Wood Benches
- Rance Fencing
- Salvaged Log Steps/Vertical Posts
- Salvaged Vertical Posts
- Steel Header
- Coir Fascine Logs
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- PA Planted Area
- Building Entrance
- Light Poles, See LE.01-LE.04
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- (5350) Existing Contour, S.C.D.
- Boulder Regulatory Wetlands Limits
- Boulder Regulatory Wetlands Buffer Limits
- Existing Tree to Remain
- LOW Limit of Work

MATERIALS KEY

1.00 Pavement

1.01	C.I.P. Concrete Pavement - Bike Path (Vehicular Grade)	1/L6.01
1.02	C.I.P. Concrete Pavement, Type A (Vehicular Grade)	1/L6.01
1.03	C.I.P. Concrete Pavement, Type B (Pedestrian Grade)	2/L6.01
1.04	C.I.P. Standard Concrete Pavement (Vehicular Grade)	1/L6.01
1.05	Stabilized Decomposed Granite	3/L6.01
1.06	Decomposed Granite Mulch	4/L6.01
1.07	C.I.P. Concrete Pavement - 11th Street Spine, (Vehicular Grade)	1/L6.01, 1/L6.04
1.08	Nature Play Rubber Surface	1/L7.60
1.09	Rubber Steps at Planting	3/L7.72
1.10	Play Sand	5/L7.60
1.11	Creek Cobbles	6/L6.02
1.12	C.I.P. Concrete Pavement, Type D	2/L6.01
1.13	Nature Play Rubber Surface at Slope	4/L7.60

2.00 Stone

2.01	Landscape Boulder Seating	1–2/L6.12
2.02	Boulder Embankment	1/L6.11
2.03	Small Boulder Embankment at Play Sand	2/L7.70
2.04	Large Boulder Embankment at Play Sand	1/L7.70
2.05	Boulders at Weir	1–4/L7.73
2.06	Boulder Embankment (at Peace Garden)	1–2/L6.18
2.07	Boulder Stepping Stone in Planting	2–3/L6.11
2.08	RipRap Profile Below	1/L6.14, 1/L6.15
2.09	RipRap - Exposed	3/L6.13
2.10	RipRap - Seating Boulders	2/L6.13
2.11	RipRap - Stepping Stones	1/L6.13
2.12	RipRap - Exposed at Creek Path	4/L6.12
2.13	Salvaged Stone Steps	1/L6.16, 1–5/L6.17

3.00 Stairs

3.01	Stair A	1/L6.31
3.02	Stair B	1/L6.32
3.02	Stair C	3/L6.33

4.00 Site Furnishings

4.01	Bicycle Racks	1/L6.41
4.02	Cordwood Seatwalls	1/L6.22
4.03	Steel Header	8–9/L6.01, 2–3/L6.21
4.04	Range Fencing	1/L6.21
4.05	Log Steps	1–3/L7.71
4.06	Salvaged Seating Terrace Logs	4–5/L7.71
4.07	Salvaged Wood Benches	1–3/L6.25
4.08	Cordwood Gateway	1–4/L6.24
4.09	Library Plaza Benches	3/L6.41
4.10	Bear-Proof Trash Receptacles	4–5/L6.41
4.11	Picnic Tables at Promontory Grove	2/L6.42

5.00 Miscellaneous

5.01	Coir Fascine Logs	2–3/L4.06
5.02	Salvaged Stone Wall	3/L6.12
5.03	V-Notched Weir Structure	1–5/L7.73
5.04	Concrete Curb at Cottonwood	2/L7.72
5.05	Cobble Water Channel	7/L7.60
5.06	Salvaged Vertical Posts	1/L7.72
5.07	Concrete Curb at Play Sand	6/L7.60
5.08	Pedestrian Crossing Signage	1/L6.42
5.09	Bike Lane Striping	3/L6.42
5.10	Temporary Fence Post Footing	1/L6.33

CIVIC AREA PARK DEVELOPMENT PLAN
Boulder, CO

BOULDER CIVIC AREA

City of Boulder
Boulder Parks & Recreation
3198 Broadway
Boulder, CO 80304
Tel: 303.413.7233

TOM LEADER STUDIO
1015 Camelia Street, Berkeley, CA 94710 | 510.524.3363

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Seal/Signature

ERIK DUANE PRINCE 1170 — LICENSED LANDSCAPE ARCHITECT — STATE OF COLORADO

Key Plan

A B C D

North

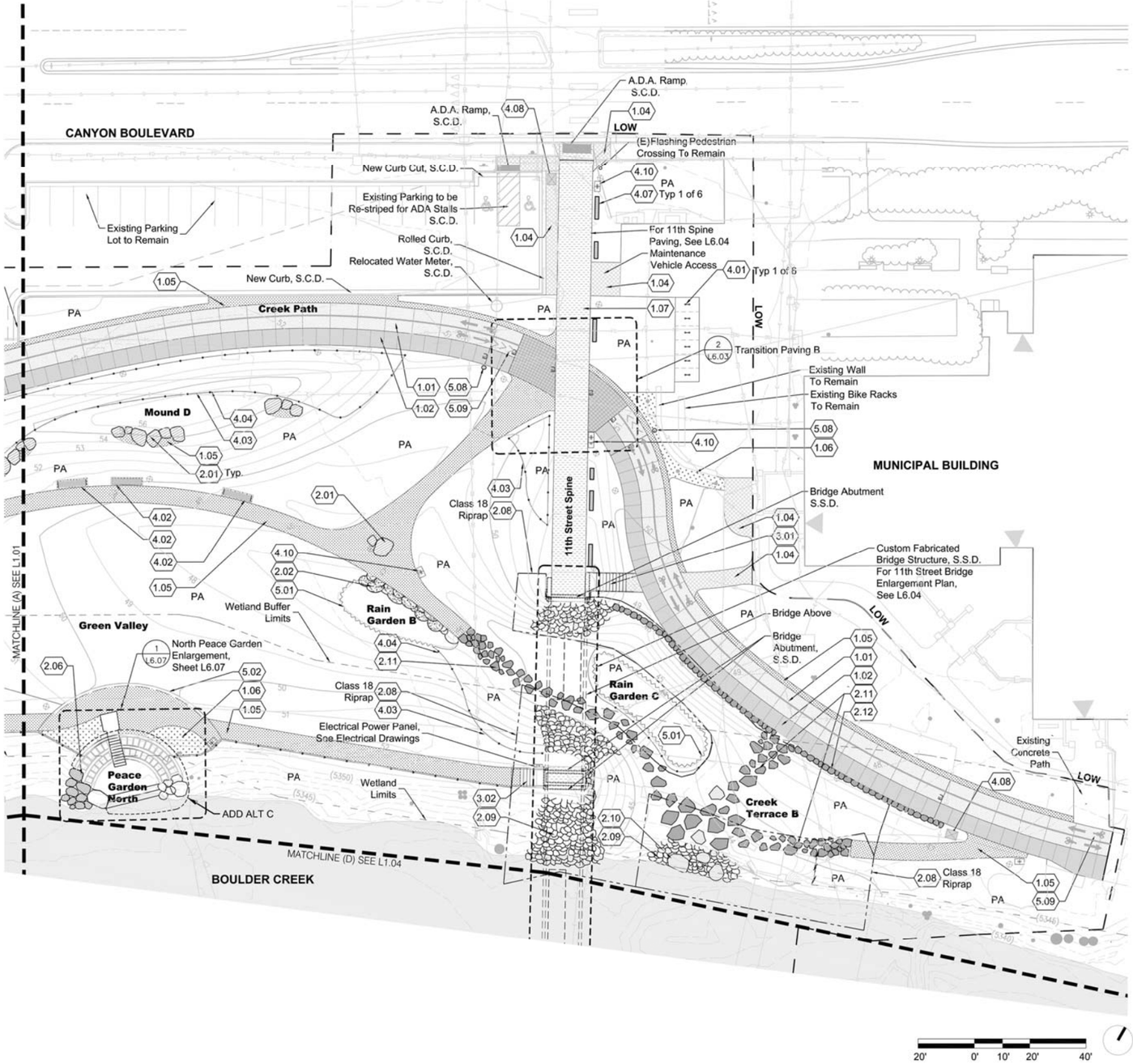
Scale: 1"=20'

FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title
MATERIALS PLAN – GREEN VALLEY WEST

Drawing Number
L1.01



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1.02	C.I.P. Concrete Pavement, Type A (Vehicular Grade)	1 L6.01
1.03	C.I.P. Concrete Pavement, Type B (Pedestrian Grade)	2 L6.01
1.04	C.I.P. Standard Concrete Pavement (Vehicular Grade)	1 L6.01
1.05	Stabilized Decomposed Granite	3 L6.01
1.06	Decomposed Granite Mulch	4 L6.01
1.07	C.I.P. Concrete Pavement - 11th Street Spine, (Vehicular Grade)	1 L6.01; 1 L6.04
1.08	Nature Play Rubber Surface	1 L7.60
1.09	Rubber Steps at Planting	3 L7.72
1.10	Play Sand	5 L7.60
1.11	Creek Cobbles	6 L6.02
1.12	C.I.P. Concrete Pavement, Type D	2 L6.01
1.13	Nature Play Rubber Surface at Slope	4 L7.60

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2.09	RipRap - Exposed	3 L6.13
2.10	RipRap - Seating Boulders	2 L6.13
2.11	RipRap - Stepping Stones	1 L6.13
2.12	RipRap - Exposed at Creek Path	4 L6.12
2.13	Salvaged Stone Steps	1 L6.16; 1–5 L6.17

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5.10	Temporary Fence Post Footing	1 L6.33

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Boulder, CO

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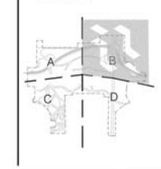
06.20.2016	100% CD (TECH DOC 02)		
08.01.2016	100% CD (TECH DOC 03)		

Seal/Signature

ERIK DUANE PRINCE 170 — STATE OF COLORADO — LICENSED LANDSCAPE ARCHITECT

Key Plan



North

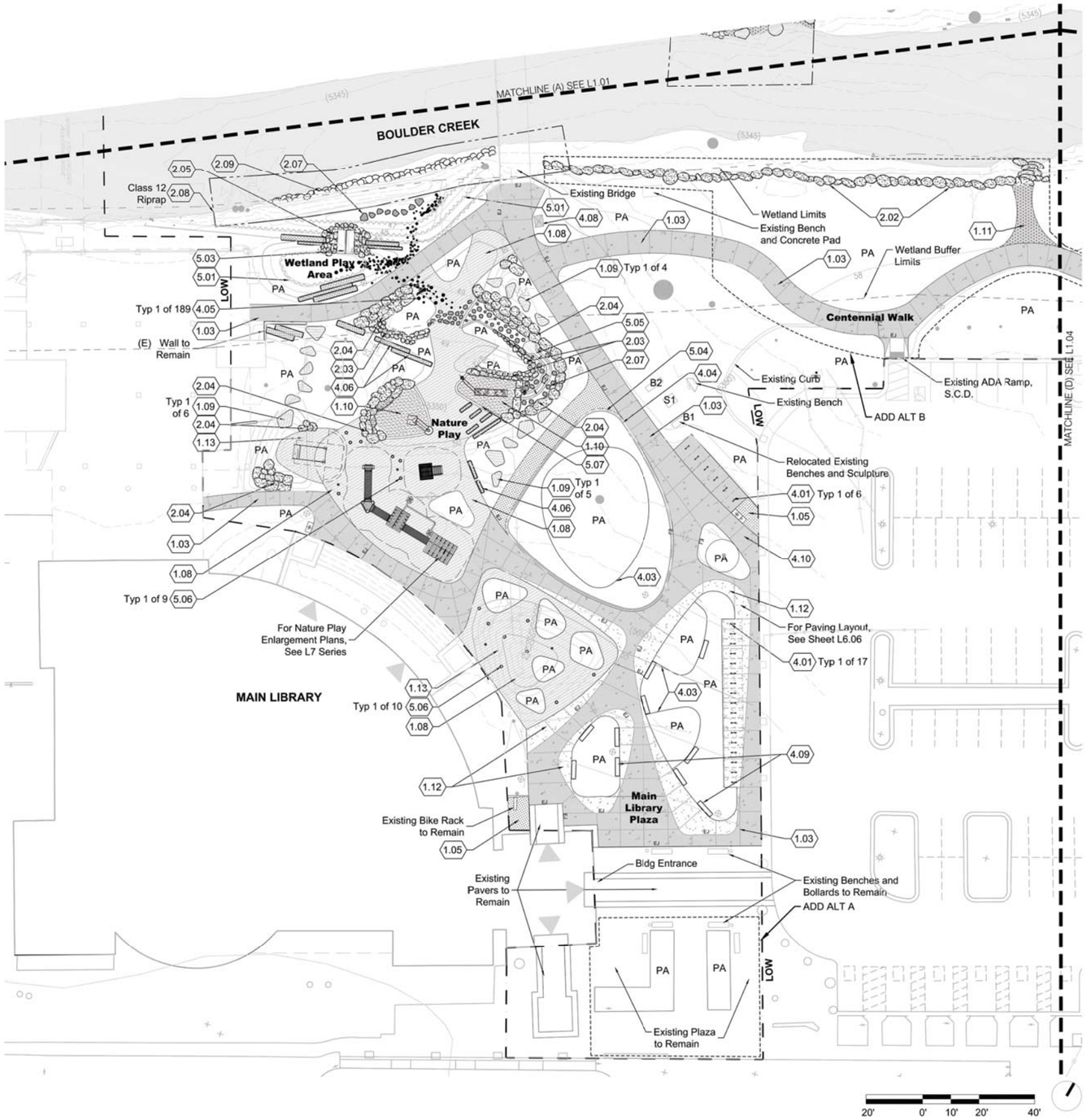
Scale: 1"=20'

FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title
MATERIALS PLAN – GREEN VALLEY EAST

Drawing Number
L1.02



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1.03	C.I.P. Concrete Pavement, Type B (Pedestrian Grade)	2/L6.01
1.04	C.I.P. Standard Concrete Pavement (Vehicular Grade)	1/L6.01
1.05	Stabilized Decomposed Granite	3/L6.01
1.06	Decomposed Granite Mulch	4/L6.01
1.07	C.I.P. Concrete Pavement - 11th Street Spine, (Vehicular Grade)	1/L6.01, 1/L6.04
1.08	Nature Play Rubber Surface	1/L7.60
1.09	Rubber Steps at Planting	3/L7.72
1.10	Play Sand	5/L7.60
1.11	Creek Cobbles	6/L6.02
1.12	C.I.P. Concrete Pavement, Type D	2/L6.01
1.13	Nature Play Rubber Surface at Slope	4/L7.60

2.00 Stone

2.01	Landscape Boulder Seating	1–2/L6.12
2.02	Boulder Embankment	1/L6.11
2.03	Small Boulder Embankment at Play Sand	2/L7.70
2.04	Large Boulder Embankment at Play Sand	1/L7.70
2.05	Boulders at Weir	1–4/L7.73
2.06	Boulder Embankment (at Peace Garden)	1–2/L6.18
2.07	Boulder Stepping Stone in Planting	2–3/L6.11
2.08	RipRap Profile Below	1/L6.14, 1/L6.15
2.09	RipRap - Exposed	3/L6.13
2.10	RipRap - Seating Boulders	2/L6.13
2.11	RipRap - Stepping Stones	1/L6.13
2.12	RipRap - Exposed at Creek Path	4/L6.12
2.13	Salvaged Stone Steps	1/L6.16, 1–5/L6.17

3.00 Stairs

3.01	Stair A	1/L6.31
3.02	Stair B	1/L6.32
3.02	Stair C	3/L6.33

4.00 Site Furnishings

4.01	Bicycle Racks	1/L6.41
4.02	Cordwood Seatwalls	1/L6.22
4.03	Steel Header	8–9/L6.01, 2–3/L6.21
4.04	Range Fencing	1/L6.21
4.05	Log Steps	1–3/L7.71
4.06	Salvaged Seating Terrace Logs	4–9/L7.71
4.07	Salvaged Wood Benches	1–3/L6.25
4.08	Cordwood Gateway	1–4/L6.24
4.09	Library Plaza Benches	3/L6.41
4.10	Bear-Proof Trash Receptacles	4–5/L6.41
4.11	Picnic Tables at Promontory Grove	2/L6.42

5.00 Miscellaneous

5.01	Coir Fascine Logs	2–3/L4.05
5.02	Salvaged Stone Wall	3/L6.12
5.03	V-Notched Weir Structure	1–5/L7.73
5.04	Concrete Curb at Cottonwood	2/L7.72
5.05	Cobble Water Channel	7/L7.60
5.06	Salvaged Vertical Posts	1/L7.72
5.07	Concrete Curb at Play Sand	6/L7.60
5.08	Pedestrian Crossing Signage	1/L6.42
5.09	Bike Lane Striping	3/L6.42
5.10	Temporary Fence Post Footing	1/L6.33

CIVIC AREA PARK DEVELOPMENT PLAN
Boulder, CO

BOULDER CIVIC AREA

City of Boulder
Boulder Parks & Recreation
3198 Broadway
Boulder, CO 80304
Tel: 303.413.7233

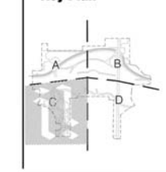
TOM LEADER STUDIO
1015 Camelia Street, Berkeley, CA 94710 | 510.524.3363

Date	Issuance	By	Check
11.13.2015	100% SD		
01.08.2016	50% DD		
01.28.2016	100% DD		
05.02.2016	90% CD (TECH DOC 01)		
06.20.2016	100% CD (TECH DOC 02)		
08.01.2016	100% CD (TECH DOC 03)		

Seal/Signature

ERIK DUANE PRINCE 1170 07/12/2016 Original Signature Operators LICENSED LANDSCAPE ARCHITECT STATE OF COLORADO

Key Plan



North

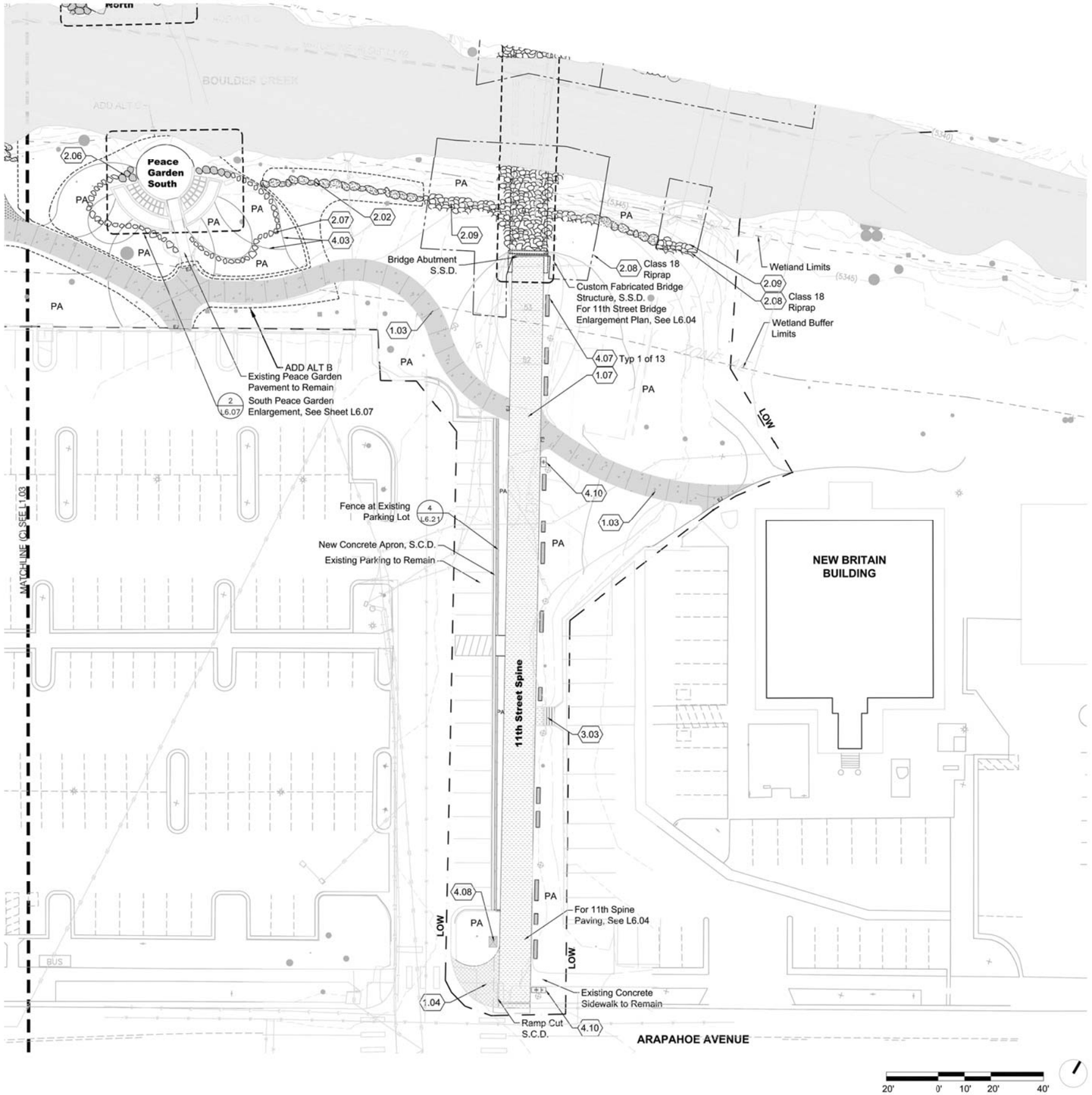
Scale: 1"=20'

FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title
MATERIALS PLAN – NATURE PLAY

Drawing Number
L1.03



MATERIALS LEGEND

- C.I.P. Concrete Pavement - Bike Path, See Specs. (Vehicular Grade)
- C.I.P. Concrete Pavement, Type A, See Specs. (Vehicular Grade)
- C.I.P. Concrete Pavement, Type B, See Specs. (Pedestrian Grade)
- C.I.P. Concrete Pavement, Type D, See Specs.
- C.I.P. Standard Concrete Pavement, See Specs. (Vehicular Grade)
- Stabilized Decomposed Granite
- Decomposed Granite Mulch
- C.I.P. Concrete Pavement - 11th Street Spine, See L6.04
- Nature Play Rubber Surface
- Play Sand
- Cobble Water Channel
- Creek Cobbles
- Landscape Boulder Seating, See L6.09, L6.10, & L7.21
- Boulders at Embankment, See L6.09, L6.10, & L7.21
- Boulders Steps at Peace Garden, See L6.09, L6.10, & L7.21
- Boulders at Peace Garden, See L6.09, L6.10, & L7.21
- RipRap Extents, See L6.09, L6.10, & L7.21
- RipRap - Exposed, See L6.09, L6.10, & L7.21
- RipRap - Seating Boulders, See L6.09, L6.10, & L7.21
- RipRap Stepping Stones / Boulder Stepping Stones, See L6.09, L6.10, & L7.21
- Salvaged Stone Steps
- Bicycle Racks
- Cordwood Gateway
- Cordwood Seatwall
- Salvaged Seating Terrace Logs
- Salvaged Wood Benches
- Rance Fencing
- Salvaged Log Steps/Vertical Posts
- Salvaged Vertical Posts
- Steel Header
- Coir Fascine Logs
- Expansion Joint
- PA Planted Area
- Building Entrance
- Light Poles, See LE.01-LE.04
- Bear Proof Trash Receptacles
- 53 Proposed Contour
- (5350) Existing Contour, S.C.D.
- Boulder Regulatory Wetlands Limits
- Boulder Regulatory Wetlands Buffer Limits
- Existing Tree to Remain
- LOW Limit of Work

MATERIALS KEY

1.00 Pavement

1.01	C.I.P. Concrete Pavement - Bike Path (Vehicular Grade)	1/L6.01
1.02	C.I.P. Concrete Pavement, Type A (Vehicular Grade)	1/L6.01
1.03	C.I.P. Concrete Pavement, Type B (Pedestrian Grade)	2/L6.01
1.04	C.I.P. Standard Concrete Pavement (Vehicular Grade)	1/L6.01
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1.09	Rubber Steps at Planting	3/L7.72
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1.11	Creek Cobbles	6/L6.02
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5.10	Temporary Fence Post Footing	1/L6.33

CIVIC AREA PARK DEVELOPMENT PLAN
Boulder, CO

City of Boulder
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3198 Broadway
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08.01.2016	100% CD (TECH DOC 03)		

Seal/Signature

ERIK DUANE PRINCE 1170 — STATE OF COLORADO — LICENSED LANDSCAPE ARCHITECT

Key Plan

A B C D

North

Scale: 1"=20'

FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title
MATERIALS PLAN - 11TH STREET

Drawing Number
L1.04

Appendix D. Restoration Plan

Consultants in Natural Resources and the Environment

DENVER • DURANGO • HOTCHKISS • IDAHO

CITY OF BOULDER
WETLAND RESTORATION PLAN
BOULDER CIVIC AREA
BOULDER COUNTY, COLORADO

Prepared for—

City of Boulder, Parks and Recreation
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Prepared by—

ERO Resources Corporation
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303-830-1188

ERO Project #6439

September 2, 2016

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Source of Water for Mitigation and Site Hydrology 6
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APPENDICES

Appendix A. Planting Plan

CITY OF BOULDER
WETLAND RESTORATION PLAN
BOULDER CIVIC AREA
BOULDER COUNTY, COLORADO

SEPTEMBER 2, 2016

Introduction

The City of Boulder (City) Parks and Recreation is proposing to restore and enhance the Boulder Civic Area in downtown Boulder. The project area is located within the Boulder Creek corridor in downtown Boulder, Colorado, between 9th Street and 13th Street. Boulder Creek is 10 to 30 feet wide in the project area and is a City-regulated stream. The proposed restoration activities would create distributed habitat restoration areas, specific creek access points, a new bridge along 11th Street, and improved aesthetic and functional value of the project area. Details of the proposed restoration and enhancement activities are described in the attached *City of Boulder Wetland Permit Application Boulder Civic Area* document.

Boulder Creek flows from west to east through the middle of the project area. Just downstream of Broadway Street, the Boulder and Left Hand Ditch diversion structure splits the river flow, with ditch water flowing east, while Boulder Creek continues southeast.

The banks of Boulder Creek are heavily disturbed throughout the project area, and generally consist of compacted bare ground with exposed roots and rocks (Photos 1 and 2). Some understory vegetation is present, typically consisting of Kentucky bluegrass (*Poa pratensis*). The tree overstory of the riparian area along Boulder Creek consists of green ash (*Fraxinus pennsylvanica*), plains cottonwood (*Populus deltoides* ssp. *monilifera*), crack willow (*Salix fragilis*), and peachleaf willow (*Salix amygdaloides*). Vegetation in the landscaped uplands consists of Kentucky bluegrass and additional ash, cottonwood, and oak (*Quercus* sp.) trees (Photo 3). The project area is predominantly used as a public park.

Resource Impacts, Functional Value, and Restoration

Boulder Creek is considered a high-functioning stream throughout most of the City (Land Stewardship Consulting 2004). Some functions and values in the project area, specifically short-term nutrient retention, water quality, and fish and wildlife habitat, have decreased within the immediate project area because of the large amount of disturbance from human activity. Restoration, including conversion of certain areas from Kentucky bluegrass to native vegetation improve specific functions and values.

The project involves construction activities in and around Boulder Creek, but the majority of the work will be outside the inner wetlands, but will impact the wetlands buffer. The layout of the path will be designed to minimize impacts to large trees, but will try to remove dying/diseased trees based on the recommendations from the tree survey. The City Forester and Boulder Arborist will be consulted regarding the health of any existing trees that could be impacted and an evaluation will be conducted for the presence of nesting birds. Impacts to wetlands will be minimized and mitigation and enhancement of wetlands are included as part of the project. Impacts from the proposed project would occur to portions of the stream and regulated wetland buffers. The overall project activities would permanently impact about 0.14 acre (5,876 square feet) of regulated stream channel, 0.28 acre (12,093 square feet) of inner buffer, and 0.22 acre (9,726 square feet) of outer buffer. The project would temporarily impact about 0.10 acre (4,425 square feet) of regulated stream channel, 0.39 acre (16,980 square feet) of inner buffer, and 0.45 acre (21,655 square feet) of outer buffer. The proposed project would require some tree removal. Trees removed will be replaced with native species. Table 1 shows a list of trees that would be removed and the rational for removal. Trees proposed for removal are shown on sheets L0.11 through L0.15

Table 1. Trees to be removed and rationale.

Tree #	Species	Quantity	Condition	Rational	Ref. Sheet
1	Chokecherry 5" DBH DBH to be confirmed	1	-	Tree being removed to allow for new Multi-Use Creek Path width/profile to transition to existing Creek Path to the west.	L0.11

2	Chokecherry 5" DBH DBH to be confirmed	1	-	Tree being removed to allow for new Multi-Use Creek Path width/profile to transition to existing Creek Path to the west.	L0.11
3	Plains Cottonwood 24 DBH, #83 **	1	Fair*	One distinct leader from a co-dominant group of Plains Cottonwoods being removed to accommodate new creek access and re-grading (Creek Terrace A). Grading and Riprap occurs within 20' from trunk to the east of tree. Grading could compromise structural roots of the tree and poise safety risk to Creek Terrace A gathering area. Removal will benefit the preservation of nearby Plains Cottonwoods.	L0.11
4	Plains Cottonwood 36 DBH, #82** 5349.99	1	Fair*	Tree being removed to accommodate new creek access and re-grading (Creek Terrace A). Grading and Riprap would compromise roots. Listed in Fair condition on City GIS but on-site review by City Forestry and Arborist determined in poor condition and doesn't warrant preservation. Adjacent mitigation includes the planting of a native Plains Cottonwood	L0.11
5	Mix of Boxelder, Green Ash and Cottonwood 5" - 24" DBH	9	Poor to Fair**	Group of 9 closely spaced/co-dominant trees that are a mix of native and non-native trees in poor to fair condition being removed to accommodate creek access and re-grading (Creek Terrace A). Adjacent mitigation includes the planting of 2 native Lanceleaf Cottonwoods, 2 native Thinleaf Alders including native groundcover and shrubs.	L0.11
6	Plains Cottonwood 37 DBH, #70** 5347.92	1	Fair	One distinct leader from Plains Cottonwood clump being removed because the leader is significantly leaning north over path creating a safety risk. Removal will benefit the preservation of stronger Plains Cottonwood leader.	L0.11
7	Green Ash 10 DBH	1	-	Tree being removed because roots are currently exposed with significant erosion west of Peace Garden walls. Plans call for new landscape boulders to ease erosion and grade change adjacent to the peace garden. Adjacent mitigation includes new native groundcover and shrubs.	L0.12
8	Willow 44,24,34 DBH, #57584*** 5344.3	1	Good	Believed to be non-native Crack Willow (to be confirmed). Removal of two leaders that are leaning over the creek and in close proximity to the proposed riprap that protects the bridge abutments from erosion. Adjacent mitigation includes native groundcover seed and native live-stake shrubs (in soil/riprap).	L0.12

9	Boxelder 22 DBH, #56** 5350.59	1	Fair	Tree being removed to accommodate proposed bridge. Adjacent mitigation includes native groundcover and native shrubs.	L0.12
10	Boxelder 14 DBH, #55** 5345.47	1	Poor	Tree being removed to accommodate proposed bridge, creek access and re-grading (Creek Terrace B). Adjacent mitigation includes native groundcover seed and native live-stake shrubs (in soil/riprap).	L0.12
11	Austrian Pine 20 DBH, #54**	1	Good* Good	Tree being removed to accommodate proposed creek access and re-grading (Creek Terrace B). Adjacent mitigation includes native Plains Cottonwoods, Peachleaf Willow, native groundcover seed and native live-stake shrubs (in soil/riprap).	L0.12
12	Boxelder 21 DBH, #1** 5348.15	NA	Fair	REVISED: After review on site it was determined to keep and protect this tree.	L0.13
13	Boxelder 22 DBH, #2** 5347.43	1	Fair	Tree being removed to accommodate Wetland Play Garden at the Nature Play area and re-grading. Adjacent mitigation includes a native Plains Cottonwood, native groundcover, native shrubs.	L0.13
14	Willow 54 DBH, #5** 5351.06	1	Fair	Tree being removed to accommodate Wetland Play Garden at the Nature Play area and re-grading. Adjacent mitigation includes native groundcover, native shrubs.	L0.13
15	Willow 24 DBH, #9** 5348	NA	Poor	REVISED: After review on site it was determined to keep and protect this tree.	L0.13
16	Mix of Boxelder, Willows and Cherry; Trees to be removed.	13	Poor to Fair*	Group of 13 closely spaced/co-dominant trees that are a mix of native and non-native trees in poor to fair condition being removed to accommodate Wetland Play Garden at the Nature Play area and re-grading. Adjacent mitigation includes native groundcover and shrubs.	L0.13

	6-12 DBH 5348.71				
17	Willow 31 DBH,	NA	Poor*	Tree has already been removed after falling over in earlier storm.	L0.13
18	Cottonwood 36 DBH, #35689*** 5350.99	1	Poor	Tree in poor condition being removed to mitigate risk and safety concerns associated with adjacent park uses. Adjacent mitigation includes 2 native Peachleaf Willows and one Bald Cypress	L0.13
19	Boxelder 10 DBH Species to be confirmed	1	-	Tree being removed to accommodate new 8' wide pedestrian path and circulation to and from new bridge. Mitigation includes 2 native Peachleaf Willow and 5 River Birches	L0.14
20	Mix of Boxelder and Black Locust 5-12 DBH Species to be confirmed	7	-	Group of 7 closely spaced/co-dominant trees that are a mix of native and non-native trees being removed to accommodate proposed bridge. Adjacent mitigation includes 4 native Peachleaf Willows and native groundcover (in soil/riprap).	L0.14
21	Boxelder 18 DBH	1	Fair*	Tree being removed to accommodate 11th Street Spine path and re-grading. Adjacent mitigation includes native Lanceleaf Cottonwood, native groundcover and native shrubs.	L0.14
22	Boxelder 4” DBH	1	-	Tree in poor structural condition being shaded out by nearby large cottonwoods being protected	L0.11
23	Green Ash 5” DBH	1	-	Tree being removed to mitigate emerald ash borer	L0.11
24	Green Ash 12” DBH	1	-	Tree being removed to mitigate emerald ash borer	L0.11
25	Green Ash 4”-8” DBH	1	-	Tree being removed to mitigate emerald ash borer	L0.12
26	Cottonwood 5” DBH	1	-	Tree being removed to accommodate proposed grading and proposed access to Creek Terrace B	L0.12
27	Green Ash 6” DBH	1	-	Tree being removed to mitigate emerald ash borer	L0.12
28	Green Ash 15” DBH	1	-	Tree being removed to mitigate emerald ash borer	L0.13
29	American Elm 15” DBH	1	-	Tree in poor structural condition and in poor health	L0.13
30	Boxelder	1	-	Co-dominant tree – removing west leader in poor structural	L0.14

	15" DBH			condition and in poor health	
31	Black Locust 15"DBH	1	-	Tree in poor structural condition and in poor health	L0.14
Total Trees to be removed		**54**			

Mitigation for project impacts along Boulder Creek and the regulated wetland buffers would be restored on-site. The regulated inner and outer buffers would be restored by planting native seed or plugs, and native trees and riparian shrubs. Sheet L4.00 of the attached landscape plan shows all plant material to be planted within the regulated buffer areas. A total of 48 native trees, 12 adapted trees, 282 native shrubs, 685 linear feet of native live stakes (shrubs), and 15,678 square feet of native groundcover will be planted in the regulated buffer areas. A total of 208 trees, 853 live willow stakes, and 1,742 shrubs will be planted throughout the project area.

Source of Water for Mitigation and Site Hydrology

Irrigation for the project would exclusively come from irrigation water owned by the City of Boulder. It is likely that groundwater and periodic high flows will also interact with plantings and planting roots. Many of the plant species that are proposed for mitigation are native and adapted to the City's climate.

Planting Plan

The attached landscape plan (Appendix A) contains the planting plan for the project. The project would consist of planting a native trees, shrubs, and herbaceous plugs in the habitat restoration areas in designated areas along the banks in the disturbed uplands in the project area (see sheet L4.00). A total of 2.58 acres (112,415 square feet) of native upland/ riparian and wetland seed or plugs would be planted in the project area (Tables 1 and 2).

Planting Phases

Proposed shrubs and herbaceous plants would be planted during the spring 2017. Trees may be planted in either the spring or fall of 2017. In addition to the trees, shrubs and groundcover plugs note on sheet L4.00 portions of the project area will be seeded through the recommended seed mixes listed in Table 1 and 2:

Table 2. Rain Garden/Wetland Seed Mix

Common Name and Variety	Scientific Name	PLS/ Lb Acre*
American sloughgrass	*Beckmannia schizachne*	0.5
Inland saltgrass	*Distichlis spicata*	0.5
Fowl mannagrass	*Glyceria striata*	4
Switchgrass	*Panicum virgatum*	1
Nuttall's alkaligrass	*Pucinellia nutalliana*	0.2
Prairie cordgrass	*Spartina pectinata*	1
Total		**7.2**

*Drill seed, double rate if broadcast

Table 3. Upland/Riparian Seed Mix.

Common Name and Variety	Scientific Name	PLS/ Lb Acre*
Black-eyed Susan	*Rudbeckia hirta*	0.2
Blue flax	*Adenolinum lewisii*	0.2
Blue grama	*Bouteloua gracilis*	4.0
Buffalograss	*Buchloe dactyloides*	6.0
Canada goldenrod	*Solidago canadensis*	0.8
Common perennial gaillardia	*Gaillardia aristata*	0.3
Inland saltgrass	*Distichlis stricta*	1.7
Mintleaf beebalm	*Monarda fistulosa*	0.2
Narrowleaf penstemon	*Penstemon angustifolius*	0.2
Nuttall sunflower	*Helianthus nuttallii*	0.2
Purple meadowrue	*Thalictrum dasycarpum*	0.2
Rocky Mountain beeplant	*Cleome serrulata*	0.2
Sand dropseed	*Sporobolus cryptandrus*	4.0
Sideoats grama	*Bouteloua curtipendula*	5.0
Slender wheatgrass	*Elymus trachycaulus*	2.7
Spotted joepyeweed	*Eupatoriadelphus maculatus*	0.2
Spreading thermopsis	*Thermopsis mollis*	0.2
Switchgrass	*Panicum virgatum*	1.3
Upright prairie coneflower	*Ratibida columnifera*	0.2
Western wheatgrass	*Pascopyrum smithii*	3.0
White prairie clover	*Dalea purpurea*	0.2
Total		**31.0**

*Drill seed, double rate if broadcast.

Wetland Maintenance and Monitoring

The restoration areas would be monitored for five years to ensure the mitigation is successful. Site visits would be conducted at the end of each growing season to determine the success of the project. Trees and shrubs would be counted, and seeded areas would be monitored by recording species cover. The site would be considered successful when at least 80 percent (determined by ocular estimate of herbaceous and shrub foliar cover) of the site is vegetated, and at least 50 percent of the dominant species

present shall have been planted species or are native species. The presence of noxious weeds would be monitored. Those species shown on the Colorado Noxious Weed Inventory list-A shall be 100 percent eradicated. Those species shown on list-B shall be no more than 10 percent of the total cover in the project area. If the cover of noxious weeds is greater than 10 percent, weed control would be implemented following the City's Integrated Pest Management Policy. Dense monoculture patches of noxious weeds would be controlled as soon as practicable.

Annual monitoring reports would be submitted to the City by December 31. Monitoring reports would include a discussion of weed colonization, a qualitative description of the mitigation area including establishment of native species, and a discussion of the survival of planted shrubs. Bare areas would be noted during monitoring. The potential revegetation of the bare areas would be assessed and recommendations would be made in the annual monitoring reports. Weed species, population size, and extent would be noted, and weed management recommendations would be made. Permanent photo points would be established and supplied in the annual monitoring report. The annual monitoring report would include an evaluation of the status and progress of restoration and mitigation and any recommendations for remedial actions.

References

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report 7-87-1. Vicksburg, MS: U.S. Army Engineer Waterways. Experimental Station.

Land Stewardship Consulting, Inc. 2004. City of Boulder Comprehensive Wetland Remapping Project. Prepared for Planning and Development Services, City of Boulder.

Appendix A. Planting Plan

PLANTING SCHEDULE

PLANTING LEGEND

- Lawn
- Upland Seed Mix
- Rain Garden Seed Mix
- Riparian Seed Mix
- Peace Garden Groundcover
- Soil / Aggregate Mulch
- Mulch
- Landscape Boulders
- Proposed Shrub
- *Chrysothammus nauseosus*
- *Chrysothammus viscidiflorus*
- *Krascheninnikovia lanata*
- *Artemisia frigida*
- *Artemisia ludoviciana*
- Proposed Bare Root Tree
- Proposed Tree
- Multi Stem / Clump Form Tree
- Existing Tree to Protect
- Salvaged Wood Seating
- Log Steps
- Cordwood Seatwalls
- Live Stakes
- Metal Planting Edge
- Range Fence
- Coir Fascine
- Light Fixture, See LE.01-LE.04
- 53 Proposed Contour
- 5350 Existing Contour
- Boulder Regulatory Wetlands Limits
- Boulder Regulatory Wetlands Buffer Limits
- Rip Rap Extents Below
- LOW Limit of Work

NOTES

For Plant Schedule, See Sheet L4.00

TREES

ABBR.	SYM.	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS
ACE GRA		*Acer grandidentatum 'Hipazam'*	Highland Park Bigtooth Maple	42	2" CAL	Mix of Single & Clump Form See Plan
ACE SAC		*Acer saccharum*	Sugar Maple	4	2" CAL	
ACE TAT		*Acer tataricum* 'Hot Wings'	Tatarian Maple	11	2" CAL	Mix of Single & Clump Form See Plan
ALN TEN		*Alnus tenuifolia*	Thinleaf Alder	7	2" CAL	
AME GRA		*Amelanchier x grandiflora* 'Autumn Brilliance'	Serviceberry	7	2" CAL	Clump
BET NIG		*Betula nigra* 'Heritage'	Heritage Birch	5	2" CAL	
CAT SPE		*Catalpa speciosa*	Western Catalpa	6	4'-6' HT	
CRA AMB		*Crataegus ambigua*	Russian Hawthorn	3	10'-12' HT	
GIN BIL		*Ginkgo biloba*	Ginkgo	5	3" CAL	
GYM DIO		*Gymnocladus dioicus*	Kentucky Coffeetree	15	3" CAL	
LAR DEC		*Larix decidua*	European Larch	10	2-3" CAL	
LAR LAR		*Larix laricina*	American Larch	3		Bare Root
PIN ARI		*Pinus aristata*	Rocky Moutain Bristlecone Pine	5	2" CAL	
POP ACU		*Populus x acuminata*	Lanceleaf Cottonwood	26	2" CAL	
POP ACL		*Populus x acuminata*	Lanceleaf Cottonwood	3		Bare Root, 6'-8' HT
POP DEL		*Populus deltoides*	Plains Cottonwood	19		Bare Root, 6'-8' HT
QUE ALB		*Quercus alba*	White Oak	4	2" CAL	
QUE BIC		*Quercus bicolor*	Swamp White Oak	5	2" CAL	
QUE IMB		*Quercus imbricaria*	Shingle Oak	4	2" CAL	
QUE MAC		*Quercus macrocarpa*	Bur Oak	4	2" CAL	
QUE MUE		*Quercus muehlenbergii*	Chinkapin Oak	2	2" CAL	
SAL AMY		Salix amygdaloides	Peachleaf Willow	12	15 GAL	
TAX DIS		*Taxodium distichum*	Bald Cypress	6	2" CAL	

LAWN AND SEED MIXES

ABBR.	QTY.	REMARKS
LAWN	65970 SF	SEE SPECS.
UPLAND	19373 SF	SEE SPECS.
RIPARIAN	12946 SF	SEE SPECS.
RAIN GARDEN	2986 SF	SEE SPECS.

PLANTING NOTES:

1. Landscape Architect to Verify All Plant Locations in Field

2. Verify Location of Subsurface Utilities, Pipes and Structures. Should Utilities or Other Work Not Shown on the Plans be Found During Excavations, Promptly Notify Owner's Representative. Failure to Do So Will Make Contractor Liable for Damage Arising From His Operations Subsequent to Discovery of Utilities Not Shown on Plans.

3. Landscape Contractor to Receive Site Graded to Plus or Minus 0.10 ft Prior to Project Execution.

4. No Substitution of Species Without Approval from the Landscape Architect. Contract Grow Plants as Required. Contract Grown Plants Must Meet Industry Standards for Size in Order to be Accepted.

5. All Plants and Layout to be Verified in Field by the Landscape Architect Prior to Excavation of Planting Notes.

6. Notify Owner's Representative 36 Hours Prior to Commencement of Work to Coordinate Project Observation Meetings.

7. Space Ground Covers Triangularly in Planting Areas.

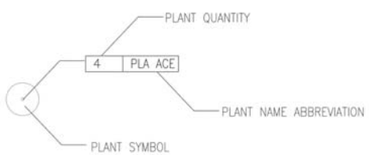
8. The Contractor Shall Verify All Plant Quantities. Quantities Shown on the Plant Schedule and on the Planting Plans are for the Contractor's Reference Only. In the Event of a Discrepancy Between the Quantities Shown on the Schedule and on the Plan, the Plans Shall Govern.

SHEET NOTES:

1. For Planting Plans, See Sheets L4.01 to L4.05.

NOTE:

Planting Callout Legend:



SHRUBS

ABBR.		BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS
ACE GLA		*Acer glabrum*	Rocky Mountain Maple	22	15 GAL	
AME ALN		*Amelanchier alnifolia*	Serviceberry	8	2'-4' HT	3" x 12" Tube bareroot
ART FRI		*Artemisia frigida*	Silver Sage	377	1 GAL	
ART LUD		*Artemisia ludoviciana*	Prairie Sage	348	1 GAL	
CHR NAU		*Chrysothammus nauseosus*	Rabbitbrush	88	5 GAL	
CHR VIS		*Chrysothammus viscidiflorus*	Yellow Rabbitbrush	121	5 GAL	
COR SER		*Cornus sericea*	Red Twig Dogwood	177	5 GAL	SPACE 24" O.C.
FAL PAR		*Fallugia paradoxa*	Apache Plume	149	5 GAL	
KRA LAN		*Krascheninnikovia lanata*	Winterfat	226	5 GAL	
PRU PUM		*Prunus besseyi*	Pawnee Buttes Sandcherry	433	1 GAL	
QUE GAM		*Quercus gambelii*	Gambel Oak	47	6-8' HT	Single + Clump Form Mix
RHU GLA		*Rhus glabra*	Smooth Sumac	69	5 GAL	4' - 6' HT
RHU TYP		*Rhus typhina*	Staghorn Sumac	120	5 GAL	4' - 6' HT
RHU TIG		*Rhus typhina 'Bailtiger'*	Tigereye Sumac	0	5 GAL	4' - 6' HT
RUB DEL		*Rubus deliciosus*	Boulder Raspberry	28	1 GAL	
SAL AMY		*Salix amygdaloides*	Peachleaf Willow	6	4'-6' HT	3"x12" Tube bare root

LIVE STAKES

ABBR.		BOTANICAL NAME	COMMON NAME	LINEAR FT	REMARKS
SAL EXI		*Salix exigua*	Coyote Willow	417	SPACE 12" O.C.
SAL IRR		*Salix irrorata*	Blue Stem Willow	364	SPACE 12" O.C.
SAL MON		Salix monticola	Mountain Willow	72	SPACE 12" O.C.

GROUND COVERS - RIPARIAN

ABBR.		BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS
ASC INC		*Asclepias incarnate*	Showy Milkweed	1433	1 GAL	12" O.C.
BOU GRA		*Bouteloua gracilis*	Blue Grama	1911	0"-4"	12" O.C.
CAR EMO		*Carex emoryi*	Riverbank Tussock Sedge	2388	1 GAL	12" O.C.
JUN CON		*Juncus confusus*	Colorado Rush	1433	1 GAL	12" O.C.
PAN VIR		*Panicum virgatum*	Switchgrass	2388	0"-4"	12" O.C.

GROUND COVERS - RAIN GARDEN

ABBR.		BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS
AND GER		*Andropogon geradii 'Red Bull'*	Big Bluestem	859	1 GAL	12" O.C.
BOU GRA		*Bouteloua gracilis*	Blue Grama	859	0"-4"	12" O.C.
LOB SIP		*Lobelia siphilitica*	Great Blue Lobelia	515	1 GAL	12" O.C.
MIM LEW		*Mimulus lewisii*	Purple Monkeyflower	515	1 GAL	12" O.C.
PAN VIR		*Panicum virgatum*	Switchgrass	687	0"-4"	12" O.C.

GROUND COVERS - UPLAND

ABBR.		BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS
BOU GRA		*Bouteloua gracilis*	Blue Grama	5132	0"-4"	12" O.C.
BUC DAC		*Buchloe dactyloides*	Buffalo Grass	3467	0"-4"	12" O.C.
LIA PUN		*Liatris punctata*	Dotted Gayfeather	1711	0"-4"	12" O.C.
RAT COL		*Ratibida columnifera*	Prairie Coneflower	2612	0"-4"	12" O.C.
SPO HET		*Sporobolus heterolepsis*	Prairie Dropseed	4323	0"-4"	12" O.C.
PAN VIR		*Panicum virgatum*	Switchgrass	450	0"-4"	12" O.C.

GROUND COVERS - OTHER

ABBR.		BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS
ARC UVA		*Arctostaphylos uva-ursi*	Kinnikinnik	85	1 GAL	
AQU CAE		*Aquilegia caerulea*	Rocky Mountain Columbine	96	1 GAL	
MAH REP		*Mahonia repens*	Creeping Oregon Grape Holly	375	1 GAL	
RAT COL		*Ratibida columnifera*	Prairie Coneflower	541	0'-4"	12" O.C.
PEN ANG		*Penstemon angustifolius*	Beardtongue	96	0"-4"	
PEN GRA		*Penstemon grandiflorus*	Large Beardtongue	96	1 GAL	
PEN SEC		*Penstemon secundiflorus*	Sidebells Penstemon	96	1 GAL	
ARC COL		*Arctostaphylos x coloradoensis*	Mock Bearberry/Manzanita	96	1 GAL	
RHU ARO		*Rhus aromatica 'Gro-Low'*	Dwarf Fragrant Sumac	375	1 GAL	
SEM SPP		Sempervivum	Hens and Chicks	85	1 GAL	
SOL CAN		*Solidago canadensis*	Canada Goldenrod	12	1 GAL	
TRI NAN		*Trifolium nanum*	Dwarf Clover	85		

PEACE GARDEN - PERENNIAL/GROUND COVERS

ABBR.	SYM.	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS
GAL ODO		*Galium odoratum*	Sweet Woodruff	86	1 GAL	12" O.C.
IRI VER		*Iris versicolor*	Blue Water Iris	147	1 GAL	24" O.C.
GAL NIV		*Galanthus nivalis*	Common Snowdrop	46	1 GAL	12" O.C.
ANT BIE		*Anthemis biebersteiniana*	Marshall Chamomile	117	1 GAL	12" O.C.
CHR COC		*Chrysanthemum coccineum*	Painted Daisy	77	1 GAL	12" O.C.
MON FIS		*Monarda fistulosa*	Bee Balm	57	1 GAL	18" O.C.
PAP ORI		*Papaver orientale*	Oriental Poppy (White Flowers)	95	1 GAL	12" O.C.
RUD HIR		*Rudbeckia hirta*	Black - Eyed Susan	57	1 GAL	18" O.C.
SED HER		*Sedum herbstfreude.*	Sedum 'Autumn Joy'	77	1 GAL	18" O.C.
SED KAM		Sedum kamtschaticum	Orange Stonecrop	115	0"-4"	9" O.C.
AST ALP		*Aster alpinus*	Alpine Aster	201	1 GAL	12" O.C.
LEO ALP		*Leontopodium alpinum*	Edelweiss	138	1 GAL	12" O.C.
ALL SAT		*Allium sativum*	Garlic Allium	43	1 GAL	24" O.C.
ALL SCH		*Allium schoenoprasum*	Chive Allium	43	1 GAL	24" O.C.
LAV ANG		*Lavendula angustifolia var.*	Lavender	26	1 GAL	12" O.C.
NAR		*Narcissus spp.*	Daffodil, Narcissus Jonquil	216	1 GAL	12" O.C.

PEACE GARDEN - SHRUBS

ABBR.	SYM.	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS
PIN MUG		*Pinus mugo var. pumilio*	Dwarf Mugo Pine	8	5 GAL	3' O.C.
RUB DEL		*Oreobatus (Rubus) deliciosus*	Boulder Raspberry	117	1 GAL	12" O.C.
SAM CAN		*Sambucus canadensis*	Elderberry	14	5 GAL	3' O.C.

CIVIC AREA PARK DEVELOPMENT PLAN
Boulder, CO

City of Boulder
Boulder Parks & Recreation
3198 Broadway
Boulder, CO 80304
Tel: 303.413.7233

TOM LEADER STUDIO
1015 Camelia Street, Berkeley, CA 94710 | 510.524.3363

Date	Issuance	By	Check
11.13.2015	100% SD		
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01.28.2016	100% DD		
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06.20.2016	100% CD (TECH DOC 02)		
08.01.2016	100% CD (TECH DOC 03)		

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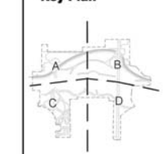

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FINAL LANDSCAPE PLANS

Phase
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Case Number
TEC 2016-00021

Drawing Title
PLANTING SCHEDULE

Drawing Number

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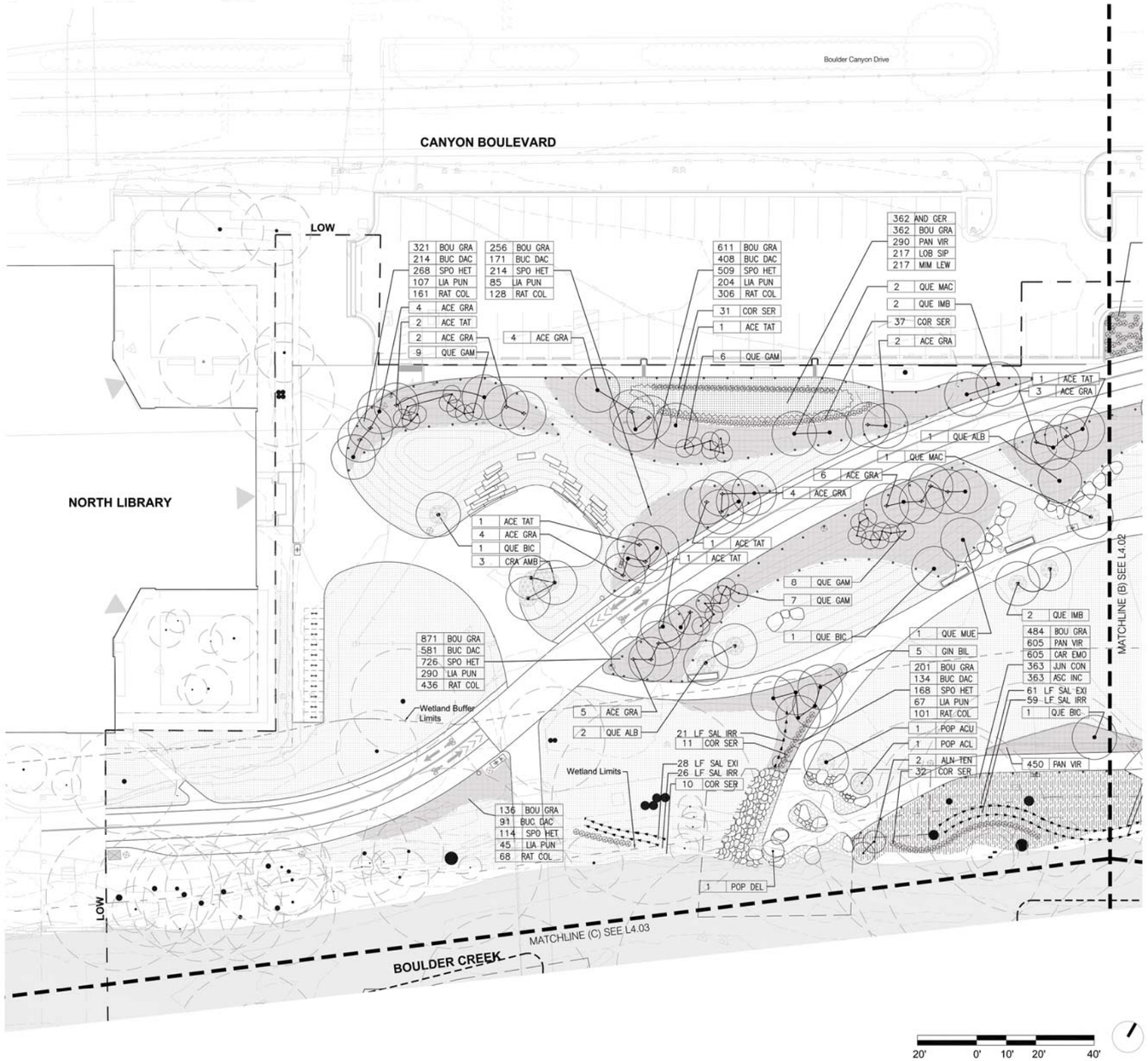

PLANTING LEGEND

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NOTES

For Plant Schedule, See Sheet L4.00

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Boulder, CO

BOULDER CIVIC AREA

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ERIK DUANE PRINCE 1170 07/12/2016 Original Signature Operators STATE OF COLORADO LICENSED LANDSCAPE ARCHITECT

Key Plan

A B C D

North

Scale: 1"=20'

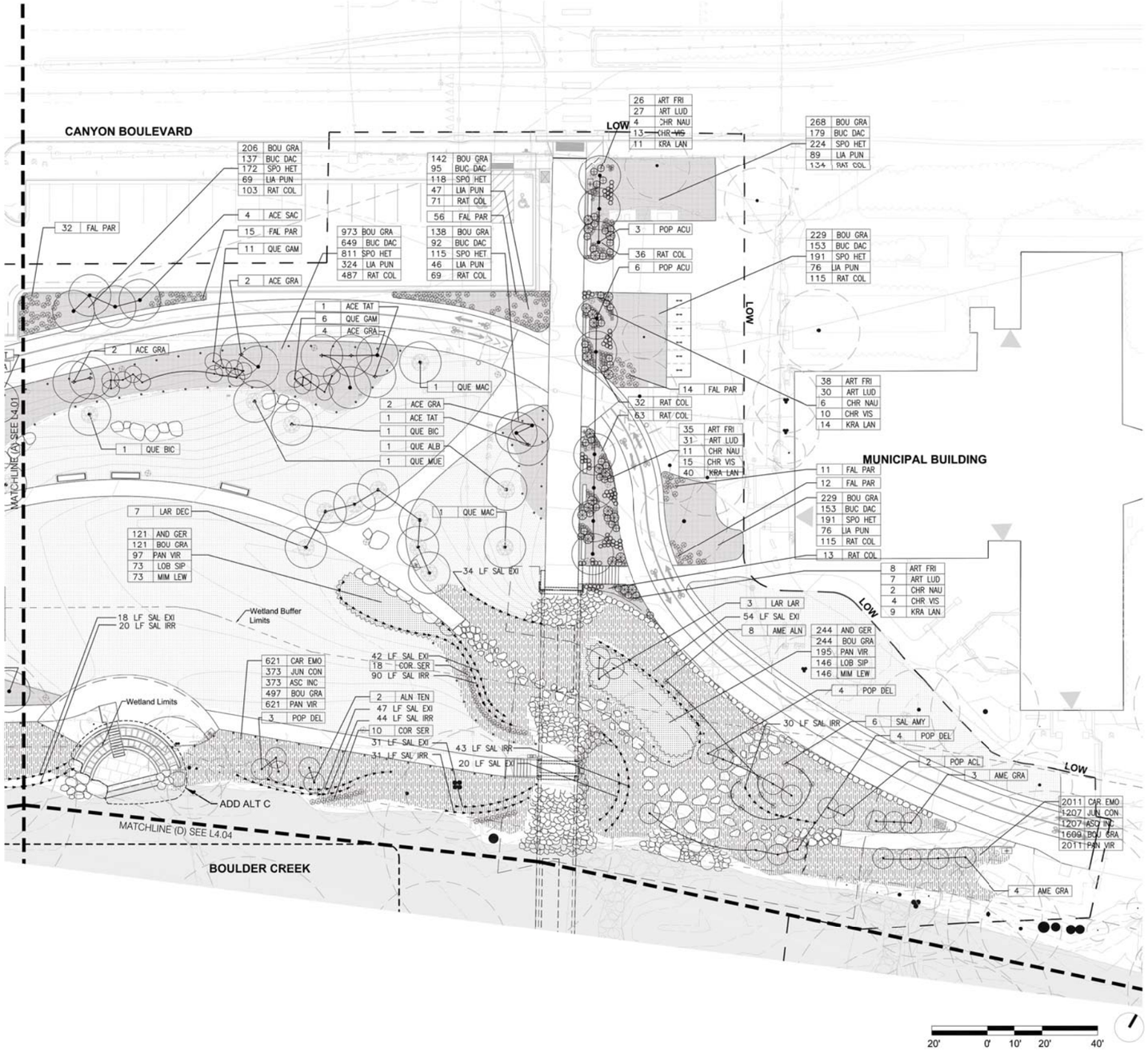
FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title
PLANTING PLAN - GREEN VALLEY WEST

Drawing Number

L4.01



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ERIK DUANE PRINCE 1170 STATE OF COLORADO LICENSED LANDSCAPE ARCHITECT

Key Plan

North

Scale: 1"=20'

FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title
PLANTING PLAN - GREEN VALLEY EAST

Drawing Number
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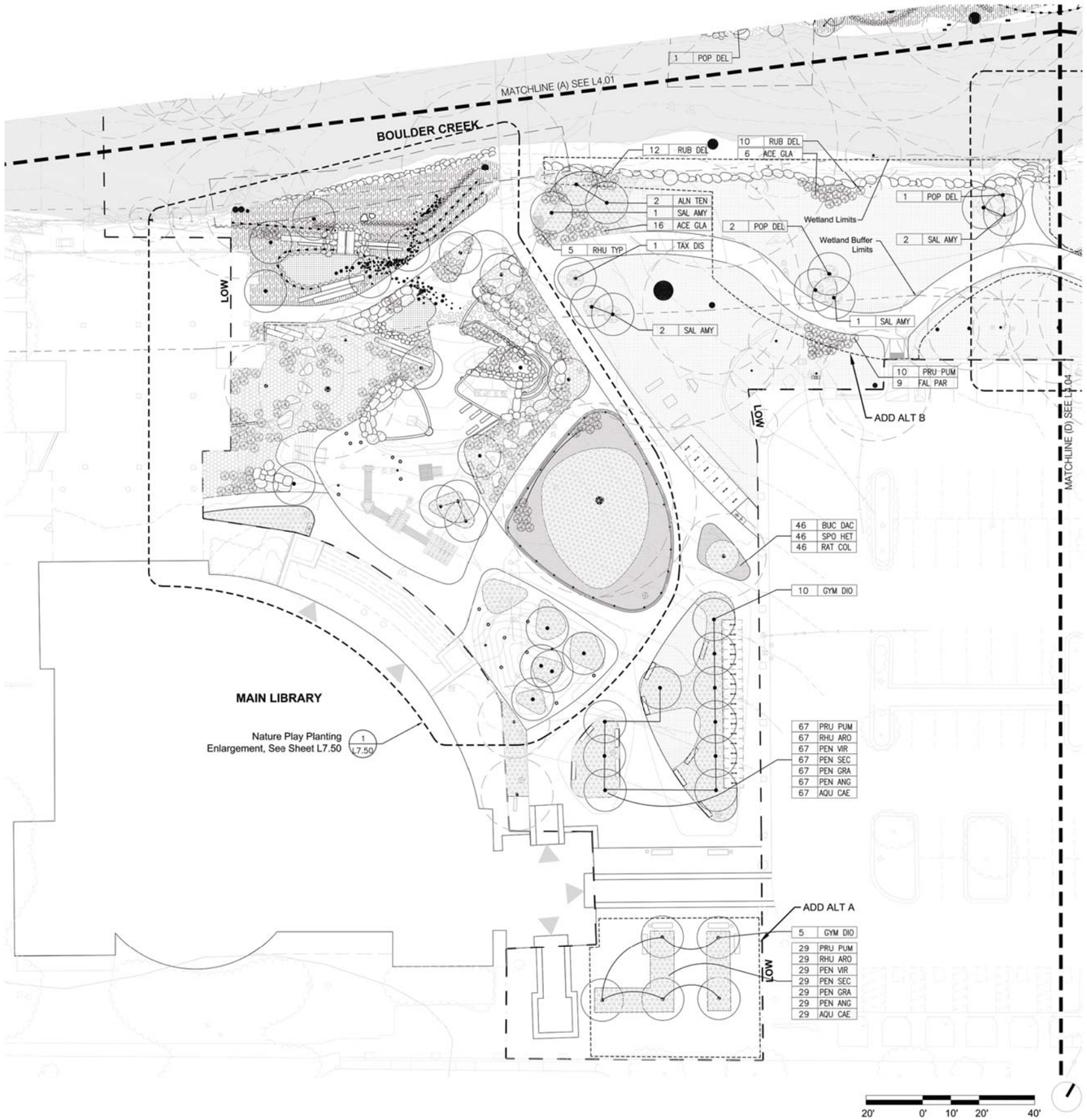

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Key Plan

A B C D

North

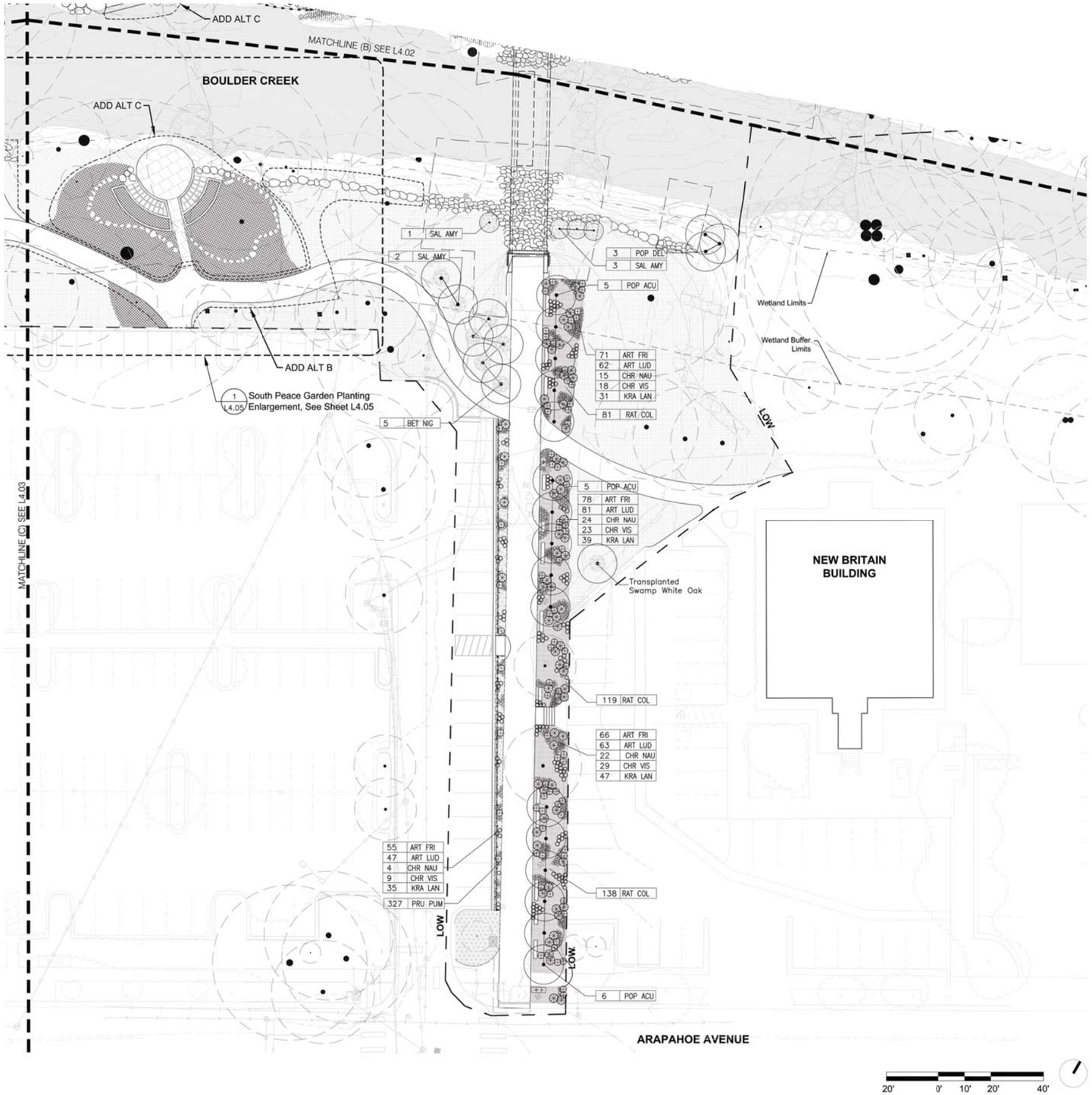
Scale: 1"=20'

FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title
PLANTING PLAN - NATURE PLAY

Drawing Number
L4.03



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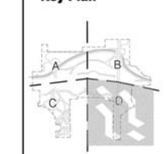
Seal/Signature

Key Plan



North

Scale: 1"=20'

FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
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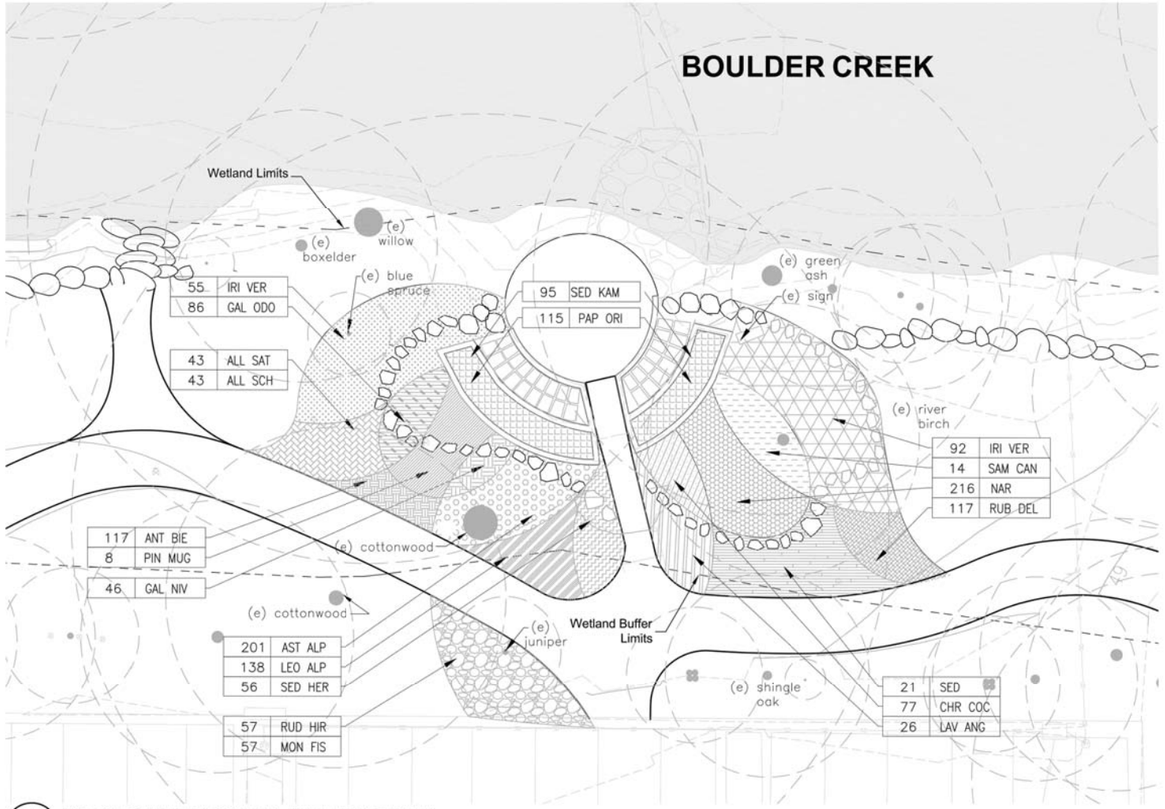
Drawing Title
PLANTING PLAN - 11TH STREET

Drawing Number

L4.04



1 L4.05 PEACE GARDEN SOUTH - PLANTING PLAN

SCALE: 1" = 10'

NOTE:
ALL PLANTING SHOWN IS INCLUDED IN ADD ALT C

PEACE GARDEN - PERENNIAL/GROUND COVERS

ABBR.	SYM.	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS
GAL ODO		*Galium odoratum*	Sweet Woodruff	86	1 GAL	12" O.C.
IRI VER		*Iris versicolor*	Blue Water Iris	147	1 GAL	24" O.C.
GAL NIV		*Galanthus nivalis*	Common Snowdrop	46	1 GAL	12" O.C.
ANT BIE		*Anthemis biebersteiniana*	Marshall Chamomile	117	1 GAL	12" O.C.
CHR COC		*Chrysanthemum coccineum*	Painted Daisy	77	1 GAL	12" O.C.
MON FIS		*Monarda fistulosa*	Bee Balm	57	1 GAL	18" O.C.
PAP ORI		*Papaver orientale*	Oriental Poppy (White Flowers)	95	1 GAL	12" O.C.
RUD HIR		*Rudbeckia hirta*	Black - Eyed Susan	57	1 GAL	18" O.C.
SED HER		*Sedum herbstfreude.*	Sedum 'Autumn Joy'	77	1 GAL	18" O.C.
SED KAM		Sedum kamtschaticum	Orange Stonecrop	115	0"-4"	9" O.C.
AST ALP		*Aster alpinus*	Alpine Aster	201	1 GAL	12" O.C.
LEO ALP		*Leontopodium alpinum*	Edelweiss	138	1 GAL	12" O.C.
ALL SAT		*Allium sativum*	Garlic Allium	43	1 GAL	24" O.C.
ALL SCH		*Allium schoenoprasum*	Chive Allium	43	1 GAL	24" O.C.
LAV ANG		*Lavendula angustifolia var.*	Lavender	26	1 GAL	12" O.C.
NAR		*Narcissus spp.*	Daffodil, Narcissus Jonquil	216	1 GAL	12" O.C.

PEACE GARDEN - SHRUBS

ABBR.	SYM.	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS
PIN MUG		*Pinus mugo var. pumilio*	Dwarf Mugo Pine	8	5 GAL	3' O.C.
RUB DEL		*Oreobatus (Rubus) deliciosus*	Boulder Raspberry	117	1 GAL	12" O.C.
SAM CAN		*Sambucus canadensis*	Elderberry	14	5 GAL	3' O.C.

CIVIC AREA PARK DEVELOPMENT PLAN
Boulder, CO

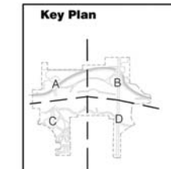
City of Boulder
Boulder Parks & Recreation
3198 Broadway
Boulder, CO 80304
Tel: 303.413.7233

TOM LEADER STUDIO
1015 Camelia Street, Berkeley, CA 94710 | 510.524.3363

Date	Issuance	By	Check
11.13.2015	100% SD		
01.08.2016	50% DD		
01.28.2016	100% DD		
05.02.2016	90% CD (TECH DOC 01)		
06.20.2016	100% CD (TECH DOC 02)		
08.01.2016	100% CD (TECH DOC 03)		

Seal/Signature

Key Plan



North

Scale: 1" = 10'

FINAL LANDSCAPE PLANS

Phase
CONSTRUCTION DOCUMENT
Case Number
TEC 2016-00021

Drawing Title
PEACE GARDEN SOUTH-PLANTING PLAN

Drawing Number
L4.05

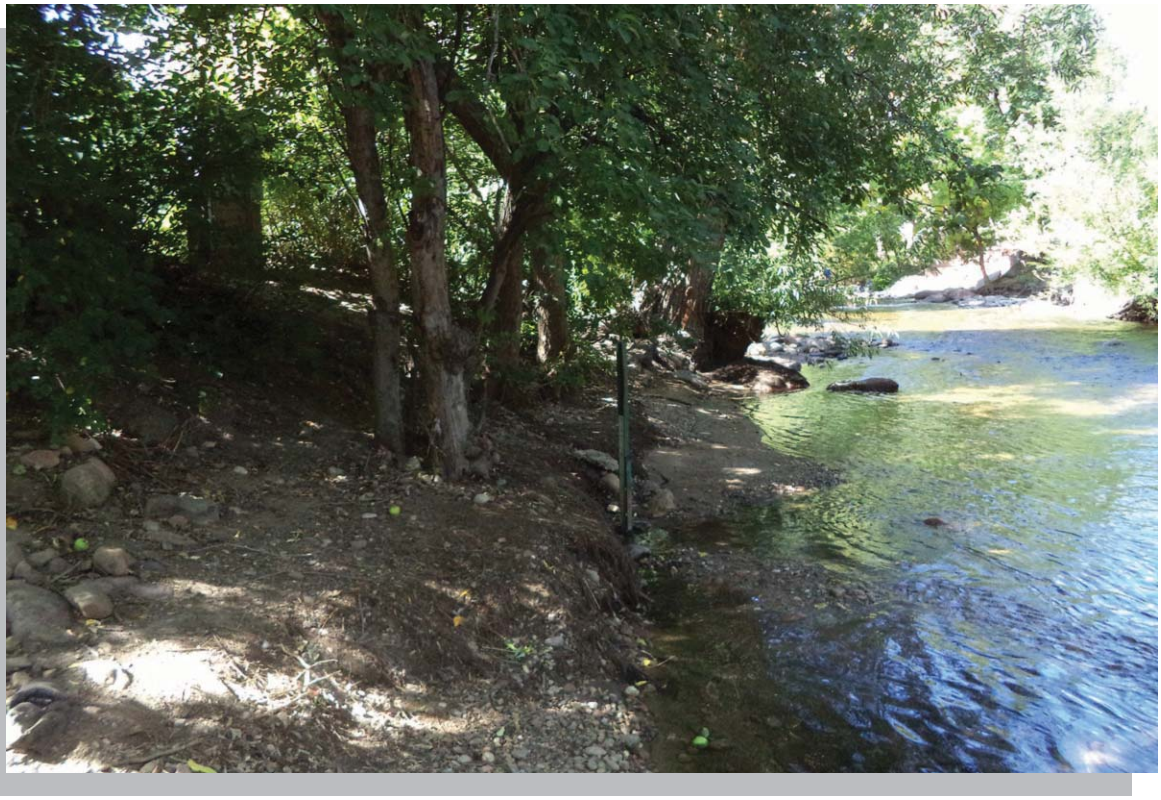


Photo 1 - Exposed shoreline along Boulder Creek. View is to the west.

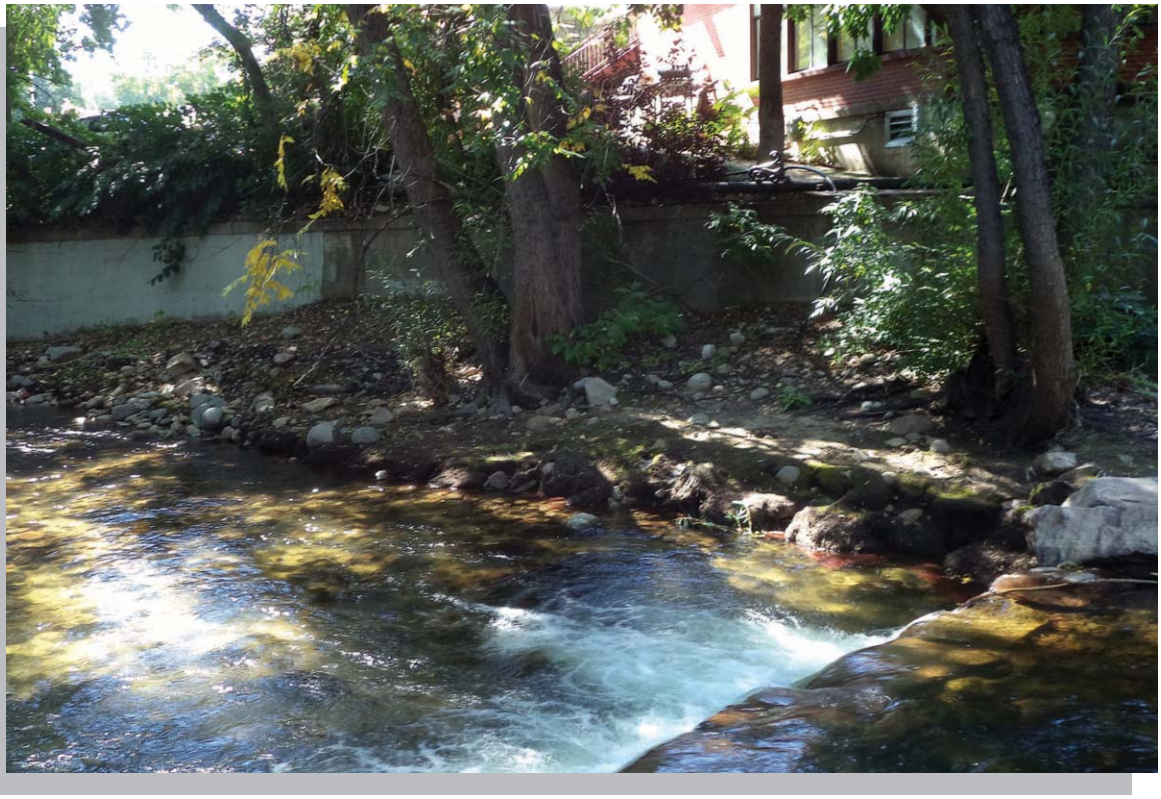


Photo 2 - Exposed shoreline along Boulder Creek. View is to the south.

Photo 3 - Open space in the study area. View is to the northwest.

Photo 4 - Overstory along Boulder Creek during the 2016 site visit. View is to the west.

ERO Resources Corp.

February 18, 2016

Drue DeBerry
U.S. Fish and Wildlife Service
Colorado Field Office
Denver Federal Center (MS 65412)
PO Box 25486
Denver, Colorado 80225

Re: Threatened and Endangered Species Habitat Assessment – Boulder Civic Area and Arapahoe Underpass projects, Boulder County, Colorado

Dear Mr. DeBerry:

The City of Boulder (City) is proposing improvements to the Boulder Civic Area located between 9th Street and Arapahoe Avenue in Boulder County, Colorado (study area; Figure 1). Additionally, the City proposes to improve a portion of the Boulder Creek path under Arapahoe Avenue. The proposed work would include enhancing the Boulder Civic Area, constructing a bridge over Boulder Creek along 11th Street, and stabilizing the Boulder Creek channel in the study area.

Federal Nexus

The City retained ERO Resources Corporation (ERO) to assess the study area for the presence of habitat suitable for federally listed threatened, endangered, and candidate species and to assist with environmental permitting for the project.

Boulder Creek flows from west to east through the study area. Boulder Creek is a known jurisdictional water of the U.S. Activities from each project would impact Boulder Creek and would require a Clean Water Act (CWA) Section 404 Permit. ERO will prepare a Preconstruction Notification for each project, which will be submitted to the U.S. Army Corps of Engineers.

Project Location

The study area is in Sections 30 and 31, Township 1 North, Range 70 West and Sections 25 and 36, Township 1 North, Range 71 West of the 6th Principal Meridian in Boulder County, Colorado (Figure 1). The UTM coordinates of the approximate center of the study area are NAD 476163mE, 4429395mN, Zone 13. The latitude/longitude of the study area is 40.014419°N/105.279317°W. The elevation of the study area averages 5,360 feet above sea level.

Project Description

The City proposes to construct a 12-foot-wide bridge crossing Boulder Creek along 11th Street and install riprap along the banks near both embankments. The existing

Denver
1842 Clarkson St.
Denver, CO 80218
303.830.1188

Durango
1015 ½ Main Avenue
Durango, CO 81301
970.422.2136

Hotchkiss
P.O. Box 932
161 South 2nd St.
Hotchkiss, CO 81419
970.872.3020

Idaho
4001 East Main Street
Emmett, ID 83617
208.365.7684

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Consultants in
Natural Resources
and the Environment

bridge in the eastern portion of the study area would be removed. Riprap would also be placed along the north embankment of the existing bridge in the western portion of the study area. Activities in the uplands include constructing a multiuse bike path, enhancing areas containing native grasses and forbs, and landscaping a manicured bluegrass park. A creek access point on the north bank would be restored and refurbished. The underpass beneath Arapahoe Avenue would be replaced, which may include replacement of the existing multiuse path bridge south of the Arapahoe Avenue bridge.

Site Description

The study area is surrounded by commercial and residential developments (Figure 2). The study area is bounded by 9th Street on the west, Arapahoe Avenue on the south, 13th Street on the east, and Canyon Boulevard on the north. Boulder Creek flows from west to east through the middle of the study area. Just downstream of Broadway Street, the Boulder and Left Hand Ditch diversion structure splits the river flow, with ditch water flowing east, while Boulder Creek continues southeast.

The banks of Boulder Creek are heavily disturbed throughout the study area and generally consist of compacted bare ground with exposed roots and rocks (Photos 1 and 2). Some understory vegetation is present, typically consisting of Kentucky bluegrass (*Poa pratensis*). The vegetation in the landscaped uplands consists mostly of manicured Kentucky bluegrass and ornamental trees (Photo 3). The tree overstory of the riparian area along Boulder Creek consists of green ash (*Fraxinus pennsylvanica*), plains cottonwood (*Populus deltoides* ssp. *monilifera*), and peachleaf willow (*Salix amygdaloides*) (Photo 4). No wetlands are present in the study area.

The Natural Resource Conservation Service (NRCS) has mapped the soils within the study area as Niwot soils (U.S. Department of Agriculture, NRCS 2016).

Endangered Species Act Compliance

On September 19, 2014 and January 12, 2016, Henry Konker and Tony Romano with ERO assessed the study area (2014 and 2016 site visits) for suitable habitat for federally listed threatened and endangered species protected under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) (ESA). The study area does not fall within U.S. Fish and Wildlife Service (Service) habitat or survey guidelines for the majority of the species listed by the Service as potentially occurring in Boulder County (Table 1). Because the study area falls within survey guidelines for Preble's meadow jumping mouse (*Zapus hudsonius preblei* or Preble's), Ute ladies'-tresses orchid (*Spiranthes diluvialis* or ULTO), and Colorado butterfly plant (*Gaura neomexicana* ssp. *coloradensis* or CBP), ERO assessed the study area for suitable habitat for these species.

Table 1. Federally threatened, endangered, and candidate species potentially found in Boulder County or potentially affected by projects in Boulder County.

Common Name	Scientific Name	Status*	Habitat	Suitable Habitat Present
Mammals				
Canada lynx	*Lynx canadensis*	T	Climax boreal forest with a dense understory of thickets and windfalls	No habitat, no potential to affect
Preble's meadow jumping mouse	*Zapus hudsonius preblei*	T	Shrub riparian/wet meadows	No
Birds				
Interior least tern**	*Sterna antillarum athalassos*	E	Sandy/pebble beaches on lakes, reservoirs, and rivers	No habitat and no depletions anticipated
Mexican spotted owl	*Strix occidentalis*	T	Closed canopy forests in steep canyons	No habitat, no potential to affect
Piping plover**	*Charadrius melodus*	T	Sandy lakeshore beaches and river sandbars	No habitat and no depletions anticipated
Whooping crane**	*Grus americana*	E	Mudflats around reservoirs and in agricultural areas	No habitat and no depletions anticipated
Fish				
Greenback cutthroat trout	*Oncorhynchus clarki stomias*	T	Cold, clear, gravel headwater streams and mountain lakes	No
Pallid sturgeon**	*Scaphirhynchus albus*	E	Large, turbid, free-flowing rivers with a strong current and gravel or sandy substrate	No habitat and no depletions anticipated
Plants				
Colorado butterfly plant	*Gaura neomexicana* ssp. *coloradensis*	T	Subirrigated, alluvial soils on level floodplains and drainage bottoms between 5,000 and 6,400 feet in elevation	No
Ute ladies'-tresses orchid	*Spiranthes diluvialis*	T	Moist to wet alluvial meadows, floodplains of perennial streams, and around springs and lakes below 6,500 feet in elevation	No
Western prairie fringed orchid**	*Platanthera praeclara*	T	Moist to wet prairies and meadows	No habitat and no depletions anticipated

*T = Federally Threatened Species, E = Federally Endangered Species.
**Water depletions in the South Platte River may affect the species and/or critical habitat in downstream reaches in other counties or states.
Source: Service 2016.

The proposed project would not affect the Canada lynx, Mexican spotted owl, or greenback cutthroat trout because of the lack of suitable habitat within the study area. The interior least tern, piping plover, whooping crane, pallid sturgeon, and western prairie fringed orchid are species that are affected by continued or ongoing water

depletions to the Platte River system. The proposed project would not result in any change in hydrology and would not result in any depletions to the South Platte River watershed. Because of the lack of habitat and depletions, the proposed project would not affect these species.

Because of the association of Preble's, ULTO, and CBP to wetland/riparian habitat along the Colorado Front Range, ERO evaluated the potential for these species to occur in the study area.

Rationale for Excluding the Study Area as Potential Preble's Habitat

ERO assessed the study area for potential Preble's habitat. The proposed project would not likely impact Preble's habitat because:

- **Lack of Suitable Habitat**: Within the study area, Boulder Creek has been modified by human development and lacks the multilayered shrub cover typically associated with known Preble's habitat. The study area, outside of the drainage corridors, is dominated by upland vegetation species and developed areas.
- **Habitat Fragmentation and Human Disturbance:** The study area has been disturbed by human activity such as construction of roads, trails, and recreation facilities and is disjointed. A viable population of Preble's is unlikely to exist in the study area because the habitat in the study area is intermittent and frequently disturbed by human activity.
- **Isolated from Nearby Populations**: The nearest Preble's capture site is approximately 1.4 miles overland and 2 miles along the drainage west of the study area in upper Bear Canyon (Meaney and Company 2001). Preble's is unlikely to find a passageway into the study area because riparian habitat is intermittent.
- **Study Area is Not Identified as Critical Habitat:** The study area contains no designated critical habitat and no Preble's critical habitat has been designated within the upper Boulder Creek watershed. The nearest Preble's critical habitat is approximately 4 miles east of the study area along South Boulder Creek.

Given the above information, it is unlikely the study area supports a population of Preble's or that the continued existence of Preble's would be adversely affected by the proposed project. ERO recommends that the proposed project be allowed to proceed without a trapping survey.

Rationale for Excluding the Study Area as Potential ULTO Habitat

ERO determined that the study area is not conducive to the establishment of ULTO and differs from the criteria of the Service's November 1992 (Service 1992) *Interim Survey Requirements for Spiranthes diluvialis* for the following reasons:

- **Lack of Suitable Habitat:** Boulder Creek within the study area has been greatly modified by human activity. The remainder of the study area consists primarily of disturbed uplands dominated by introduced species.
- **Lack of Associated Indicator Species:** The study area is dominated with species typically not associated with ULTO. A majority of the study area consists of dry

uplands dominated by introduced species, with no wetlands, and does not contain the wet mesic habitat suitable for ULTO.

Rationale for Excluding the Study Area as Potential CBP Habitat

The Service has not established formal survey guidelines for CBP, but has indicated that areas similar to, and slightly drier than, ULTO habitat should be assessed. ERO determined that habitat for CBP does not occur in the study area for the same reasons as described for ULTO.

Other Sensitive Species

In addition to species listed as threatened or endangered, ERO assessed the study area for potential habitat and the presence of species protected by the Migratory Bird Treaty Act (MBTA). Migratory birds, as well as their eggs and active nests, are protected under the MBTA. Migratory bird habitat typically includes trees and shrubs, but upland grasslands also are used for nesting. No active nests were observed in the study area during the 2014 or 2016 site visit. The City would comply with the MBTA by constructing the project or clearing any vegetation outside of the breeding season (during the winter months).

Conclusions

There is no suitable habitat for threatened or endangered species in the study area. Therefore, the proposed project would likely have no effect on federally listed species potentially present in Boulder County. Based on this habitat assessment, ERO, on behalf of the City, requests that the Service concur that it has no concerns related to threatened and endangered species and that no further consultation under the ESA is required. Attached are photos and figures of the study area. After you review this information, ERO would appreciate a written determination of this request.

Please call if you need additional information or have any questions. I look forward to hearing from you.

Sincerely,

Clint Henke
Biologist

Attachments

cc: Jeff Haley – City of Boulder Parks and Recreation

References

Meaney and Company. 2001. Trapping survey results submitted to U.S. Fish and Wildlife Service at Upper Bear Canyon - Eldorado Springs. Reference provided by U.S. Fish and Wildlife Service (2016).

U.S. Department of Agriculture, Natural Resource Conservation Service. 2016. Web Soil Survey. Available at: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. Last accessed: January 14, 2016.

U.S. Fish and Wildlife Service (Service). 1992. Interim Survey Requirements for *Spiranthes diluvialis*.

U.S. Fish and Wildlife Service (Service). 2016. Endangered, Threatened, Proposed and Candidate Species. Available at: http://ecos.fws.gov/ipac/. Last accessed: January 14, 2016.

Site Information

Location: Sections 30 and 31, Township 1 North, Range 70 West and Sections 25 and 36, Township 1 North, Range 71 West of the 6th Principal Meridian in Boulder County, Colorado.

Elevation: Averages 5,360 feet above sea level.

Latitude/Longitude: 40.014419°N/105.279317°W.

UTM Coordinates: 476163mE, 4429395mN.

Soils: Niwot soils.

Site Hydrology: Boulder Creek, perennial stream.

Qualifications of Surveyors

Qualifications of Clint R. Henke have been previously submitted to the Service and are available upon request. Clint R. Henke has a B.S. in biology from Fort Lewis College and an M.S. in Environmental Science from the University of Colorado at Denver. Clint has more than 14 years of experience performing Preble's habitat assessments and presence/absence surveys, and has experience identifying and handling Preble's in the field. Clint also has 16 years' experience conducting biological inventories and biographical mapping. Clint is familiar with *Spiranthes diluvialis* survey guidelines and has viewed *Spiranthes* in the field.

Henry Konker has a B.A. in biology from Colorado College. Henry has more than two years of experience performing Preble's habitat assessments. Henry is familiar with Preble's survey guidelines and has been trained in Preble's identification. Henry also has more than three years' experience conducting biological inventories and biographical mapping. Henry is familiar with *Spiranthes diluvialis* survey guidelines and has viewed *Spiranthes* in the field.

Path: P:\6400 Projects\6430 Boulder Creek Underpass NRA\Maps\6430 Figure 1 HA.mxd

Boulder Creek Habitat Assesment

Sections 30 and 31, T1N, R70W; Sections 25 and 36, T1N, R71W; 6th PM

UTM NAD 83: Zone 13N; 476163mE, 4429395mN

Latitude, Longitude: 40.014419°N, 105.279317°W

USGS Boulder, CO Quadrangle

Boulder County, Colorado

0 750 1,500 Feet

N

Figure 1
Vicinity Map

Prepared for: City of Boulder
File: 6430 Figure 1 HA.mxd (GS)
January 19, 2016

ERO Resources Corp.

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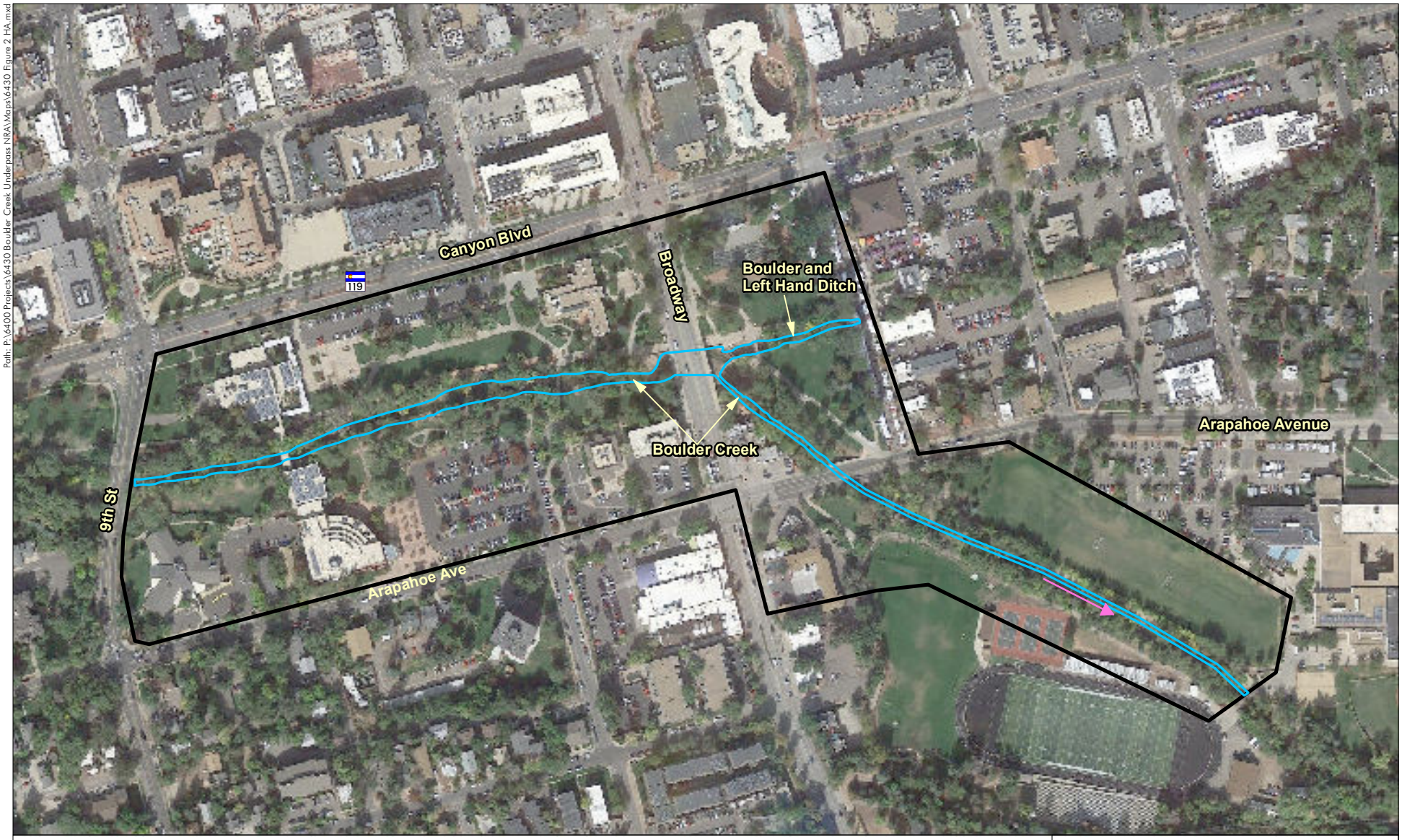
Path: P:\6400 Projects\6430 Boulder Creek Underpass NRA\Maps\6430 Figure 2 HA.mxd



Boulder Creek Habitat Assesment

Flow Direction

Open Water

Study Area

Image Source: Google Earth©, October 2015

0 150 300 feet

N

Figure 2
Site Description

Prepared for: City of Boulder
File: 6430 Figure 2 HA.mxd (GS)
January 19, 2016

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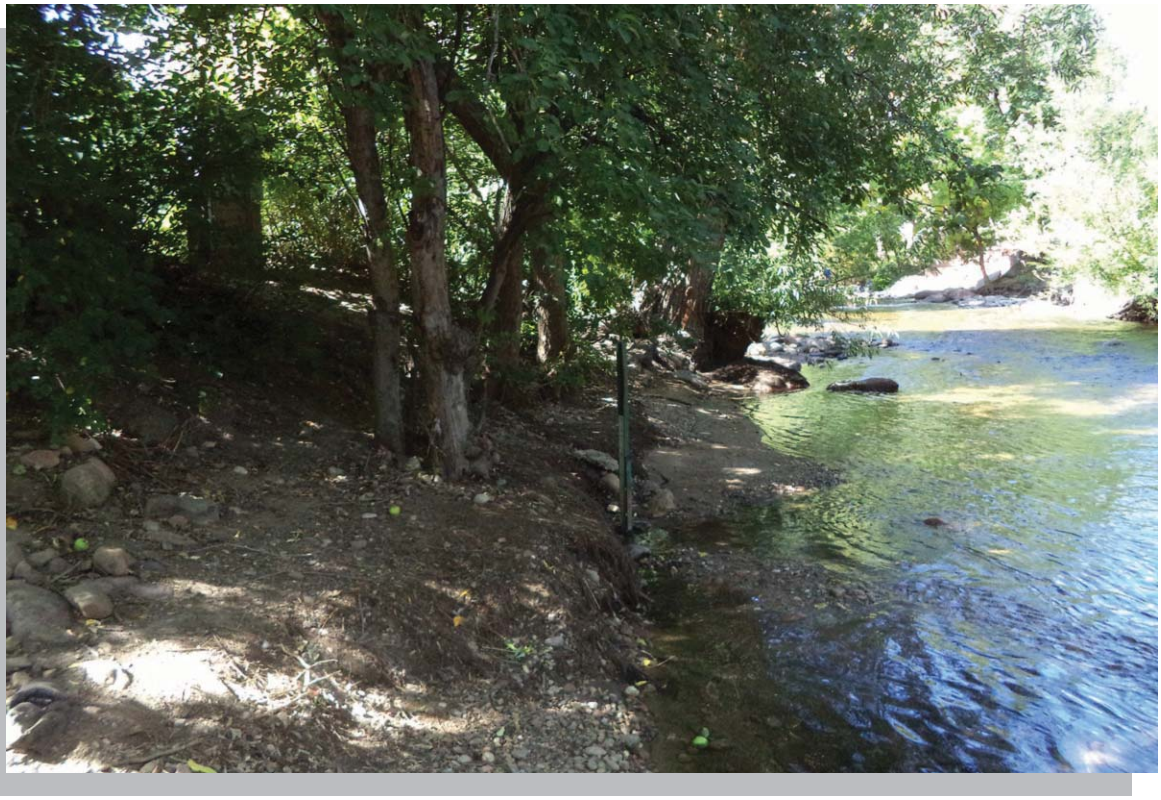

Photo 1 - Exposed shoreline along Boulder Creek. View is to the west.

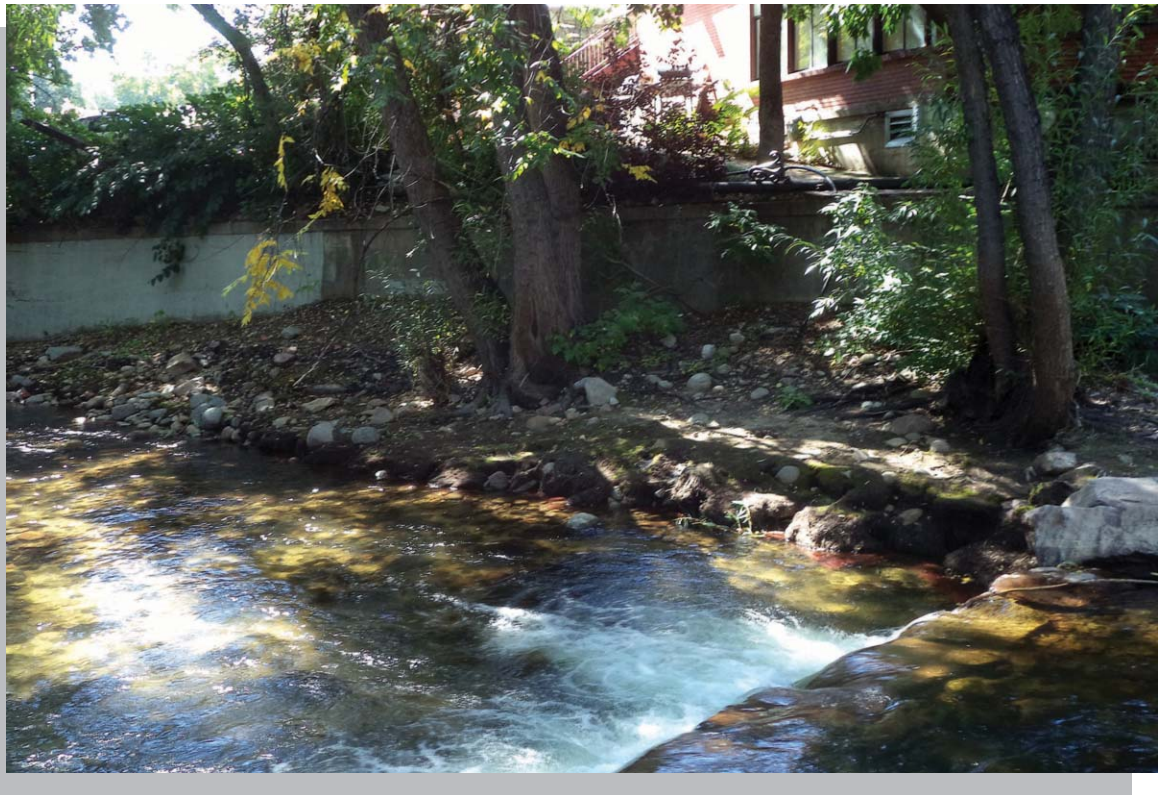

Photo 2 - Exposed shoreline along Boulder Creek. View is to the south.

Photo 3 - Open space in the study area. View is to the northwest.

Photo 4 - Overstory along Boulder Creek during the 2016 site visit. View is to the west.

RECEIVED
JAN 25 2016

U.S. FISH AND WILDLIFE SERVICE
☒ NO CONCERNS
☐ CONCUR NOT LIKELY TO ADVERSELY AFFECT
☐ NO COMMENT
Leslie Ellwood 2/23/16
Drue L. DeBerry, Acting DATE
COLORADO FIELD SUPERVISOR

ERO
ERO Resources Corp.

January 20, 2016

Drue DeBerry
U.S. Fish and Wildlife Service
Colorado Field Office
Denver Federal Center (MS 65412)
PO Box 25486
Denver, Colorado 80225

Re: Threatened and Endangered Species Habitat Assessment – Boulder Civic Area, Boulder County, Colorado

Dear Mr. DeBerry:

The City of Boulder (City) is proposing improvements to the Boulder Civic Area located between 9th Street and Arapahoe Avenue in Boulder County, Colorado (study area; Figure 1). Additionally, the City proposes to improve a portion of the Boulder Creek path under Arapahoe Avenue. The proposed work would include enhancing the Boulder Civic Area, constructing a bridge over Boulder Creek along 11th Street, and stabilizing the Boulder Creek channel in the study area.

Federal Nexus

The City retained ERO Resources Corporation (ERO) to assess the study area for the presence of habitat suitable for federally listed threatened, endangered, and candidate species and to assist with environmental permitting for the project.

Boulder Creek flows from west to east through the study area. Boulder Creek is a known jurisdictional water of the U.S. Activities from the project would impact Boulder Creek and would require a Clean Water Act (CWA) Section 404 Permit. ERO will prepare a Preconstruction Notification, which will be submitted to the U.S. Army Corps of Engineers.

Project Location

The study area is in Sections 30 and 31, Township 1 North, Range 70 West and Sections 25 and 36, Township 1 North, Range 71 West of the 6th Principal Meridian in Boulder County, Colorado (Figure 1). The UTM coordinates of the approximate center of the study area are NAD 476163mE, 4429395mN, Zone 13. The latitude/longitude of the study area is 40.014419°N/105.279317°W. The elevation of the study area averages 5,360 feet above sea level.

Project Description

The City proposes to construct a 12-foot-wide bridge crossing Boulder Creek along 11th Street and install riprap along the banks near both embankments. The existing

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970.872.3020

Idaho
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Emmett, ID 83617
208.365.7684

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C I T Y O F B O U L D E R
PLANNING BOARD AGENDA ITEM
MEETING DATE: October 6, 2016

AGENDA TITLE:
Public hearing and actions on the following items related to development review applications for properties located at 4801, 4855, 4865 and 4885 Riverbend Road within the Riverbend Office Park:

1. Boulder Valley Comprehensive Plan (BVCP) Land Use Map Change, LUR2016-00038**:** Decision on proposal to change the underlying BVCP Land Use Designation on the Riverbend Road site from Transitional Business to Public;
2. Rezoning, LUR2016-00038: Recommendation to City Council on request to rezone the properties from BT-2 (Business Transitional – 2) to P (Public);
3. Amendment to Ordinance No. 8028: Recommendation to City Council on a request to amend Ordinance No. 8028 to allow consideration of a height modification to up to 55 feet;
4. Site Review, LUR2016-00040: Decision on request to amend the Riverbend Office Park Planned Unit Development (PUD) to build a new 70,342 sq. ft., 3-story medical center to include inpatient behavioral health, inpatient rehabilitation and neurology facilities as part of the Boulder Community Health functions at the corner of Arapahoe Ave. and 48th Street. The proposal also includes a new, 6-story parking structure containing 406 parking spaces with first floor accessory uses including office and hospital-oriented retail. The proposal would require a height modification to permit the medical and parking garage buildings at 55-feet where 35-feet is the by-right limit, and
5. Use Review, LUR2016-00040: Decision on request for automobile parking lots, garages or car pool lots as a principal use on the site to permit a parking garage that serves the proposed medical office building and accessory retail uses as well as overflow parking from the Boulder Community Health Foothills Hospital.

Applicant: Darryl Brown for Boulder Community Health
Property Owner: Boulder Community Health & Riverbend Sleep, LLC

REQUESTING DEPARTMENT:
Planning, Housing & Sustainability
David Driskell, Executive Director
Susan Richstone, Deputy Director
Charles Ferro, Land Use Review Manager
Karl Guiler, Senior Planner/Code Amendment Specialist

OBJECTIVE:
1. Hear applicant and staff presentations
2. Hold public hearing
3. Planning Board to ask questions of applicant, the public and staff

4.	Planning Board discussion and decision on the BVCP Land Use Map change, Site Review and Use Review and recommendation to City Council on the proposed rezoning and amendment to Ordinance. No. 8028.

SUMMARY:

Proposal:	Redevelop the properties located at 4801, 4855, 4865 and 4885 Riverbend Road. within the Riverbend Office Park with a new 70,342 sq. ft., 55-foot medical building and a 6-story, 406-stall parking structure with accessory commercial space. The new facility would house BCH's relocated inpatient behavioral health, inpatient rehab and neurology department.
Project Name:	Boulder Community Health (BCH) Riverbend Medical Pavilion and Parking Garage
Location:	4801, 4855, 4865 and 4885 Riverbend Rd.
Size of Tract:	2.25 acres (97,887 sq. ft.)
Zoning:	Business – Transitional 2 (BT-2)
Comprehensive Plan:	Transitional Business

Key Issues for Discussion:

Staff is recommending the following key issues for the Planning Board's discussion and analysis:

1. Is the proposal to change the Boulder Valley Comprehensive Plan (BVCP) land use map designation from Transitional Business to Public consistent with the applicable criteria?
2. Is the proposal to rezone the properties from BT-2 (Business Transitional – 2) to P (Public) consistent with the criteria of Section 9-2-19(e), B.R.C. 1981?
3. Does Planning Board support the proposed ordinance to enable an exemption from Ordinance No. 8028 to permit a height modification on the site to permit two buildings at 55-feet?
4. Does the proposal for a height modification meet the criteria of Section 9-2-14(h), B.R.C. 1981?
5. Is the proposed site layout and building design consistent with the Site Review criteria of Section 9-2-14(h), B.R.C. 1981?
6. Does the proposal for parking as a principal use meet the Use Review criteria of Section 9-2-15(e), B.R.C. 1981?

I. INTRODUCTION AND BACKGROUND

PROCESSES

The following requests are required for the project to proceed. After each is an explanation of the required process and applicable criteria:

- BVCP Land Use Map change: A land use designation change from Transitional Business to Public is necessary to permit the hospital/medical uses on the property. Land Use Map changes require approval from both Planning Board and City Council and are subject to procedures and criteria within the BVCP (see page 58). Land Use Map change requests requires approval from both Planning Board and City Council.

- Rezoning: Rezoning requests require Planning Board review and recommendation to City Council and require final approval by council. Rezoning requests are subject to the criteria within Section 9-2-19, "Rezoning," B.R.C. 1981 within the Land Use Code.
- Amendment to Ordinance No. 8028: Ordinance No. 8028 was passed by City Council on April 7, 2015 and restricted areas within the city where height modifications could be considered. The standards amended the Site Review section of the Land Use Code (Section 9-2-14, B.R.C. 1981) and areas where height modifications can be considered are outlined on Appendix J and include the Downtown (once the guidelines are complete, which is the case now), University Hill, the Frazier Meadows senior housing development, Boulder Junction, Gunbarrel Center, portions of the Boulder Valley Regional Center (BVRC), the Armory site (the applicant of the recent application did not make a height modification request), and the Boulder Community Health (BCH) Foothills facility site at 4747 Arapahoe, which does not include the subject properties. Appendix J of the ordinance and Land Use Code would need to be amended to include the subject properties with the adjacent BCH site to allow the height modification to be requested. The ordinance may be reviewed here.
- Site Review: Site Review is required because the BT-2 site is over 2 acres in size, the project is over 30,000 square feet in floor area and, in addition, the project includes a proposal for a height modification and setback modifications. Site Review is also required since the subject properties are subject to an existing Planned Unit Development (PUD) entitled the Riverbend Office Park. This Site Review is considered an amendment to that PUD. Site Reviews can only be approved if the Site Review criteria of Section 9-2-14(h), B.R.C. 1981 are met. The Site Review thresholds and criteria can be found at this link.
- Use Review: Use Review is required because the applicant proposes a parking garage that will provide parking to an off-site location, the Boulder Community Health facility, in addition to the parking for the on-site uses. Because parking would serve an off-site location, the use is considered 'Automobile parking lots, garages or car pool lots as a principal use.' This use requires Use Review per Table 6-1: Use Table of Section 9-6-1, "Schedule of Permitted Land Uses," B.R.C. 1981 and is subject to the Use Review criteria of Section 9-2-15(e), B.R.C. 1981.

BACKGROUND

BCH plans to move all services from its Broadway location by December 2017. This will include the relocation of its inpatient behavioral health, inpatient rehab and neurology department. BCH has selected the Riverbend Office Park as the new location for the relocated inpatient behavioral health facilities due to its proximity to the existing BCH Foothills hospital and medical center facility at the corner of Arapahoe and Foothills Parkway (i.e., 4747 Arapahoe). Per the applicant, co-location of the emergency room with inpatient behavioral health is a significant benefit for the treatment of patients. The BCH Foothills hospital was approved in 2001 to construct up to 420,000 square feet of floor area in six phases for a period up to 10 years.

Site Review application #LUR2011-00043 was approved by Planning Board on Dec. 1, 2011 to expand the existing 308,255 square foot hospital by over 100,000 square feet of new floor area (totaling up to 440,000 square feet) within new three-story wings and upper floors on the existing hospital building. A height modification was also approved to build the new additions up to 52 feet (similar to existing height). Use Review application #LUR2011-00061 was also approved to permit the heliport. A rezoning was also approved to properly align the zoning with the underlying BVCP land use map designations of Public and Open Space. The BCH Foothills campus provides a total 1,166 parking spaces on the 4747 Arapahoe site.

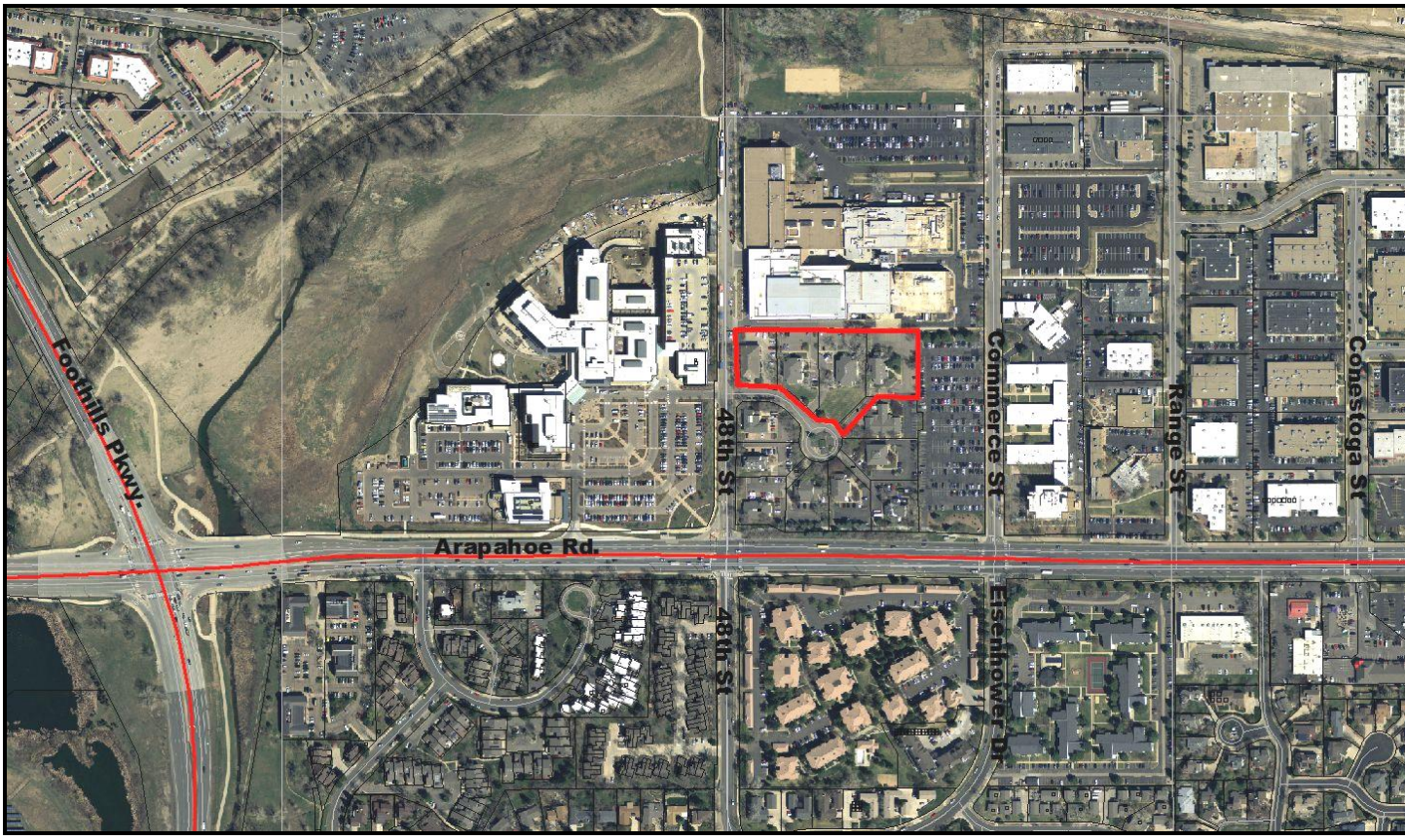
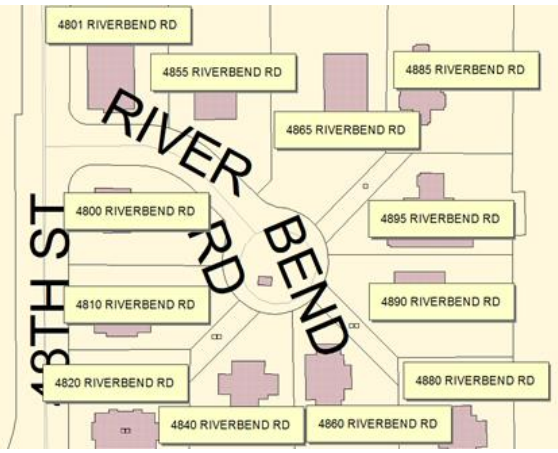


Figure 1- Vicinity Map (subject site is 4801, 4855, 4865 and 4885 Riverbend Road)



As depicted in **Figure 1**, the 2.55-acre (gross) project site is located off of Arapahoe Ave. immediately to the east of the Boulder Community Hospital Foothills campus. The site is currently the location of the Riverbend Office Park (see addresses here right), which was originally annexed and approved as a PUD with an initial zoning designation of Industrial – Developing ("IG" under current code standards). The original approval also included a Special Review (now called Use Review) approval for an office use. Over the years, several additional Use Reviews were approved for additional office uses on specific sites within the PUD, and several other office uses were established or converted without the benefit of City review. In 2000, the Riverbend Office Park was rezoned from Industrial to Transitional Business in acknowledgment of the fact that the proliferation of office uses within the development, many of which were nonconforming or prohibited, had resulted in the development no longer being consistent with the Industrial zoning designation. Currently, the 12 existing one and two-story buildings within the Riverbend Office Park contain a mix of medical/dental, professional and technical offices and personal service uses, all of which are allowed uses in the BT-2 zone district.

The project site is located in East Boulder near the intersection of 48th Street and Arapahoe Avenue, just east of the Boulder Community Health Foothills Campus (shown below in **Figure 2**). The Boulder Community Health Foothills Campus site is the location of the Boulder Community Foothills Hospital, which was constructed as a branch hospital providing medical services to an expanded area and to take pressure

Figure 2: BCH Foothills Campus from corner of 48th & Arapahoe

off the main hospital on Broadway, which has recently been sold to the City of Boulder. Eventually, all operations from the Broadway campus will be relocated to the Foothills campus. The existing Foothill campus is nearly 50 acres in size and contains large areas designated for environmental preservation with wetlands and open space areas around Boulder Creek, which runs on the north side of the site and adjacent to the Ball Aerospace property to the north and east.

Currently, the project site is the location of the Riverbend office park, which consists of twelve individual properties containing a variety of professional and medical office uses. The park is arranged as a series of two-story office buildings arranged around a cul-de-sac with surface parking provided on each lot. The site is surrounded by large, mature trees, which gives it a somewhat secluded feel. The character of the area surrounding the site is somewhat eclectic, with the hospital facilities immediately to the west and the large, industrial buildings of the Ball Aerospace campus immediately to the north and east. The site is bordered on its east side by a large surface parking lot serving Ball Aerospace. The area across Arapahoe to the south consists of high density residential development characterized by 2 to 3-story buildings setback from the street with detached parking garages along the major frontages. The project site as seen from within Riverbend Office Park at the existing roundabout is shown in **Figure 3** below, with the Ball Aerospace building in the background. **Figure 3** shows the project site as seen from Commerce St. across the Ball Aerospace parking lot to the east of the site.

Figure 3: Project Site from within Riverbend Office Park

Figure 4: project site as seen from Commerce St. across the Ball Aerospace parking lot to the

A variety of BVCP land use designations surround the site and reflect the diversity of land uses in the area. Most land east and north of the site are designated light industrial, whereas uses south of Arapahoe are predominantly designated medium to high density residential with low density residential neighborhoods further from Arapahoe. As mentioned above, the project site is located immediately to the east of the existing BCH Foothills campus at the corner of Arapahoe and Foothills, which has a BVCP land use designation of Public. The lands southwest of Foothills and Arapahoe owned by the University of Colorado have a Public land use designation as well. **Figure 5** depicts the surrounding BVCP land use designations.

BVCP Land Use Designation

As shown below in **Figure 5**, the project site has a BVCP land use designation of Transitional Business, which is defined in the 2010 BVCP as follows:

> *The Transitional Business designation is shown along certain major streets. These are areas usually zoned for less intensive business uses than in the General Business areas, and they often provide a transition to residential areas.*

The change in the site's land use designation from Industrial to Transitional Business in 2000 was largely to acknowledge the change in character that had resulted from the proliferation of medical and professional office uses on the site. Under the current proposal, the land use designation would need to be changed from Transitional Business to Public, which is defined in the 2010 BVCP as follows:

> *Public/Semi-Public land use designations encompass a wide range of public and private non-profit uses that provide a community service. This category includes municipal and public utility services such as the municipal airport, water reservoirs, and water and wastewater treatment plants. Public/Semi-Public also includes: educational facilities, including public and private schools and the university; government offices such as city and county buildings, libraries, and the jail; government laboratories; and nonprofit facilities such as cemeteries, churches, hospitals, retirement complexes and may include other uses as allowed by zoning.*

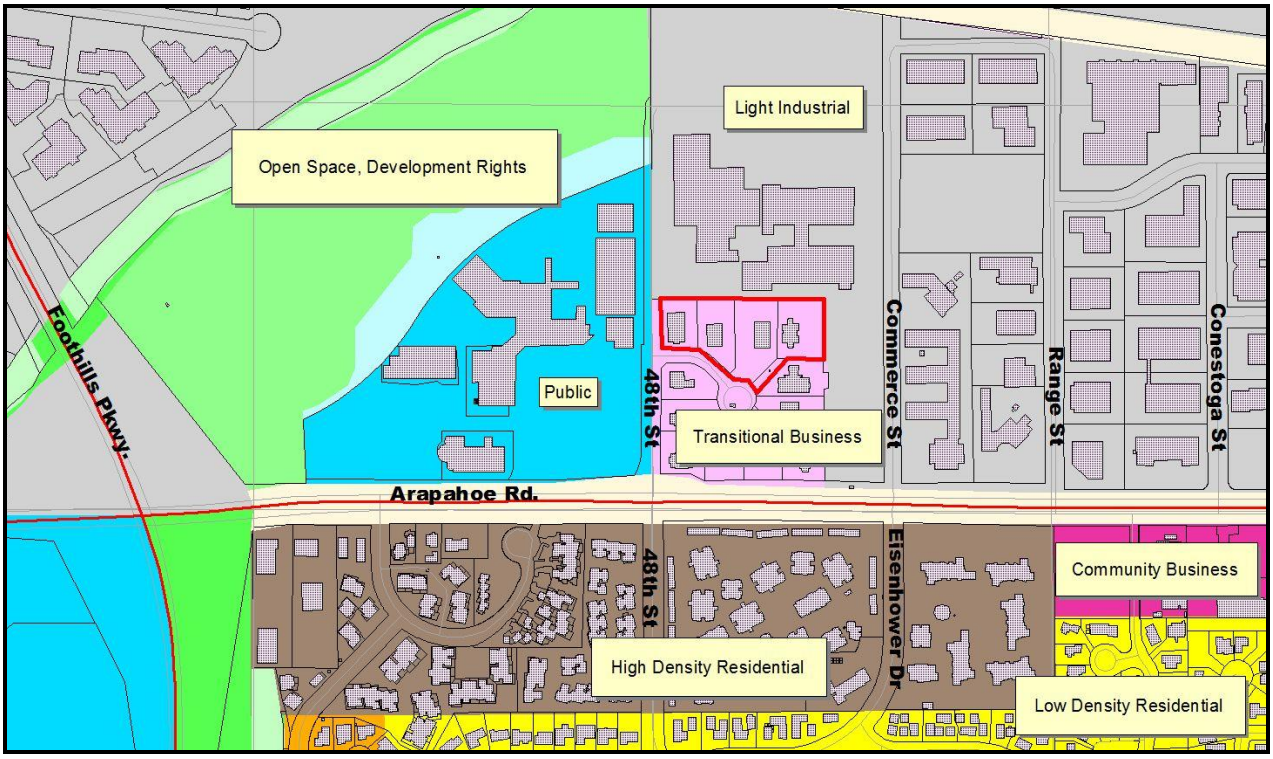


Figure 5: BVCP Land Use Map

The current proposal presents an opportunity to evaluate whether the existing land use designation for the project site should be changed to become consistent with the adjacent BCH site.

Zoning

The project site is zoned BT-2 (Business – Transitional 2). The BT-2 zone district is defined as "*Transitional business areas which generally buffer a residential area from a major street and are primarily used for commercial and complementary residential uses, including without limitation, temporary lodging and office uses"* (section 9-5-2(c), B.R.C. 1981). Please see **Figure 6** below for a zoning map of the site and surrounding area. As part of this project, the applicant would request a rezoning of the project site from BT-2 to P (Public) in order to allow for the proposed hospital use, which is prohibited in the BT-2 zone district but allowed by right within the P zone district per section 9-6-1, B.R.C. 1981. As discussed above, this would also require a change to the underlying BVCP land use designation.

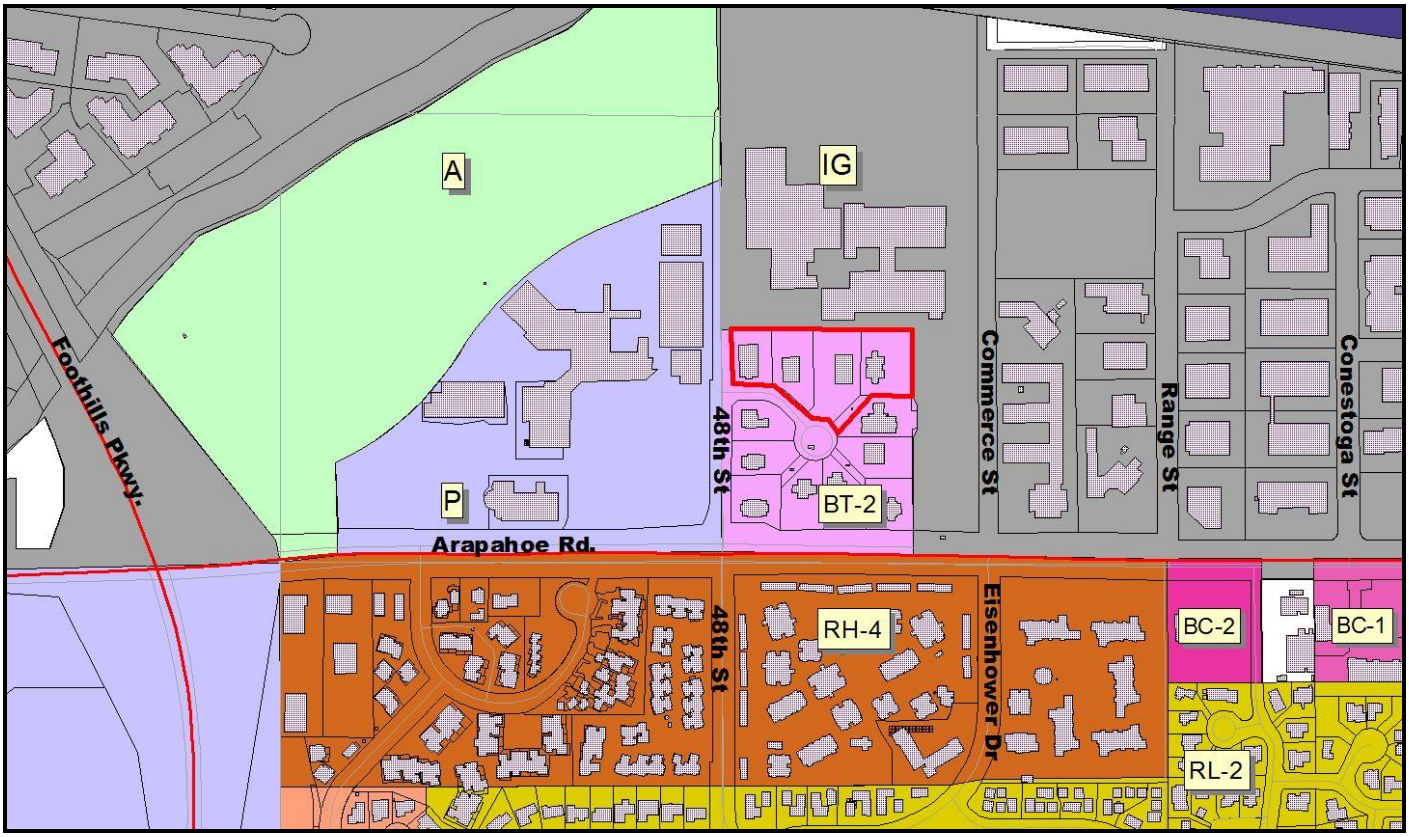


Figure 6: BVCP Land Use Map

Additional Site Characteristics

The project site has a number of unique characteristics that will need to be taken into consideration during the Site Review process. As shown in Figure 7, the site is impacted by the 100-year floodplain and as such any new development will require a floodplain development permit. In addition, because the proposed facility is considered a critical facility per section 9-16, B.R.C. 1981, an Emergency Management Plan would be required. The property is impacted by both the existing FEMA 100-year floodplain and the new mapping study 100-year floodplain. The flood elevations from the new study are generally consistent with the existing FEMA study in this area; therefore, there are no deviations that could impact the site from any changes are anticipated. The new floodplain mapping is anticipated to be effective in the fall of 2017. For additional information please visit: https://bouldercolorado.gov/flood/boulder-creek-floodplain-mapping-update.

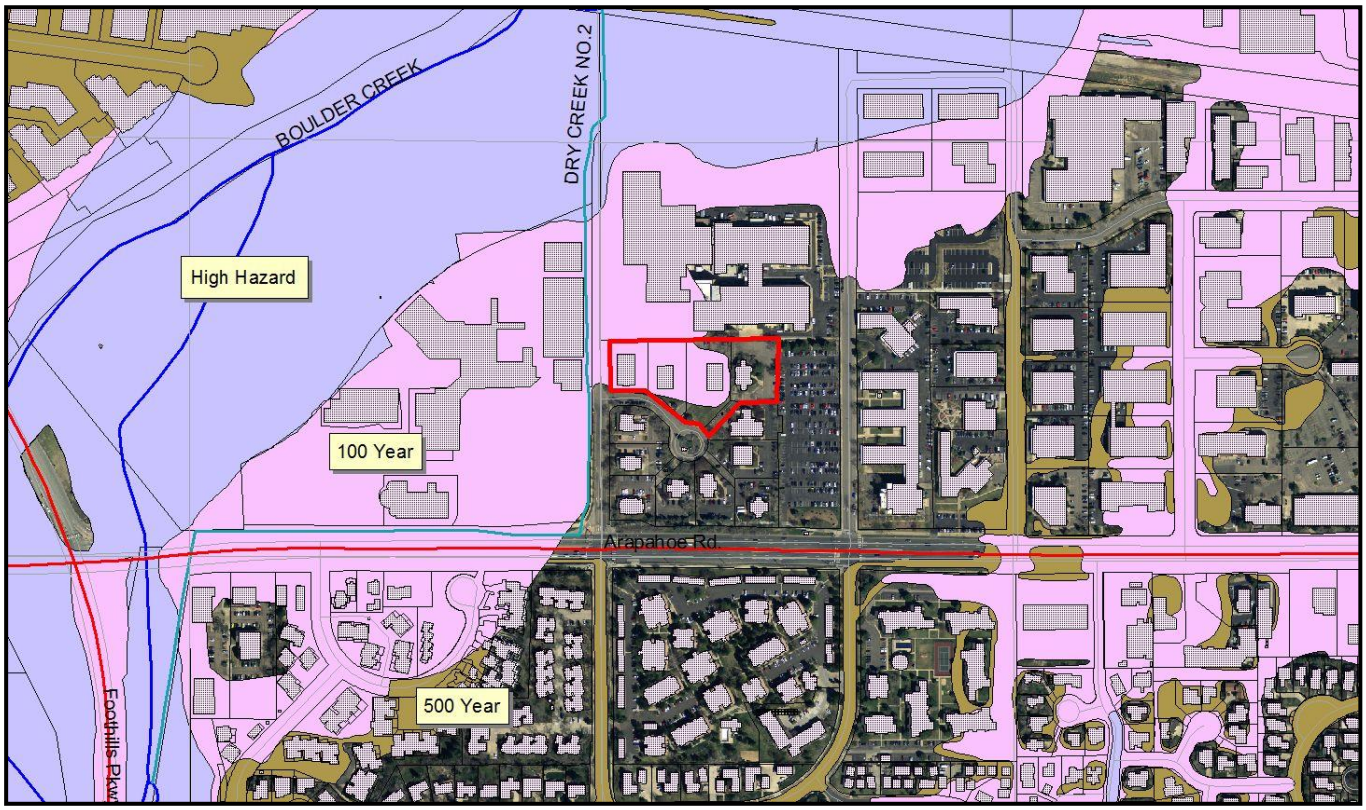


Figure 7: Floodplain Map

Concept Plan

On March 3rd of this year, Planning Board reviewed the Concept Plan proposal, which similar to the current requests, included a 76,000 square foot, four-story medical building at 55-feet on the west side of the site and a multi-story parking garage building, also at 55-feet, adjacent to it on the east side of the site. The Concept Plan identified the necessary processes that would have to be requested and which are part of the current package of applications.

Figure 8- Concept Plan

In general, the board was supportive of the proposed project's architecture and height, but suggested that the architecture be more simplified and organized. The board also provided comments encouraging the use of renewables on the site, a more robust transportation demand (TDM) program and consideration for uses beyond just accessory uses to the hospital on the site. The staff memorandum, application materials and minutes of the meeting can be found in here.

II. PROJECT DESCRIPTION

The following application requests are detailed below:

Boulder Valley Comprehensive Plan (BVCP) Land Use Map change A land use map change from Transitional Business to Public is requested. See Key Issue No. 1 for analysis of whether the applicable BVCP criteria are met.

Rezoning A rezoning pursuant to Section 9-2-19, "Rezoning," B.R.C. 1981 is requested to change the zoning from BT-2 (Business Transitional – 2) to Public (P). The P zoning would match the zoning of the existing contiguous Boulder Community Health (BCH) Foothills facility and would permit the hospital and medical uses on the site. Key Issue No. 2 includes a discussion about the rezoning. The draft ordinance to rezone can be found in **Attachment A**.

Ordinance No. 8028 Request to amend Appendix J of Ordinance No. 8028 to add the subject properties to the map of where height modifications may be considered. Earlier this year, the City Council by a "nod of five" indicated their support of the possibility to do a height modification for the properties. The draft ordinance and revised appendix to permit this change is found is found in **Attachment B**. See Key Issue No. 3.

Site Review Request for Site Review approval to permit the following:

- Construction of a new three-story, 55-foot tall, 70,342 square foot medical office building to house inpatient behavioral health, inpatient rehabilitation and neurology facilities as part of the Boulder Community Health functions at the corner of Arapahoe Ave. and 48th Street. The building is proposed on the west portion of the site.

- Construction of a new parking garage, including 406 parking spaces on six levels, up to 55-feet in height. The parking is intended to serve the on-site medical building use and accessory retail as well as for overflow parking for the Boulder Community Health Foothills facility across 48th Street. To alleviate some of the tight parking experienced on the hospital site, the applicant intends to provide employee parking (up to 160 parking spaces) within the garage to free up more parking for patients and visitors. A majority of the spaces (250 spaces) would be for visitors to the on-site facility. Solar shades installations are proposed over portions of the roof.

- Accessory retail spaces are proposed on the ground floor areas (4,829 square feet) adjacent to the street and pedestrian areas and would include uses that are accessory to the medical uses, including the sale of health and wellness products to patients, food and beverage to patients, visitors and employees or conference space for BCH. A description of the uses is found in Sheet SR-5-1 of the proposed plans.

- The buildings would orient to the south and front on an upgraded Riverbend Road. The existing cul-de-sac would be improved into a landscaped round-a-bout which would continue to provide access to the other Riverbend Office Park properties. A courtyard with seating walls and trees would be provided in between the new medical building and garage along with other seating areas and pedestrian walkways on the site.

- The new Riverbend Road would be dedicated public right-of-way up to the east property line providing access to the parking garage and the property at 4895 Riverbend Road as well as

setting up a condition where the road could be extended onto the Ball Aerospace property in the future providing a connection to Commerce Street to the east.

- Height modifications to permit both the medical and parking garage structure at 55-feet where 35-feet is the by-right maximum. A modification to permit the garage to be greater than three-stories is also requested (six levels are proposed);

- Setback modifications as follows:
  - 9-7-1- Minimum front yard landscape setback to permit a building at 21 feet where 25 feet is the code standard (west side)
  - 9-7-1- Minimum rear yard setback to permit the parking structure at 12 feet where 25 feet is required (east side)
  - 9-7-1- Minimum side yard landscaped setback from a street to permit the buildings at 9 feet and parking spaces at one foot where 12.5 feet is required (south side)
  - 9-7-1- Minimum side yard landscape setback to permit the existing structure at 4895 Riverbend as 11 feet where 15 feet is required (south side)

- The proposal also would amend the previous Riverbend Office Park PUD to allow the redevelopment of the subject four properties. Sheet SR1-1 of **Attachment D** illustrates that the remaining properties on Riverbend will continue to function similar to the previous PUD where parking would be allotted for each individual property and uses would be per the underlying BT-2 zoning. Any changes would be subject to a Site Review amendment or minor modification as applicable.

Use Review Request for Use Review approval for 'Automobile parking lots, garages or car pool lots as a principal use.' As discussed in the Site Review section above, because the parking garage would provide parking for Boulder Community Health employees from 4747 Arapahoe, in addition to the parking needs of the subject site, a portion of the parking is considered a principal use.

The applicant's written statement is within **Attachment C** and the proposed plans are in **Attachment D**. **Attachment E** contains the proposed Transportation Demand Management (TDM) plan and **Attachment F** contains the parking study done on the site. Below are some renderings of the proposed project.

Figure 8- Renderings

III. ANALYSIS

1. Is the proposal to change the Boulder Valley Comprehensive Plan (BVCP) land use map designation from Transitional Business to Public consistent with the applicable criteria?

Staff finds that the proposal to change the Boulder Valley Comprehensive Plan (BVCP) land use designation on site meets the criteria within the BVCP. Staff responses to the applicable criteria are provided below.

<u>BVCP Land Use Map Change</u>
The Land Use Map is not intended to be a zoning map. It is intended to provide policy direction and definition for future land uses in the Boulder Valley. Thus, a change to the land use designations may be considered at any time if it is related to a proposed change in zoning or proposed annexation and meets all of the following criteria:

(a) The proposed change is consistent with the policies and overall intent of the comprehensive plan.

The proposal to change the BVCP Land Use Map designation is consistent with the intent of the comprehensive plan to promote the physical health and well-being of residents of the Boulder Valley. The BVCP strives to "*maintain a high quality of life for all of its residents*" by "*providing facilities and services, among are human service programs and a focus on promoting cultural, social and economic equity*." More specifically, the following policies on economic and social sustainability are relevant:

BVCP Policy 1.03 Principles of Economic Sustainability The city and county will strive to develop and maintain a healthy, adaptable economy that is vital to the community's quality of life and high level of services and amenities by:

a) Promoting a diverse economy that supports the needs of all community members;
b) Promoting a qualified and diversified work force that meets employers' needs and supports a range of jobs; and
c) Providing for and investing in a quality of life, unique amenities, and infrastructure that attracts, sustains, and retains businesses and entrepreneurs.

BVCP Policy 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.

The Public Land Use Designation is described as follows:

Public/Semi-Public land use designations encompass a wide range of public and private nonprofit uses that provide a community service. This category includes municipal and public utility services such as the municipal airport, water reservoirs, and water and wastewater treatment plants. Public/Semi-Public also includes: educational facilities, including public and private schools and the university; government offices such as city and county buildings, libraries, and the jail; government laboratories; and nonprofit facilities such as cemeteries, churches, hospitals, retirement complexes and may include other uses as allowed by zoning.

The requested Public land use designation would allow for the expansion of the Boulder Community Health facility consistent with the following BVCP policies:

BVCP Policy 2.17 Variety of Activity Centers
BVCP Policy 8.01 Provide for a Broad Spectrum of Human Needs
BVCP Policy 8.07 Physical Heath
BVCP Policy 8.10 Support for Community Facilities

(b) The proposed change would not have significant cross-jurisdictional impacts that may affect residents, properties or facilities outside the city.

The proposed change is meant to facilitate the expansion of health services in a single location for the Boulder Valley. The change would allow for more efficient provision of services and enhance access to services for residents of the area. There would be no significant cross-jurisdictional impacts to residents, properties or facilities outside the city.

(c) The proposed change would not materially affect the land use and growth projections that were the basis of the comprehensive plan.

The proposed land use designation change is necessary to facilitate a new hospital facility on the site and will not materially affect the land use and growth projections that were the basis of the comprehensive plan.

(d) The proposed change does not materially affect the adequacy or availability of urban facilities and services to the immediate area or to the overall service area of the City of Boulder.

The proposed land use designation change is necessary to facilitate a new hospital facility on the site and will not materially affect the adequacy or availability of urban facilities and services to the immediate area or to the overall service area of the City of Boulder. Infrastructural upgrades necessary to serve the redevelopment will be evaluated and required as part of the Site Review process.

(e) The proposed change would not materially affect the adopted Capital Improvements Program of the City of Boulder.

The proposed land use designation change is necessary to facilitate a new hospital facility on the site and will not materially affect the adopted Capital Improvements Program of the City of Boulder.

(f) The proposed change would not affect the Area II/Area III boundaries in the comprehensive plan.

The proposed change is within Area I and would have no impact on the Area II/Area III boundaries in the comprehensive plan.

In summary, allowing for the expansion of the hospital facilities in the subject location is consistent with BVCP policies and logical considering the proximity and connection to the existing Boulder Community Health facility and enabling an important human resource to better serve the Boulder Valley region.

2. Is the proposal to rezone the properties from BT-2 (Business Transitional – 2) to P (Public) consistent with the criteria of Section 9-2-19(e), B.R.C. 1981?

See **Attachment A** for the draft ordinance to rezone. The proposed rezoning is intrinsically connected to the policy decision to change the BVCP land use map to Public (discussed above) to allow the hospital and medical uses of the Boulder Community Health to better serve Boulder and the surrounding area. If the BVCP land use map changes is supported, it is necessary to change the zoning to Public to allow the hospital use. Rezoning would, therefore, follow a land use map change and would be consistent with the following criterion below:

(1) Is the proposed rezoning consistent with the policies and goals of the Boulder Valley Comprehensive Plan?

The proposal to change the BVCP Land Use Map designation is consistent with the intent of the comprehensive plan to promote the physical health and well-being of residents of the Boulder Valley. The BVCP strives to "*maintain a high quality of life for all of its residents*" by "*providing facilities and services, among are human service programs and a focus on promoting cultural, social and economic equity*." More specifically, the following policies on economic and social sustainability are relevant:

BVCP Policy 1.03 Principles of Economic Sustainability *The city and county will strive to develop and maintain a healthy, adaptable economy that is vital to the community's quality of life and high level of services and amenities by:*

a) Promoting a diverse economy that supports the needs of all community members;
b) Promoting a qualified and diversified work force that meets employers' needs and supports a range of jobs; and
c) Providing for and investing in a quality of life, unique amenities, and infrastructure that attracts, sustains, and retains businesses and entrepreneurs.

BVCP Policy 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.

The Public Land Use Designation is described as follows:

Public/Semi-Public land use designations encompass a wide range of public and private nonprofit uses that provide a community service. This category includes municipal and public utility services such as the municipal airport, water reservoirs, and water and wastewater treatment plants. Public/Semi-Public also includes: educational facilities, including public and private schools and the university; government offices such as city and county buildings, libraries, and the jail; government laboratories; and nonprofit facilities such as cemeteries, churches, hospitals, retirement complexes and may include other uses as allowed by zoning.

The requested Public land use designation would allow for the expansion of the Boulder Community Health facility consistent with the following BVCP policies:

BVCP Policy 2.17 Variety of Activity Centers
BVCP Policy 8.01 Provide for a Broad Spectrum of Human Needs
BVCP Policy 8.07 Physical Heath
BVCP Policy 8.10 Support for Community Facilities

(2) The applicant demonstrates by clear and convincing evidence that the proposed rezoning is necessary to come into compliance with the Boulder Valley Comprehensive Plan map;

Based on the staff recommendation to amend land use map designation to advance BVCP policies and goals and consistent with the criteria the BVCP included in the analysis above, and assuming the land use map is amended to reflect this analysis, the rezoning becomes necessary to come into compliance with the Boulder Valley Comprehensive Plan map. The Public land use map designation and P zoning would therefore match.

3. Does Planning Board support the proposed ordinance to enable an exemption from Ordinance No. 8028 to permit a height modification on the site to permit two buildings at 55-feet?

Attachment B contains the proposed ordinance and changes to Appendix J that would add the subject properties to the areas where height modifications may be requested.

The hospital site was already included in the ordinance as area where a height modification can be considered and that inclusion of these properties being added to the hospital campus would, just like the existing hospital site, implement important community values. Considering the benefits of the use, the proposed design of the buildings (discussed in Key Issues 4 and 5 below) and the context with other buildings at or greater than 55 feet in the vicinity, staff finds that the ordinance would be appropriate and thus, recommends that Planning Board recommend approval to City Council. A discussion about the proposed height modification is in Key Issue No. 4 as follows.

4. Does the proposal for a height modification meet the criteria of Section 9-2-14(h), B.R.C. 1981?

The most relevant Site Review criteria to height modifications are Section 9-2-14(h)(2)(F)(i) through (iii), B.R.C. 1981, which staff finds are met as affirmed below:

(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 character of the area is eclectic and contains a variety of building forms, heights and uses ranging from multi-family residential, transitional business, strip commercial to light industrial and medical uses. The proposed buildings would not be unlike the scale and design of buildings present in the area and particularly near to the site on the Boulder Community Health Foothill's Hospital and the Ball Aerospace campus. The general design of the buildings borrow from the designs and materiality of the existing hospital and medical buildings to the west and are oriented in an east-west orientation much like most of the buildings on the north side of the Arapahoe Avenue. Therefore, it can be concluded that the height, mass, scale, orientation, architecture and configuration of the proposed buildings will be compatible with the existing character of the area.

(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;

The buildings are proposed to be a maximum of 55 feet. This height would match that of several nearby structures including the Ball Aerospace buildings immediately to north and the existing hospital complex to the south. Another Ball Aerospace building to the east exceeds the 55-foot height limit and is considered nonconforming because it predates the current height limit. Therefore, the height of the proposed buildings is in general proportion to the heights of existing buildings in the immediate area.

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

The proposed buildings will not block any prominent views from adjacent properties. The buildings are proposed just to the south of a large windowless Ball Aerospace facility where satellites are constructed. Shadows would be minimized and would fall into the mostly alley-like utilitarian area between the subject property and the Ball Aerospace site discussed above.

5. Is the proposed site layout and building design consistent with the Site Review criteria of Section 9-2-14(h), B.R.C. 1981?

Staff has found that the criteria can be met. Full responses to the Site Review criteria are found in **Attachment G**.

The proposal is required to meet the Site Design criteria of Section 9-2-14(h)(2)(A) through (E), B.R.C. 1981, which seeks to create a site plan that has useable functional open space, attractive landscaping in excess of city code minimum requirements, safe and convenient circulation and connections (pedestrian and vehicular), and parking that is well screened and does not dominate the site plan. Staff has evaluated the proposed site layout against these criteria.

Further, the proposal is required to meet the Building Design criteria of Section 9-2-14(h)(2)(F), B.R.C. 1981, which intends to create buildings that are compatible with their surroundings in terms of height, massing, scale, architecture and configuration. Key Issue No. 4 affirmed these basic aspects of the buildings compatibility with context, whereas this section focuses more on creating pedestrian interest through use of transparency along streetscapes, using high quality of materials and aiming for energy efficiency. Staff has also evaluated the proposed building design against these criteria.

The most relevant criteria are included below for the board's review:

Key Site Review criteria related to Site Design
Open Space (Sec. 9-2-14(h)(2)(B), B.R.C. 1981)
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 site plan includes a courtyard between the medical building and parking garage that is well landscaped and with seating walls that will encourage use. Quality landscaping is found within the space as well as around a seating area and along pathways through the site. The spaces will be functional and include a mix of sun and shade. **The open space provides a relief to the density, both within the project and from surrounding development;** Open space on the site is greater than 30 percent on the site which exceeds the required 20 percent based on the building heights. The site is well landscaped and complements and surrounds the buildings providing relief to the density on the site and from surrounding development. **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 size and location of the proposed open space is appropriate to a medical use. Active recreational uses would not be expected for the use of the property. **If possible, open space is linked to an area- or city-wide system.** The proposed pathways on the site would connect to the city's existing sidewalk system and will be

convenient access to nearby multi-use paths as well as the Boulder Creek Path.

Landscaping (Sec. 9-2-14(h)(2)(C), B.R.C. 1981)

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;

Planting areas fill the majority of areas around the buildings and along circulation ways create an attractive environment and a contrast to other hard scape areas on the site.

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;
The four properties are already developed and therefore, there would be no impact to existing natural environment.

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 proposal includes a significant amount of plantings that exceed the city landscaping requirements and with a variety that contributes to visual interest of the site.

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.

As stated above, areas along the streetscape would be landscaped in excess of city requirements and will contribute to the development of an attractive site plan.

Circulation (Sec. 9-2-14(h)(2)(C), B.R.C. 1981)

High speeds are discouraged or a physical separation between streets and the project is provided;

The reconfigured Riverbend Road will relatively narrow and include curves and a round-a-bout that would not be conducive to high speeds.

Potential conflicts with vehicles are minimized;

Potential conflicts with vehicles would be minimized by slowing the speeds of vehicles with the design and placing vehicle entries to the interior of the site so that visitors can follow wayfinding signs to parking and drop-off areas. The curbs and entry points have been designed to avoid vehicle conflict points.

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, pedestrian ways and trails;

Although there is not a transportation connections plan applicable the area, Riverbend Road has been designed to enable a future connection to the Ball Aerospace property on the east side should that property redevelop and connect in the future. This would make a street connection to Commerce Street to the east possible. Further, sidewalks and walkways are provided throughout the site provided safe and convenient access to the medical pavilion and parking garage as well as to the other Riverbend properties. A new wider sidewalk and burb out of 48th Street on the west side of the site would enable a safer pedestrian connection

to the Boulder Community Health facility to the west. Pedestrian crossings are limited to key points on the site and are designed for the safety and convenience of pedestrians.

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 site design includes wide pathways and conveniently located bike racks to encourage biking. Sidewalks provide enhanced pedestrian access to the medical use as well as the other Riverbend properties.

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 been required to prepare a Transportation Demand Management (TDM) plan which includes but is not limited to carpool parking, EV charging stations, a bike repair station and EcoPasses for all employees.

On-site facilities for external linkage are provided with other modes of transportation, where applicable;

Sidewalks and pathways on the site connect to existing sidewalks which enable access to a multi-use path along Arapahoe Avenue to the south and the Boulder Creek Path to the north via an existing bridge.

The amount of land devoted to the street system is minimized; and

The circulation on the site is minimum necessary to provide access to the new medical pavilion and parking and the existing Riverbend offices.

Parking (Sec. 9-2-14(h)(2)(E), B.R.C. 1981)

The project incorporates into the design of parking areas measures to provide safety, convenience and separation of pedestrian movements from vehicular movements;

Most parking will be within the proposed parking structure. Once visitors are parked they will just need to traverse the proposed courtyard space before entering the medical building. This design separates the pedestrian flow from vehicular movements outside of the garage.

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;

Surface parking is limited to four spaces within the remaining 400+ parking spaces provided within a six level parking structure. The parking needs of the project would be efficient met with this structure.

Building Design

Key Site Review criteria related to Building Design

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 area is eclectic and contains a variety of building forms, heights and uses ranging from multi-family residential, transitional business, strip commercial to light industrial and medical uses. The proposed buildings would not be unlike the scale and design of buildings present in the area and particularly near to the site on the Boulder Community Health Foothill's Hospital and the Ball Aerospace campus. The general design of the buildings borrow from the designs and materiality of the existing hospital and include

similar building materials and color pallet as the Boulder Community Health Foothills hospital with its use of brick, copper and metal components. The proposed buildings will be compatible with the nearby buildings.

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;

The proposed medical building has a high level of window glazing on all levels promoting a positive pedestrian experience. The proposed parking structure, also will have a storefront system for the accessory retail that will be conducive to the pedestrian experience. Further, to mitigate the concrete structural appearance of the garage, custom perforated metal screens would be applied to the structure and etched with patters to enhance visual interest.

To the extent practical, the project provides public amenities and planned public facilities;

As a hospital, the use is a critical public facility, the expansion of which will better provide for the needs of the community in a highly accessible location.

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;

The project includes solar panels on the roof of the medical building and parking structure and EV charging stations within the parking garage. An efficient heating and cooling system intended to preserve energy is intended to be implemented as part of the project.

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;

The buildings will be constructed with brick, concrete, metal and wood and will appear substantial and evoke a sense of permanence akin to the quality seen in the Boulder Community Health Foothills facility.

6. Does the proposal for parking as a principal use meet the Use Review criteria of Section 9-2-15(e), B.R.C. 1981?

The proposed parking garage use, which serves the parking needs of the on-site medical uses at Riverbend in addition to some parking needs of the adjacent Boulder Community Health Foothills hospital, would meet the Use Review criteria principally because its location, size, design and operating characteristics would be compatible with other uses in the area consistent with Section 9-2-15(e)(3), B.R.C. 1981 and also because it would "*provide a direct service or convenience to or reduces adverse impacts to the surrounding uses or neighborhood*" per Section 9-2-15(e)(2)(A), B.R.C. 1981 by relieving some of the constrained parking conditions of the adjacent hospital by providing additional parking for hospital employees on the site and thereby reducing adverse impacts on parking in the area. For these reasons, staff recommends approval of the Use Review request. Full responses to the criteria can be found in **Attachment G**.

IV. PUBLIC COMMENT AND PROCESS

Required public notice was given in the form of written notification mailed to all property owners and renters within 600 feet of the subject site and a sign was posted on the property for at least 10 days. All notice requirements of Section 9-4-10(g), B.R.C. 1981 have been met. Staff has been in contact with two interested parties who have expressed concerns related to increased traffic on Arapahoe and within the Riverbend Office Park PUD.

V. STAFF RECOMMENDATION

Staff recommends that the Planning Board recommend to City Council approval of Rezoning (LUR2016-00039) and adoption of the proposed ordinance to add the Riverbend project site to Appendix J of Title 9 and that the Planning Board approve the BVCP Land Use Map change (LUR2016-00038), and the Site and Use Review application LUR2016-00040, incorporating this staff memorandum and the attached criteria checklists as findings of fact, and subject to the following recommended conditions of approval.

Proposed Conditions of Approval for Case No. LUR2016-00040

Site Review Conditions of Approval

1. The Applicant shall ensure that the **development shall be in compliance with all plans prepared by the Applicant** on September 26, 2016 ("Plans"), the Applicant's written statement dated May 16, 2016, and the Transportation Demand Management (TDM) Plan dated September 1, 2016 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: Riverbend Office Park Planned Unit Development #P-76-29 and Special Review #SR-76-24.

3. Prior to a building permit application for any building, the Applicant shall submit, and obtain City Manager approval of, a Technical Document Review application for the following items:

   a. **Final architectural plans**, including material samples and colors, to insure compliance with the intent of this approval and compatibility with the surrounding area.

   b. A **final site plan** which includes detailed floor plans and section drawings. The final site plan shall include an emergency access turnaround or other emergency access route for emergency vehicles meeting Boulder Revised Code or City of Boulder Design and Construction standards.

   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 for all transportation improvements. These plans must include, but are not limited to: street / cul-de-sac plan and profile drawings; multi-use path plan and profile drawings; profile drawings for the flow-line of all the new curb-and-gutter and cross-pan where its being constructed or re-constructed and extending twenty-five feet beyond the existing curb-and-gutter to verify positive drainage; cross-sections at fifty-foot intervals or where required by staff for the new street, cul-de-sac and multi-use path; typical sections for the street, cul-de-sac and multi-use path; transportation detail drawings of the 48th Street curb extensions; signage and striping plan in conformance with Manual on Uniform Traffic Control Devices (MUTCD) standards, street lighting details, transportation detail drawings required by staff, 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. Landscape plans shall provide 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. 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.

4. Prior to a building permit application, the Applicant shall submit an application for and receive approval of a **Preliminary Plat** and submit a Technical Document Review application and receive approval for a **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 and which provides, without limitation and at no cost to the City, for the following, unless otherwise approved by the City Manager:

   a. The dedication, to the City, of all right-of-way and easements necessary to serve the development.

   b. The vacation of all easements where vacation is necessary for construction of the development.

   c. The construction of all public improvements necessary to serve the development, including but not limited to: the new Riverbend Road; the Riverbend Road cul-de-sac; the 48th Street curb

extensions, the multi-use path and all sidewalks; street lighting; stormwater detention facilities; and water and sanitary sewer mains.

d. The construction of an emergency access turnaround or other exit route and dedication of an emergency access easement, subject to review and approval of the city manager, to provide a turnaround or other exit route for emergency vehicles meeting Boulder Revised Code and City of Boulder Design and Construction standards until Riverbend Road is extended east and connects to Commerce Street or until another code-compliant emergency access route is provided.

e. 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.

5. Prior to issuance of a building permit, 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 for each medical / commercial / retail unit as proposed in the Applicant's Transportation Demand Management (TDM) plan.

6. This approval is **contingent upon the approval of an ordinance authorizing consideration of a height modification** pursuant to Section 9-2-14(c), B.R.C. 1981, on the Property. The Applicant assumes the risk that failure to obtain approval of such ordinance will result in the lapse of this approval. The Applicant shall not file a Technical Document Review application unless and until such ordinance is approved and effective.

7. This approval is **contingent upon approval of an ordinance rezoning the Property from the Business – Transitional 2 (BT-2) to the Public (P) zoning district**. The Applicant assumes the risk that failure to obtain approval of such rezoning ordinance will result in the lapse of this approval. The Applicant shall not file a Technical Document Review application unless and until such rezoning is approved and the rezoning ordinance is in effect.

8. Prior to a building permit application, the Applicant shall **obtain revocable permits** or leases, as applicable, pursuant to section 8-6-6, B.R.C. 1981 for the proposed awnings, as shown on the Plans, that project into the public access easement along the north side of Riverbend Road. The Applicant assumes the risk that failure to obtain said revocable permits will result in the lapse of this approval and any modifications to the said awnings will be subject to the modification and amendment procedures set forth in section 9-2-14(k) and (l), B.R.C. 1981 depending on the extent of the necessary changes.

9. The Applicant shall allow any visitors, tenants, owners, and occupants of the entire Riverbend Office Park PUD to use and access the trash enclosure area shown on the 4800 Riverbend property.

Use Review Conditions of Approval

1. The Applicant shall ensure that the **development shall be in compliance with all plans prepared by the Applicant** on September 26, 2016 ("Plans") and the Applicant's written statement dated May 16, 2016, 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 number of the parking spaces available for the principal use as parking on the site is 160 parking spaces, as shown on the Plans. The remaining 250 spaces are for the Riverbend Medical Center and accessory retail uses.

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

3. 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: Riverbend Office Park Planned Unit Development #P-76-29 and Special Review #SR-76-24.

Approved By:

David Driskell, Executive Director
Department of Community Planning and Sustainability

ATTACHMENTS:

A. Draft Ordinance to rezone properties from BT-2 to P
B. Draft Ordinance related to Height Modification Request
C. Applicant's written statement
D. Proposed Plans
E. Transportation Demand Management (TDM) plan
F. Parking Study
G. Staff responses to Code Criteria
H. Development Review Committee (DRC) comments on the proposal

ORDINANCE NO.

AN ORDINANCE REZONING 2.25 ACRES OF LAND LOCATED AT 4801, 4855, 4865, AND 4855 RIVERBEND ROAD FROM THE BUSINESS - TRANSITIONAL 2 (BT-2) TO PUBLIC (P) ZONING DISTRICT AS DESCRIBED IN CHAPTER 9-5, "MODULAR ZONE SYSTEM," B.R.C. 1981, AND SETTING FORTH RELATED DETAILS.

THE CITY COUNCIL OF THE CITY OF BOULDER, COLORADO FINDS:

A. A public hearing before the Planning Board of the City of Boulder was duly held on October 6, 2016, in consideration of rezoning approximately 2.25 acres of land from the Business – Transitional 2 (BT-2) to the Public (P) zoning district generally located at 4801 Riverbend Road, Boulder, CO as more particularly described as Lot 1, Riverbend First Replat, County of Boulder, State of Colorado; 4855 Riverbend Road, Boulder, CO as more particularly described as Lot 1, Riverbend Second Replat, County of Boulder, State of Colorado; 4865 Riverbend Road, Boulder, CO as more particularly described as Lot 2, Riverbend Second Replat, County of Boulder, State of Colorado; and 4885 Riverbend Road, Boulder, CO as more particularly described as Lot 9, Riverbend, County of Boulder, State of Colorado (collectively hereafter referred to as the "Property") and as shown on Exhibit A attached hereto and incorporated herein.

B. The Planning Board found that the rezoning of the Property from the Business – Transitional 2 (BT-2) to the Public (P) zoning district is consistent with the policies and goals of the Boulder Valley Comprehensive Plan; is necessary to bring the Property into compliance with the Boulder Valley Comprehensive Plan map; and meets the criteria for rezoning as provided in Chapter 9-2, "Review Processes," B.R.C. 1981.

C. The Planning Board recommended that the City Council amend the zoning district map to include the Property in the Public (P) zoning district as provided in Chapter 9-5, "Modular Zone System," B.R.C. 1981.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BOULDER, COLORADO:

Section 1. Chapter 9-5, "Modular Zone System," B.R.C. 1981, and the zoning Public (P) district map forming a part thereof are amended to include the Property within the zoning district.

Section 2. The City Council finds that the rezoning of the Property from the Business – Transitional 2 (BT-2) to the Public (P) zoning district is consistent with the policies and goals of the Boulder Valley Comprehensive Plan, is necessary to bring the Property into compliance with the Boulder Valley Comprehensive Plan map, and meets the criteria for rezoning as provided in Chapter 9-2, "Review Processes," B.R.C. 1981. The City Council adopts the recitals as a part of this ordinance.

Section 3. The City Council has jurisdiction and legal authority to rezone the Property.

Section 4. This ordinance is necessary to protect the public health, safety, and welfare of the residents of the city, and covers matters of local concern. The rezoning of the Property bears a substantial relation to, and will enhance the general welfare of, the Property and of the residents of the City of Boulder.

Section 5. The City Council deems it appropriate that this ordinance be published by title only and orders that copies of this ordinance be made available in the office of the city clerk for public inspection and acquisition.

INTRODUCED, READ ON FIRST READING, AND ORDERED PUBLISHED BY TITLE ONLY this 18th day of October, 2016.

_____
Mayor

Attest:

_____
City Clerk

READ ON SECOND READING, PASSED, ADOPTED, AND ORDERED PUBLISHED BY TITLE ONLY this 1st day of November, 2016.

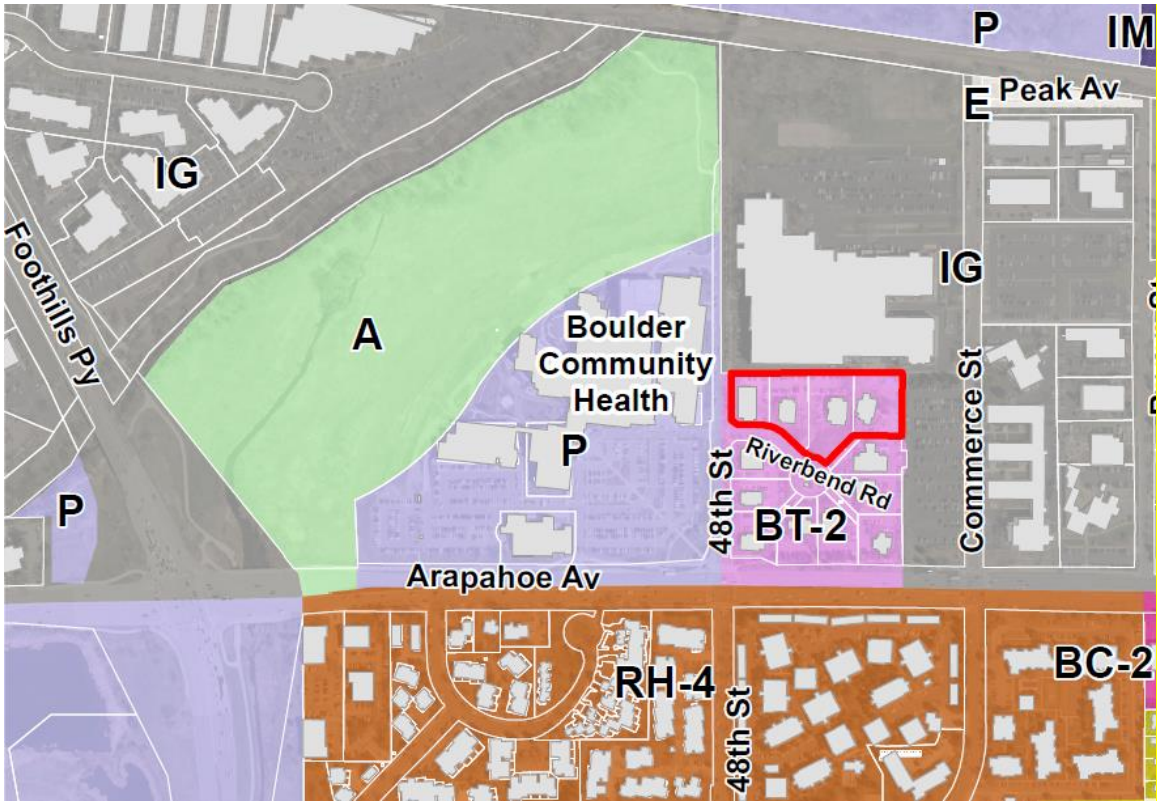
_____
Mayor

Attest:

_____
City Clerk

EXHIBIT A

MAP OF AREAS TO BE REZONED



ORDINANCE NO. ____

AN ORDINANCE AMENDING TITLE 9, "LAND USE CODE" B.R.C. 1981, AND ORDINANCE 8028 BY AMENDING APPENDIX J TO TITLE 9 ADDING ADDITIONAL BOULDER COMMUNITY HOSPITAL PROPERTIES TO THE AREAS WHERE HEIGHT MODIFICATIONS MAY BE CONSIDERED, AND SETTING FORTH RELATED DETAILS.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BOULDER, COLORADO:

Section 1. The city council finds and recites the following facts leading to the adoption of this ordinance amending interim development regulations related to the height of buildings.

a. On April 7, 2015, the city council adopted Ordinance 8028 amending Title 9, "Land Use Code," B.R.C. 1981, by adopting interim development regulations related to the height of buildings.

b. With Ordinance 8028 the council intended to limit the areas where buildings can be up to fifty-five feet in height to those areas where previous planning efforts have resulted in the adoption of a plan or clear policy intent that supports more intensive forms of development or in instances where important community values are implemented or site topography may result in height-compliance hardship.

c. The provisions of Ordinance 8028 remain in effect until April 19, 2017.

d. The Boulder Community Health has sold its campus near Broadway and Balsam Avenue in an effort to move and centralize its services at and near the location of its hospital campus at 4747 Arapahoe Avenue. As part of this effort, Boulder Community Health is expanding its services to the properties located at 4801, 4855, 4865, and 4885 Riverbend. Co-location of the emergency room with other health services to be located at the Riverbend Office Park, including inpatient behavioral health, would improve the quality and access to health care services provided within the community.

e. The Boulder Community Health hospital and its related services provide important services for the health and wellbeing of the community and thereby implements important community values consistent with the goals and policies of the Boulder Valley Comprehensive Plan.

Section 2. The council repeals "Appendix J to Title 9 - Areas Where Height Modifications May Be Considered," and hereby adopts Attachment A to this ordinance, titled, "Appendix J to

Title 9 - Areas Where Height Modifications May Be Considered," as an amendment to Title 9, "Land Use Code," B.R.C. 1981.

Section 3. The provisions of this ordinance shall amend Ordinance 8028 and shall along with Ordinance 8028 expire on April 19, 2017. The council intends that this ordinance will expire, be amended, or replaced with subsequent legislation after further study of appropriate building heights in the city.

Section 4. This ordinance shall apply to building permits or land use approvals for which an application is made following the effective date of this ordinance and building permits and land use applications pending at the time of the adoption of this ordinance.

Section 5. If any section, paragraph, clause, or provision of this ordinance shall for any reason be held to be invalid or unenforceable, such decision shall not affect any of the remaining provisions of this ordinance.

Section 6. This ordinance is necessary to protect the public health, safety, and welfare of the residents of the city, and covers matters of local concern.

Section 7. The council deems it appropriate that this ordinance be published by title only and orders that copies of this ordinance be made available in the office of the city clerk for public inspection and acquisition.

INTRODUCED, READ ON FIRST READING, AND ORDERED PUBLISHED BY TITLE ONLY this __ day of _____, 2016.

_____
Mayor

Attest:

_____
City Clerk

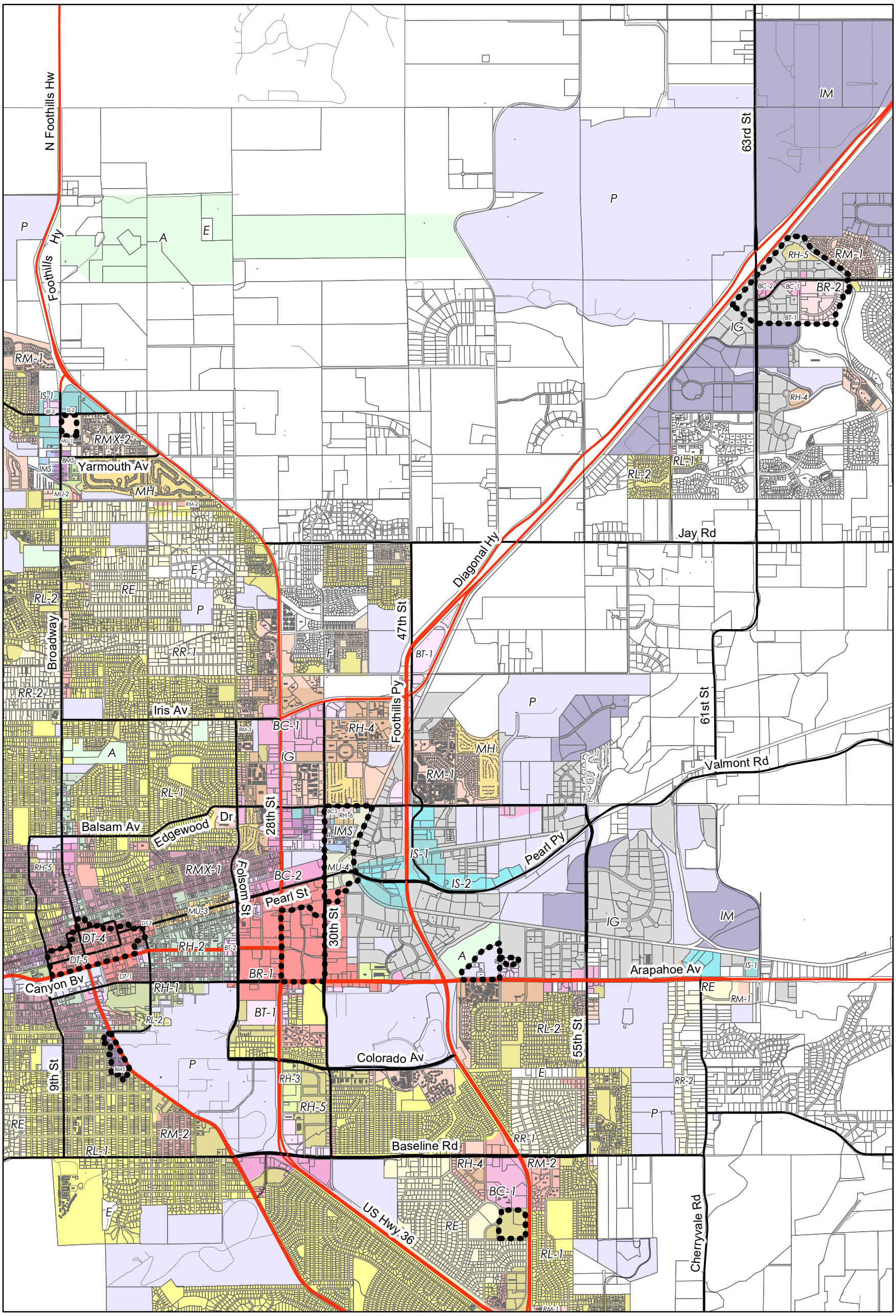
READ ON SECOND READING, PASSED, ADOPTED, AND ORDERED PUBLISHED BY TITLE ONLY this __ day of _____, 2016.

_____
Mayor

Attest:

_____
City Clerk

Appendix J to Title 9 – Areas Where Height Modifications May be Considered



Areas Where Height Modifications May be Considered

BOULDER ASSOCIATES ARCHITECTS

WRITTEN STATEMENT & SITE REVIEW CRITERIA RESPONSE

(CITY REQUIRED STATEMENT IN BLACK – CUT/PASTED FROM CITY DOCUMENTS)

(APPLICANT RESPONSES IN BLUE)

WRITTEN STATEMENT

A) Statement of current ownership:
Boulder Community Health (BCH) is the current land and building owner of all properties requesting redevelopment under this LUR application (4801, 4855, 4865, 4885). The project will also be improving City of Boulder Right-of-Way.

B) Explanation of the objectives to be achieved by the project, including without limitation building descriptions, sketches, or elevations that may be required to describe the objectives:

Boulder Community Health (BCH) is actively pursuing the completion of its move from the Broadway complex with redevelopment of its properties at the Riverbend site at Arapahoe and 48th St. This site was chosen to be developed by BCH because of its proximity to the existing Foothills Hospital campus. The Riverbend development will allow for BCH to relocate crucial patient departments currently in the Broadway Campus to Riverbend and consolidate their patient services to a common area.

The proposed development is a 3-story medical pavilion, approximately 70,000sf, with an exterior public courtyard. The services that will be provided at the new medical pavilion include inpatient behavioral health, inpatient rehab and neurology department. These are the patient care departments that currently reside at the Broadway facility and need to be relocated. To the west of the medical pavilion a 6-level parking structure will be constructed with a ground-level storefront area of accessory uses that may include small campus oriented service retail. This accessory retail component is intended to provide services within a walkable distance to the Riverbend properties, BCH Foothills occupants as well as Ball Aerospace employees, creating a localized urban center in an otherwise vehicle dependent area.

In addition to developing the 4 northernmost properties at Riverbend (4801, 4855, 4865, 4885), this project will be redesigning Riverbend Road to accommodate the needs of BCH's new medical pavilion & garage, improve the access to the existing properties to the south and provide a potential connection point east.

Building Design:
The buildings on the BCH Foothills campus each have a unique character however are linked to each other through the use of a common material palette. The same approach is proposed in the design at Riverbend. The new medical pavilion and parking garage will feel familiar enough that it fits within the

BCH family but unique in its own right to establish the new 'front door' to the Riverbend complex. Brick, copper and glass will be the dominant materials on the medical center building and the parking garage will use concrete, brick and metal panel screens with glass storefront at the accessory retail frontage.

The proposed buildings engage the public at the ground level through the use of storefront glass and the placement of an exterior courtyard garden between the medical pavilion lobby and retail spaces. The building mass is broken up to respond to interior spatial planning needs as well as addressing site context. The first floor pushes out to the south to break up the scale of the building and provide a more relatable context at the pedestrian level at both the medical pavilion and parking garage.

The medical pavilion facade will be articulated by punched openings and larger storefront conditions at the first floor to balance the three stories and provide appropriate daylighting needs for the interior spaces. The main lobby entry and the west corner of the building have been articulated with vertical curtainwall and copper elements which signify the public prominence of these spaces and establishes their hierarchy in the design. There are a handful of exterior design elements that have been incorporated to contribute to the energy saving goals of the building such as photovoltaic panels on the roof, exterior sunshades and high-performance glazing.

The parking garage is located on the east side of the property with accessory use space along the south side at the ground floor level. The parking garage levels are wrapped in a metal screen with custom perforations that display a graphic representative of the cottonwood tree canopy along the Boulder Creek. The accessory use space breaks up the mass of the parking garage and activates the pedestrian realm. There is a plaza space to the south and to the west which are populated with site furnishings to encourage use by the public. Short term bicycle racks are provided along this south edge and near entrances and the long term bike parking is within the first floor level of the parking garage with a bike tool/repair station. The covered and enclosed space for the long term bike parking, along with showers and locker rooms in the medical pavilion will serve the needs of staff commuting to work.

The parking garage will provide the code required parking count (1/300sf) to meet the needs of the new medical pavilion as well as provide secondary parking support for the overflow from the Foothills campus. BCH conducts routine patient surveys, and the limited parking availability at the Foothills campus is a constant area of patient dissatisfaction. BCH is looking to improve patients' experiences as well as maximize development, and therefore determined that providing additional parking at the Riverbend site was the most effective way in satisfying both requirements, coupled with a more aggressive alternate transportation mode program. Accessible stalls (van & standard ADA) are provided at every level of the garage and the amount is above the code minimum to serve the needs of this specific patient population in the medical pavilion. Additional information about BCH transportation strategies is located below under section '*E) Additional Information'*.

The building height maximum will be 55' for this property, requiring a modification to the existing Height Ordinance. Additional information to support this modification can be found in the *'Height Ordinance Requirement: Written Statement'* document as well as within the 24x36 drawing set.

Site Design:
Riverbend Road, the primary access point into the site, will remain in its current location off of 48th street. The Riverbend Road street section has been narrowed, eliminating the on-street parallel

parking, which increases the visibility to the existing properties, allows for more generous landscaping areas and provides additional safety measures to avoid pedestrian and vehicle conflicts. Riverbend road extends to the east edge of the site, providing new access to the parking garage and maintaining access to the existing surface parking at the east edge of the Riverbend complex. In addition to this, the new road alignment provides a point of connection for future development through to Commerce Street. A realigned roundabout connects to the south off of Riverbend Road maintaining access to the existing properties. Site directional signage has also been incorporated to improve way-finding within the development.

Pedestrian circulation was an important design consideration in the site development. A sidewalk has been provided on-axis (east/west) with the existing Foothills campus path to provide a visual and physical connection across 48th street from the new BCH Riverbend development. This sidewalk, which runs just to the south of the medical pavilion and parking garage/retail space, extends all the way to the easternmost point of the site allowing for a future connection through to Commerce Street. The project proposes adding curb 'bulb-outs' at the intersection of 48th St. and Riverbend to make the crosswalk more visible and encourage a reduction in vehicle speeds to increase the safety for the pedestrians.

Providing public outdoor space in a garden setting was important to the development of the medical pavilion for its patients, families and visitors, physicians and staff. The new courtyard sits between the intersection of the garage and medical pavilion. Its south facing location is ideal for year round sunlight. The design, layout and placement of trees and plants in the courtyard was influenced by a holistic symbol of healing – hands gently enfolding the health of people around the world. The garden was designed as a focal point, a place that invites you to come out side, a place that can provide a sense of privacy, protection and intimacy. The courtyard was designed to provide both an active edge incorporating moveable tables and chairs with a more passive interior highlighted by a central lawn, comfortable seat walls, flowering perennials and shrubs and a tight canopy of shade trees. The courtyard provides safe pedestrian connections between the medical office building and parking garage, and neighboring facilities. The overall site landscape and planting design was developed to be attractive, useful, in context with its surroundings, a connection to the main campus and safe. It is based on principles of sustainable landscape design and construction including reduction of storm water runoff, reduction of water use through the selection of low water plants, bio-filtering of roof run-off, efficient irrigation, soil management techniques to maintain healthy soil and a design that is maintainable.

See full 24x36 drawing set for plans, elevations and renderings that support the proposal above.

C) Development schedule indicating the approximate date when construction of the project or phases of the project can be expected to begin and be completed:
Construction and development of the property is dependent on the Site Review and Tech Docs entitlements process. BCH is anticipating a December 2016 Tech Doc approval, with site mobilization commencing shortly thereafter. Demolition of the current structures is projected for the fall of 2016. Construction is expected to continue from December of 2016 through spring of 2018.

D) Copies of any special agreements, conveyances, restriction, or covenants that will govern the use, maintenance, and continued protection of the goals of the project and any related parks, recreation areas, playgrounds, outlots, or open space:

With the original development of the Foothills Hospital campus, the City and hospital agreed to a 17+ acre conservation easement on the Foothills campus.

E) Additional information:

BCH Alternative Modes of Transportation and Parking Demand Management Plan

Boulder Community Health is committed to ongoing efforts to increase our employee and physician use of alternative modes of transportation to and from the campus as well as improving the parking management for the foothills campus. Over the next few years, we will build on our existing programs evaluate and consider additional efforts and incentives to reduce the number of employees who drive individually to work each day. These efforts will be facilitated through the BCH Sustainability Coordinator and are consistent with our other health and wellness activities.

- We were the first employer in Boulder to purchase RTD EcoPasses for our employees free of charge. Employees continue to experience barriers to using RTD services to accommodate their work and life schedule. We will facilitate "commuter consultations" to identify and reduce these barriers for employees.
- BCH has a guaranteed ride home program to facilitate an unexpected need for employees who do not drive a car to work to respond to these events, such as picking up an ill child from school. This service needs to be publicized more broadly amongst our staff.
- There is a strong cycling culture at BCH and in the Boulder area. We provide bike racks throughout the campus, including an underground secure area. We will explore additional secure, covered bicycle parking facilities on the Foothills campus. In addition, we have initial plans for showers and a changing area for cyclists, pedestrians, and those exercising before and after work and during break times in our proposed Riverbend building.
- We need to continue to partner with community resources and neighbors to continue to reduce barriers for commuters and provide additional means of access to our campus from a regional perspective.
    - Boulder Transit Connections (BCH is a founding member)
    - Via Mobility Services (patients)
    - Go Boulder
    - RTD
    - Ball Aerospace
    - City of Boulder
    - Boulder County
- We will do a thoughtful review of our policies to assure we are reducing barriers for our employees to choose alternative modes of transportation to the campus:
    - Flexible work schedules
    - Telecommuting options
    - Other incentives identified from employees
- We believe there is more opportunity to encourage employee carpools.
    - Enhance the virtual "bulletin board" for employees to identify other employees from their home locations that have similar work schedules.
    - Identify designated parking spaces for car pool vehicles
    - Ensure the guaranteed ride home for unexpected needs
- Identify opportunities for accessing the campus from satellite parking areas and popular transit stops.
- Evaluate the needs of the Non-BCH employees on campus and how they might integrate into the BCH programs and plans.

During the recent expansion of the Foothills Hospital in 2014, BCH was granted a parking deferral. Over the course of two years of operating the hospital, it is clear from our patients and physicians that additional 'close in' parking is merited. Therefore, we propose additional parking spaces in the new Riverbend parking structure. These spaces will be assigned for employee use, thus enabling the closer parking spaces to the main hospital to be available for patient use.

BCH prefers to implement the 'carrot' approach as described above in the Parking Demand Management Plan (PDMP), incentivizing and educating our employees about alternatives to the use of single occupancy vehicles for getting to and from work. While we have researched some of the 'stick' approaches to PDM, such as charging employees to park on campus, we note that this approach is more typically found in congested, urban medical centers where more robust public transportation exists. Competition for quality medical personnel, especially physicians, nurses, technicians and specialists is fierce and shortages for critical care professionals exists. Nearby competitive facilities, hospitals and medical centers do not charge for parking, and doing so at BCH would place them at a competitive disadvantage for attracting and keeping high-quality personnel. Again, we are committed to a robust Parking Demand Management Plan and incentivizing employees to make use of alternative modes of transportation to and from work.

Additional parking utilization data and analysis for the Foothills campus has been provided, in memo form, as a part of the Transportation Demand Management Plan by Fox Tuttle Hernandez Transportation Group. This information can be found in Packet #1.

BOULDER VALLEY COMPREHENSIVE PLAN - LAND USE MAP CHANGE

The Land Use Map is not intended to be a zoning map. It is intended to provide policy direction and definition for future land uses in the Boulder Valley. Thus, a change to the land use designations may be considered at any time if it is related to a proposed change in zoning or proposed annexation and meets all of the following criteria:

(a) The proposed change is consistent with the policies and overall intent of the comprehensive plan.

See responses below under *Site Review Criteria Response*

(b) The proposed change would not have significant cross-jurisdictional impacts that may affect residents, properties or facilities outside the city.

The proposed Map change will not have this impact

(c) The proposed change would not materially affect the land use and growth projections that were the basis of the comprehensive plan.

The proposed Map change will not have this impact

(d) The proposed change does not materially affect the adequacy or availability of urban facilities and services to the immediate area or to the overall service area of the City of Boulder.

The proposed Map change will not have this impact

(e) The proposed change would not materially affect the adopted Capital Improvements Program of the City of Boulder.

The proposed Map change will not have this impact

(f) The proposed change would not affect the Area II/Area III boundaries in the comprehensive plan.

The proposed Map change will not have this impact

SITE REVIEW CRITERIA RESPONSE

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.

The proposed project is requesting a Boulder Valley Comprehensive Plan (BVCP) land use map change from TB to Public, as well as a rezoning from BT-2 to Public to allow for hospital use on the site. The proposed land use map change to P meets the needs of the BVCP by directly addressing the following policies:

1. **1.03 Principles of Economic Sustainability & 1.04 Principles of Social Sustainability:** Better enabling a concentration of BCH-related uses near the Foothills campus will help ensure the community's basic health needs are being met, and continued high quality of life.
2. **2.03 Compact Development Pattern:** The project will enable a concentration of BCH-related land uses for a more contiguous development pattern near the Foothills campus. Without enabling this concentration of land uses, BCH-related uses may, over time, locate in a more disconnected, spread out pattern from the Foothills campus.
3. **2.17 Variety of Activity Centers, 2.21 Commitment to a Walkable and Accessible City & 2.22 Improve Mobility Grid:** Enabling a concentration of BCH related land uses near the Foothills campus supports BVCP goals and policies around accessibility to activity centers. Staff, patients and visitors will be able to walk between the campuses for their medical services. By consolidating the hospital services, this will also create an attractive area for ancillary uses to locate to take advantage of the density and further reduce the reduction in vehicle miles traveled.
4. **2.30 Sensitive Infill and Redevelopment**: The current land uses include Medical Office, which will also be included in the new development with the addition of supportive hospital modalities that directly related to the adjacent Foothills campus. The redevelopment to Public also acts as a buffer to the industrial uses designated to the north and east. BCH is already a well-established contributor to the community in the services it provides as well as the level of design commitment they maintain with their developments.
5. **2.34 Importance of Street Trees and Streetscapes:** The Riverbend development will be meeting and exceeding the City standards for providing a well-balanced landscaped environment for the public enjoyment. Detached sidewalks separating vehicles from pedestrians with an eight foot wide plant bed and avenue of shade trees, generous pedestrian walkways and off-street parking will enhance the pedestrian experience. Public landscaped areas and safe walkway connections feed into the main outdoor open space – the courtyard garden. All open space landscaped areas are designed to be visually inviting and to provide encouragement for use by the public, patients, visitors and staff to who appreciate the benefits of the great outdoor environment that Boulder offers.
6. **2.35 Outdoor Lighting/Light Pollution**: All lighting shall meet or exceed City standards. To provide public safety, there will be light bollards placed at the main sidewalk connecting the parking garage to the western edge of the site where staff and visitors will be using to connect back to the Foothills campus. The parking garage will be supplied with daylighting and occupancy sensors to reduce lighting levels when no motion is detected, and the ceilings will be painted bright white to increase the safety levels for the visitors which also reduces the need for supplemental lighting.
7. **6.01 All-Mode Transportation System, 6.02 Reduction of Single Occupancy Auto Trips, 6.05 Accessibility, 6.06 Mobility Services & 6.09 Integration with Land Use:** The East Arapahoe Transportation Plan includes the potential for enhanced multimodal facilities that would integrate well with an intensification of the Foothills campus for BCH-related uses. The

section of East Arapahoe in front of the Riverbend Office park and Foothills campus is getting particular attention in assessing opportunities to integrate land use and transportation planning.

8. **6.08 Transportation Impact:** By consolidating BCH services near the Foothills campus, this reduces vehicle miles between facilities by staff, support services as well as patients. There are close RTD stops as well as a B-cycle station and direct connection to the Boulder Creek Path system and other bike trails providing easy access for alternated modes of transportation to the site. Within the site an uninterrupted east-west path has been provided as well as improved sidewalks to the south of Riverbend Road to help circulate pedestrians around the site and connect them back to the Arapahoe transportation corridor. In addition, eco passes will be issued to all employees, long term bike storage is provided and staff showers have been added to the medical pavilion to encourage alternate modes of transportation to the site.

9. **8.01 Providing for a Broad Spectrum of Human Needs, 8.07 Physical Health & 8.10 Support for Community Facilities:** BCH is a vital community institution with a need to expand its Foothills campus operation and concentrated BCH-related activities in one area. A BVCP land use amendment and zoning change support related health policies in BVCP Chp 8.

(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

Does not apply. No residential units are a part of this project.

(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.

Does not apply. No residential units are a part of this project.

(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.

The proposed project provides facility space for the medical services currently located on the former BCH Broadway campus. The City of Boulder purchased the Broadway site and the proceeds from this sale enable BCH to construct the proposed project. Future operations of the facility at Riverbend will be financed by BCH through contracts and reimbursements from various health insurance providers combined with general operating income of BCH operations and service.

(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:

(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;

Useable open space is arranged and designed to be both accessible and functional, visible from within the buildings and to be enjoyed by everyone. It incorporates quality hardscape, paving materials and landscaping including trees for shade, ornamental trees with seasonal color, evergreen trees for year round appeal, flowering shrubs perennials, and ornamental grasses. The open space provides a mixture of sun and shade and places for both active and passive use, social interaction and private reflection. It provides protection and minimizes conflicts with

vehicular traffic and pedestrians. It provides a physical and visual connection between buildings and the main BCH campus.

(ii) Private open space is provided for each detached residential unit;

Not applicable. No residential units are a part of this project.

(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;

The project will provide for the preservation of or mitigation of adverse impacts to natural features as required.

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

Open space is provided in and around the medical pavilion and parking garage in a balanced distribution. The more heavily concentrated pedestrian spaces are to the south, in a more desirable solar orientation for outdoor public enjoyment as well as creating a better physical connection to the other Riverbend properties. In addition, a central landscaped courtyard is provided between the medical center building and the parking garage, providing a public space for gathering and buffer between the two buildings. There is open space provided along the north edge of the property, however it is minimized to a degree due to the industrial nature of the adjacent property to the north, Ball Aerospace, and the scale of the existing building. This pushes the daily public occupied spaces to more desirable locations around the site and preserves the north edge as a transition zone.

(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 opens space is designed to accommodate all users of the medical center, parking garage and adjacent Riverbend properties. It is designed to provide safe connections and efficient circulation while significantly reducing conflicts with vehicular traffic and parked vehicles.

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

The project does not contain any existing sensitive environmental features and natural areas. With the original development of the Foothills Hospital campus, the City and hospital agreed to a 17+ acre conservation easement on the Foothills campus.

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

The public paths provide for protected pedestrian circulation within the site as well as connect back to 48th & Arapahoe, linking the project site back to the extensive bike trail and open space system throughout the City.

(B) Open Space in Mixed Use Developments (Developments That Contain a Mix of Residential and Nonresidential Uses): Not applicable. No residential units are a part of this project.

(i) The open space provides for a balance of private and shared areas for the residential uses and common open space that is available for use by both the residential and nonresidential uses that will meet the needs of the anticipated residents, occupants, tenants and visitors of the property; and Not applicable. No residential units are a part of this project.

(ii) The open space provides active areas and passive areas that will meet the needs of the anticipated residents, occupants, tenants and visitors of the property and are compatible with the surrounding area or an adopted plan for the area. Not applicable. No residential units are a part of this project.

(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 landscape design incorporates durable hardscape paving with special enhancements to open plaza areas, outdoor seating areas and the main courtyard garden. The paving materials includes textured, integral colored concrete and natural clay pavers. The planting design is a colorful array of ornamental trees, shrubs, perennials, grasses and foliage. Plant species were selected based on suitability and appropriateness to location, (size, shape, similar water requirements), low water usage after establishment, adjacency to pedestrian and vehicular circulation and impact of road de-icing salts.

(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;

The landscape design will incorporate existing long-lived trees where it is possible to do so. All off-site trees will be protected from the impact of the development.

(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

A majority of the specified plant material are sized in excess of the requirements. Plant material is also specified and sized based on a continual review of plant availability and quality of stock at Front Range commercial nurseries. An emphasis is put on plant species that are successful in the Boulder environment and predominant soil type, pH, and mineral levels.

(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.

All open space areas that are appropriate for landscaping are important to the overall quality of the development and are landscaped accordingly.

(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;

The project is proposing curb 'bulb-outs' at the intersection of 48th and Riverbend to encourage reduction in vehicle speed at that intersection as well as bring a higher visibility to the crossing point for pedestrians. The road section of Riverbend is reduced in width to 22' and there are curves in the roadway alignment which will help to reduce vehicle speed.

(ii) Potential conflicts with vehicles are minimized;

Pedestrian crossings have been strategically placed to reduce vehicle/pedestrian conflicts. A continuous east-west pedestrian path has been provided in the project site, with only one driveway crossing at the entry to the parking garage. The stair and elevator core to the parking garage have been placed on the west side of the parking garage entry to eliminate all vehicle/pedestrian conflicts that would occur with those persons parking in the garage and making their way to the front entry of the medical pavilion.

(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, pedestrian-ways and trails;

A future multi-use path will be partially constructed on the north side of the project. This multi-use path will extend from 48th Street to the transformer enclosure between the garage and medical office building, and provide pedestrian and bike access to the central plaza of the project. The path will not extend to the eastern property line due to concerns over the grade difference between the BCH property and the Ball property to the north. If constructed solely on the BCH property, the path would require a retaining wall at the property line with a rail required on the north side to protect users from the grade drop. This would limit access to the north and decrease the usability of the path. This portion of the multi-use path should be constructed with Ball's input with grading and/or easement accommodations upon redevelopment of the Ball property to provide a usable multi-use path for both properties.

(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;

Short term bicycle parking is provided near the front entry of the medical pavilion and retail space at the garage which are both connected with the uninterrupted east/west pedestrian path. This pedestrian path extends to the eastern most edge of the Riverbend complex, providing for a potential future connection point through to Commerce Street. This path also extends west to 48th Street, and then south to Arapahoe, linking the site to the Arapahoe transportation corridor and Boulder Creek path system. Long term bike parking is provided at the ground level of the parking garage, with overhead cover and an enclosure to enhance security measures. Staff lockers and showers are located in the medical pavilion to further facilitate bicycle commuting to the site by employees. There are RTD bus stops within close range along Arapahoe Ave, and all BCH employees are provided with an EcoPass to take advantage of these local services.

(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;

See the statement provided by BCH on Page 3: *'E) Additional Information: BCH Alternative Modes of Transportation and Parking Demand Management Plan'*

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

As mentioned previously, short term and long term bicycle parking will be provided and easily accessible. In addition, staff showers & lockers will be incorporated into the interior space of the medical pavilion to further encourage and facilitate the ability of staff to bike to work, or use a bike to commute to other facilities throughout the day. There is also a dedicated drop-off loop which will allow for Via vans, taxis/ubers and other transportation services to be accommodated. In this drop-off loop, as well as in the garage, we are providing electric vehicle charging stations to support and promote alternative-fuel vehicle use.

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

By reducing the street section to 22'-0", eliminating the on-street parking and improving the roundabout design, we have increased the area to which can be dedicated to landscaping and pedestrian access.

(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.

Service vehicles & ambulances have dedicated access off of 48th Street which will reduce vehicle trips, noise and exhaust from entering further into the site. Two curb cuts are provided at this service area off of 48th Street. The south, narrower curb cut is dedicated to one-way ambulance traffic only and will be signed as such. The ambulance will use this driveway as one-way exit point out of a sally-port (secured entryway with garage doors on two ends to prevent patient elopement). The ambulance will use the northern service drive curb cut as the entry drive. This dual access will allow for free and unobstructed movement at all times in emergent situations. No more than one ambulance will occupy the area at a time, and the path of travel will only be between the Riverbend medical pavilion and the ambulance drop-off at the north

side of the emergency department at Foothills (therefore no sirens will be used for inbound or outbound vehicles). The northern curb cut off of 48th (which utilizes an existing curb cut) is for service vehicles, trash collection, deliveries and ambulance traffic. Because this driveway needs to allow for free egress and entry into the sally-port for ambulances at all times, the width needs to be able to accommodate a double loaded drive in the event that a delivery or service vehicle is accessing the site at the same time. Again, by consolidating these services on the west side of the building, and off of 48th, we increase the safety of pedestrians, as most pedestrian traffic is anticipated to be traveling east-west along Riverbend and not as heavily trafficked along 48th.

Bike traffic will be directed to the multi-use path along the northern property line which will provide access to the interior courtyard between the two buildings. The multi-use path will be accessible via 48th Street curb ramps. 48th Street from Arapahoe Ave to Riverbend Rd is wider than standard street without on-street parking, which makes for safe bicycle connection from the Arapahoe multi-use path. Additionally, the existing sidewalk on the west side of Arapahoe Ave is wider than standard and could serve as a bicycle connection if pedestrians are not present.

The dedicated drop-off loop at the entry to the medical pavilion provides convenient access to Via vans, taxis as well as mobility limited visitors needing pick-up/drop-off close to the front entry. See also above responses to the convenience and safety that the east-west pedestrian path provides along the south side of the medical center & garage.

(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;

On-street parking has been eliminated to increase the visibility to the existing property access points, and eliminates potential conflicts with passengers leaving their cars and crossing the street at undesignated points. The parking garage entry consolidates vehicle access to one location and is located to the east of the stair and elevator core, which allows pedestrians to travel between the garage and the medical center without having to cross a road or driveway.

(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 parking garage stacks the required parking, thus reduces the site footprint dedicated to parking to meet the needs of the medical center. This also consolidates vehicle access to a designated entry/exit point establishing efficiency in road design and required paving. In addition, the roundabout has been reconfigured to eliminate surface parking, providing for a less congested flow to the existing properties and increasing the landscaped area.

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

The parking garage uses daylighting and occupancy sensors to reduce the visual impact of the lighting provided to serve the parking volume for the project. There are decorative metal screens which wrap the east, south and west elevations which add visual interest to the garage structure as well as mitigate any light spill from the deck mounted lights or vehicle headlights. In addition to this, the accessory use/retail wrap on the south face of the garage reduces the overall impact of the visibility of the parking from the pedestrian level and from adjacent sites, placing an emphasis on this frontage and reducing the visual impact of the garage.

(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.

There are only 4 surface parking stalls for the project (Van Accessible), the remainder are located within the parking garage. These 4 stalls are located just to the south of the main entry to the medical center at the drop-off loop. The landscape islands will be planted with shade trees and low planting including ornamental shrubs and groundcover. Shrub species will be selected so that mature height does not exceed 36". This is to allow for clear visibility across the parking and pedestrian areas and to the front entry of the medical center.

(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 building height maximum will be 55' for this property, requiring a modification to the existing Height Ordinance. The surrounding context and programmatic needs of this type of facility support this increase in allowable height. The necessity of the height stems from the constructability needs when building for inpatient medical services. The floor-to-floor heights tend to be greater than a standard commercial building or even medical office building because of the required mechanical and electrical services, fire and life safety needs as well as minimum ceiling height requirements that are dictated by the state health department. While the building will only be three stories above grade (allowed per zoning), these stories each require a certain overall height to be functionally relevant, which takes the building roof height up to the 55' envelope. This is in alignment with the hospital use allowed in a Public zone. The proposed development will also help transition from the scale and starkness of the Ball Aerospace building to the north (@ +55'), to the smaller Riverbend structures to the south.

(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;

Ball Aerospace to the north and east are at and above the 55' height. BCH Foothills Hospital to the west is also 55' in height and sits higher than that of the Riverbend site because of the rising topography to the west. In addition to this, the perceived height of the medical pavilion and garage will be much less than the 55' height suggests because of the immediate topography and neighboring buildings. The Riverbend development slopes significantly from south to north which positions the building's first floor elevation 10'-0"+ below the traffic along Arapahoe Avenue.

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

The site and building orientation and positioning do not have any shadow impacts on the Riverbend properties to the south and minimal impacts to the Ball Aerospace parking lot to the east. Most of the shadows will occur to the north, however this adjacent property, Ball Aerospace, has no windows or required views out of that portion of their building. It is a service edge that is dominated by a 55' tall solid wall and industrial level uses.

(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;

BCH Foothills Hospital campus has an established material palette (brick, glass, copper) and that architectural character is directly addressed in the design and planning of the Riverbend medical center. The new building and parking garage will feel familiar enough that it fits within the BCH family but unique in its own right to establish the new 'front door' to the medical center in Riverbend.

(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;

The south side of the medical pavilion and parking garage have been specifically designed to encourage and improve the pedestrian. Both the medical pavilion and the accessory retail space at the garage have a 1-story volume that pushes out to the south from the main mass of the buildings, which creates a more comfortable pedestrian experience. The building designs engage the public at the ground level through the use of storefront glass and the placement of an exterior courtyard garden between the lobby and retail spaces. The transparency at the ground level creates a connection between indoors and outdoors and subsequently a more approachable building.

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

The courtyard garden and various seating areas to the south of the garage are intended and encouraged to be used by the public, including patients, visitors, employees and those accessing the retail areas.

(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; Does not apply. No residential units are a part of this project.

(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; Does Not Apply. No residential uses are a part of this project.

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

The exterior site lighting package will consist of Full cut-off 18'-0" pole mounted fixtures approximately 7000 lumens @ 4000K, a full cut-off illuminated bollard with light source approximately 4'-0" approximately 1200 lumens at 4000K, and a fully recessed can light in the main canopies approximately 3000 lumens at 4000K. Regulations defining maximum allowed foot candle reading and maximum lighting uniformity shall be maintained. See the landscape plans for site lighting locations.

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

The exterior courtyard garden is a large contributor to the usable open space and incorporating the natural environment into the design. In addition, there is a 3-floor open-air courtyard providing fresh air and natural space for the patients/occupants of that floor.

(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;

Photovoltaic panels will be installed on the roof of the medical pavilion as an alternative energy source. There are electric vehicle charging stations in the parking garage. The parking garage also uses daylighting and occupancy sensors to reduce the amount of energy used to light the structure. Rain gardens are located around the perimeter of the building to provide a natural, and visually appealing way to filter and discharge the water flowing off of the roofs. The central courtyard and 3rd floor roof garden on the medical pavilion (see roof plan) will help to reduce the heat island effect as will light colored roofing materials. The medical center will also have various energy saving systems such as daylighting controls, high performance glazing and exterior sunshades which all contribute to improved performance of the building systems and a reduction in power consumption.

(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;

The primary building materials for the medical pavilion include brick, copper and metal panel with the use of storefront and curtainwall glazing. These materials are located on the east, south and west facades, presenting a sense of permanence as well as connecting to the BCH Foothills campus palette. Secondary materials, located on the north side of the building facing Ball Aerospace, include stucco with small quantities of brick, copper and metal accents. The accessory retail space on the south façade of the garage mimics the palette of the medical pavilion with the use of brick, painted steel and storefront glazing. The parking garage has a primary structure of concrete which is layered with custom perforated metal screen panels. These panels are perforated in lieu of being painted (or an 'applied graphic) to increase the durability of the material and ensure the custom tree graphic will remain as-is throughout the material lifespan. Additional brick elements are also used at the corners and stair/elevator cores.

(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;

Grading is determined by the finished floor elevations of the structures. These will be set 2-ft above the 100-year flood elevation to protect the buildings from flooding. There will be minor filling to obtain this building elevation, however this will be offset by foundation excavation.

(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 Does not apply. Project site is in Area I.

(xv) In the urbanizing areas located on the major streets shown on the map in Appendix A to 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. Does not apply. Project site is in Area I.

(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:

Does Not Apply. No residential uses are a part of this project.

(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. Does Not Apply. No residential uses are a part of this project.

(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. Does Not Apply. No residential uses are a part of this project.

(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. Does Not Apply. No residential uses are a part of this project.

(iv) Landscaping: The shading effects of proposed landscaping on adjacent buildings are minimized. Does Not Apply. No residential uses are a part of this project.

(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:

(i) The light pole is required for nighttime recreation activities which are compatible with the surrounding neighborhood, light or traffic signal pole is required for safety or the electrical utility

pole is required to serve the needs of the City; and Does Not Apply. No poles requested above permitted height.

(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. Does Not Apply. No poles requested above permitted height.

(l) Land Use Intensity Modifications:

(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.

Does Not Apply. Not in BR-1 district.

b. The open space requirements in all Downtown (DT) districts may be reduced by up to one hundred percent.

Does Not Apply. Not in (DT) district.

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.

Does Not Apply. Not in BR-2 district.

d. Land use intensity may be increased up to twenty-five percent in the BR-1 district through a reduction of the lot area requirement.

Does Not Apply. Not in BR-1 district.

(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:

a. Open Space Needs Met: The needs of the project's occupants and visitors for high quality and functional useable open space can be met adequately;

The needs of the Open Space requirement have been met by providing 37% open space. 20% is required.

b. Character of Project and Area: The open space reduction does not adversely affect the character of the development or the character of the surrounding area; and

Does Not Apply. No open space reduction being requested.

c. Open Space and Lot Area Reductions: The specific percentage reduction in open space or lot area requested by the applicant is justified by any one or combination of the following site design features not to exceed the maximum reduction set forth above:

Does Not Apply. No open space reduction being requested.

1. Close proximity to a public mall or park for which the development is specially assessed or to which the project contributes funding of capital improvements beyond that required by the parks and recreation component of the development excise tax set forth in chapter 3-8, "Development Excise Tax," B.R.C. 1981: maximum one hundred percent reduction in all Downtown (DT) districts and ten percent in the BR-1 district; Does Not Apply. No open space reduction being requested.

2. Architectural treatment that results in reducing the apparent bulk and mass of the structure or structures and site planning which increases the openness of the site: maximum five percent reduction; Does Not Apply. No open space reduction being requested.

3. A common park, recreation or playground area functionally useable and accessible by the development's occupants for active recreational purposes and sized for the number of inhabitants of the development, maximum five percent reduction; or developed facilities within the project designed to meet the active recreational needs of the occupants: maximum five percent reduction; Does Not Apply. No open space reduction being requested.

4. Permanent dedication of the development to use by a unique residential population whose needs for conventional open space are reduced: maximum five percent reduction; Does Not Apply. No open space reduction being requested.

5. The reduction in open space is part of a development with a mix of residential and nonresidential uses within a BR-2 zoning district that, due to the ratio of residential to nonresidential uses and because of the size, type and mix of dwelling units, the need for open space is reduced: maximum fifteen percent reduction; and Does Not Apply. No open space reduction being requested.

6. The reduction in open space is part of a development with a mix of residential and nonresidential uses within a BR-2 zoning district that provides high quality urban design elements that will meet the needs of anticipated residents, occupants, tenants and visitors of the property or will accommodate public gatherings, important activities or events in the life of the community and its people, that may include, without limitation, recreational or cultural amenities, intimate spaces that foster social interaction, street furniture, landscaping and hard surface treatments for the open space: maximum twenty-five percent reduction. Does Not Apply. No open space reduction being requested.

(J) Additional Criteria for Floor Area Ratio Increase for Buildings in the BR-1 District:

(i) Process: For buildings in the BR-1 district, the floor area ratio ("FAR") permitted under Table 8-2, Section 9-8-2, "Floor Area Ratio Requirements," B.R.C. 1981, may be increased by the city manager under the criteria set forth in this subparagraph. Does Not Apply. Not in BR-1 District.

(ii) Maximum FAR Increase: The maximum FAR increase allowed for buildings thirty-five feet and over in height in the BR-1 district shall be from 2:1 to 4:1. Does Not Apply. Not in BR-1 District.

(iii) Criteria for the BR-1 District: The FAR may be increased in the BR-1 district to the extent allowed in subparagraph (h)(2)(J)(ii) of this section if the approving agency finds that the following criteria are met: Does Not Apply. Not in BR-1 District.

a. Site and building design provide open space exceeding the required useable open space by at least ten percent: an increase in FAR not to exceed 0.25:1.

Does Not Apply. Not in BR-1 District.

b. Site and building design provide private outdoor space for each office unit equal to at least ten percent of the lot area for buildings twenty-five feet and under and at least twenty percent of the lot area for buildings above twenty-five feet: an increase in FAR not to exceed 0.25:1.

Does Not Apply. Not in BR-1 District.

c. Site and building design provide a street front facade and an alley facade at a pedestrian scale, including, without limitation, features such as awnings and windows, well-defined building entrances and other building details: an increase in FAR not to exceed 0.25:1. Does Not Apply. Not in BR-1 District.

d. For a building containing residential and nonresidential uses in which neither use comprises less than twenty-five percent of the total square footage: an increase in FAR not to exceed 1:1.

Does Not Apply. Not in BR-1 District.

e. The unused portion of the allowed FAR of historic buildings designated as landmarks under chapter 9-11, "Historic Preservation," B.R.C. 1981, may be transferred to other sites in the same zoning district. However, the increase in FAR of a proposed building to which FAR is transferred under this subparagraph may not exceed an increase of 0.5:1.

Does Not Apply. Not in BR-1 District.

f. For a building which provides one full level of parking below grade, an increase in FAR not to exceed 0.5:1 may be granted.

Does Not Apply. Not in BR-1 District.

(K) Additional Criteria for Parking Reductions: The off-street parking requirements of Section 9-9-6, "Parking Standards," B.R.C. 1981, may be modified as follows:

(i) Process: The city manager may grant a parking reduction not to exceed fifty percent of the required parking. The planning board or city council may grant a reduction exceeding fifty percent. Does Not Apply. Not requesting a parking reduction.

(ii) Criteria: Upon submission of documentation by the applicant of how the project meets the following criteria, the approving agency may approve proposed modifications to the parking requirements of Section 9-9-6, "Parking Standards," B.R.C. 1981 (see tables 9-1, 9-2, 9-3 and 9-4), if it finds that:

a. For residential uses, the probable number of motor vehicles to be owned by occupants of and visitors to dwellings in the project will be adequately accommodated; Does Not Apply. Not a residential use.

b. The parking needs of any nonresidential uses will be adequately accommodated through on-street parking or off-street parking; Does Not Apply. Not requesting a parking reduction.

c. A mix of residential with either office or retail uses is proposed, and the parking needs of all uses will be accommodated through shared parking; Does Not Apply. Not a residential use.

d. If joint use of common parking areas is proposed, varying time periods of use will accommodate proposed parking needs; and Does Not Apply. Not requesting a parking reduction.

e. If the number of off-street parking spaces is reduced because of the nature of the occupancy, the applicant provides assurances that the nature of the occupancy will not change. Does Not Apply. Not requesting a parking reduction.

(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:

(i) The lots are held in common ownership; Does Not Apply. No joint parking.

(ii) The separate lot is in the same zoning district and located within three hundred feet of the lot that it serves; and Does Not Apply. No joint parking.

(iii) The property used for off-site parking under this subparagraph continues under common ownership or control. Does Not Apply. No joint parking.

BOULDER COMMUNITY HEALTH
RIVERBEND MEDICAL PAVILION AND PARKING GARAGE

SITE REVIEW

RIVERBEND ROAD AND 48TH STREET
BOULDER, CO 80303

OWNER
BOULDER COMMUNITY HEALTH
4747 ARAPAHOE AVENUE
BOULDER, CO 80303

ARCHITECT
BOULDER ASSOCIATES, INC.
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FAX: 303.499.7767

ENTITLEMENTS FACILITATOR
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PHONE: 303-447-9854

CONTRACTOR
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PHONE: 303-449-1255

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FAX: 303-444-1957

LANDSCAPE ARCHITECT
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PHONE: 303-245-4255

STRUCTURAL ENGINEER
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PHONE: 303-444-1951

MEP ENGINEER
CCRD
6400 S. FIDDLER'S GREEN CIRCLE
SUITE 1150
GREENWOOD VILLAGE, CO 80111
PHONE: 303-694-4755
FAX: 303-694-5125

PROJECT NUMBER
152699.01

DRAWN BY
AW

DATE
9/26/2016

REVISIONS

REV.	DESCRIPTION	DATE
1	REVISION #1	07/29/2016
2	REVISION #2	09/02/2016
3	REVISION #3	09/26/2016

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Boulder Community Health

PROJECT
BOULDER COMMUNITY HEALTH RIVERBEND MEDICAL PAVILION AND PARKING GARAGE

SITE REVIEW

LUR2016-00038-40

SHEET TITLE
COVER SHEET

SHEET NUMBER
00

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GENERAL PROJECT DATA

OVERALL SITE: 97,725 SF / 2.24 ACRES

BUILDING COVERAGE (FOOTPRINTS):

NAME	AREA
BOULDER COMMUNITY HEALTH MEDICAL PAVILION	
FIRST FLOOR	25,247 SF
BOULDER COMMUNITY HEALTH PARKING GARAGE	
FIRST FLOOR	26,446 SF
RETAIL 1	701 SF
RETAIL 2	1,583 SF
RETAIL 3	2,545 SF
TOTAL SITE BUILDING FOOTPRINT	56,523 SF

BUILDING HEIGHT:
MEDICAL PAVILION 55'
PARKING GARAGE 55'

NUMBER OF STORIES:
MEDICAL PAVILION 3 STORIES
PARKING GARAGE 1 LEVEL @ GRADE / 5 STRUCTURED LEVELS
RETAIL SPACE 1 STORY

OCCUPANCY CLASSIFICATION (IBC):

MEDICAL PAVILION
FIRST FLOOR B BUSINESS - MEDICAL OFFICE
SECOND FLOOR B BUSINESS - MEDICAL OFFICE
I-2 HOSPITAL, INPATIENT
THIRD LEVEL I-2 HOSPITAL, INPATIENT

PARKING GARAGE
FIRST FLOOR: S-2 LOW-HAZARD STORAGE
B BUSINESS - RETAIL
SECOND FLOOR: S-2 LOW-HAZARD STORAGE
THIRD FLOOR: S-2 LOW-HAZARD STORAGE
FOURTH FLOOR: S-2 LOW-HAZARD STORAGE
FIFTH FLOOR: S-2 LOW-HAZARD STORAGE
SIXTH FLOOR: S-2 LOW-HAZARD STORAGE

GROSS MEDICAL PAVILION AREA

NAME	AREA
FIRST FLOOR	25,247 SF
SECOND FLOOR	22,851 SF
THIRD FLOOR	22,244 SF
TOTAL	70,342 SF

GROSS PARKING GARAGE AREA

NAME	AREA
FIRST FLOOR	20,557 SF
SECOND FLOOR	29,686 SF
THIRD FLOOR	29,686 SF
FOURTH FLOOR	29,686 SF
FIFTH FLOOR	29,686 SF
SIXTH FLOOR	29,268 SF
TOTAL	168,568 SF

GROSS RETAIL AREA

NAME	AREA
RETAIL 1	701 SF
RETAIL 2	1,583 SF
RETAIL 3	2,545 SF
TOTAL	4,829 SF

GENERAL PARKING DATA

REQUIRED PARKING:
REQUIRED MEDICAL PAVILION PARKING (70,342 SF AT 1/300) 234 SPACES
REQUIRED RETAIL PARKING (4,829 SF AT 1/300) 16 SPACES
TOTAL REQUIRED PARKING 250 SPACES

PROVIDED PARKING:

TYPE	COUNT	COMMENTS
GARAGE		
8' x 19' (8' AISLE)	8	ADA
9' x 16' GARAGE PARKING COMPACT STALL	108	COMPACT
9' x 16' GARAGE PARKING COMPACT STALL - PATIENT	65	COMPACT - PATIENT
9' x 16' GARAGE PARKING COMPACT STALL - RETAIL	7	COMPACT - RETAIL.
9' x 19' (5' AISLE) ADA GARAGE PARKING	6	ADA
9' x 19' (5' AISLE) ADA GARAGE PARKING - EV	1	ONE EV CAPABLE
9' x 19' EV GARAGE PARKING STANDARD STALL	5	EV CAPABLE
9' x 19' GARAGE PARKING STANDARD STALL	131	STANDARD
9' x 19' GARAGE PARKING STANDARD STALL - PATIENT	65	STANDARD - PATIENT
9' x 19' GARAGE PARKING STANDARD STALL - RETAIL	10	STANDARD - RETAIL
	406	
SITE		
8' x 19' (8' AISLE) ADA EV SITE PARKING	1	VAN ACCESSIBLE ADA AND EV CAPABLE
8' x 19' (8' AISLE) ADA SITE PARKING	3	VAN ACCESSIBLE ADA
	4	
TOTAL: 410	410	

COMPACT PARKING STALLS (9-9-6; TABLE 9-7; B.R.C. 1981)

TOTAL SPACES REQUIRED	ALLOWABLE SMALL CAR STALLS
5-49	40 PERCENT
50-100	50 PERCENT
101 OR GREATER	60 PERCENT

REQUIRED BIKE PARKING (PER LAND USE - OFFICE, MEDICAL, & FINANCIAL USES):
REQUIRED LONG TERM (75% OF TOTAL) 38 BIKE SPACES
REQUIRED SHORT TERM (25% OF TOTAL) 13 BIKE SPACES
TOTAL REQUIRED (75,171 SF @ 1/1500SF) 51 BIKE SPACES

PROVIDED BIKE PARKING:

TYPE	COUNT	COMMENTS
LONG TERM BIKE PARKING	40	BIKE PARKING LOCATED AT FIRST FLOOR OF PARKING GARAGE
SHORT TERM BIKE PARKING	22	BIKE PARKING LOCATED OUTSIDE ENTRY OF MEDICAL PAVILION
SHORT TERM BIKE PARKING WITH TRAILER	6	BIKE PARKING LOCATED OUTSIDE ENTRY OF MEDICAL PAVILION
TOTAL: 68	68	

PLANNING & ZONING DATA

ZONING DESIGNATION:
CURRENT (BT-2) BUSINESS TRANSITIONAL 2
PROPOSED (P) PUBLIC

LAND USE DESIGNATION:
CURRENT (TB) TRANSITIONAL BUSINESS
PROPOSED (P) PUBLIC

SETBACKS (PUBLIC ZONING DESIGNATION):

	REQ.	PROV.
FRONT YARD (WEST PROPERTY LINE):	25'	21'
REAR YARD (EAST PROPERTY LINE):	25'	12'
SIDE YARD - INTERIOR LOT LINE (NORTH PROPERTY LINE):	10'	10'
SIDE YARD - FROM A STREET (SOUTH PROPERTY LINE):	12.5'	9' FOR BUILDING 1' FOR PARKING SPACES

SETBACK MODIFICATION FOR PROPERTY 4895 (BT-2 ZONING DESIGNATION):

	REQ.	PROV.
SIDE YARD LANDSCAPE SETBACK	15'	11'

OPEN SPACE:
REQUIRED 20% (PER 9-9-11(C)(3))
PROVIDED 36%
*SEE "OPEN SPACE DIAGRAM" ON ARCHITECTURAL SHEET SR7

STAFF LOCKERS:
PROVIDED ON SECOND FLOOR OF THE MEDICAL PAVILION

WOMEN'S LOCKER ROOM: 14 LOCKERS, 1 SHOWER
MEN'S LOCKER ROOM: 14 LOCKERS, 1 SHOWER

REQUESTED MODIFICATIONS FROM THE LAND USE REGULATIONS:

9-7-1 MINIMUM SIDE YARD LANDSCAPED SETBACK FROM A STREET TO PERMIT A BUILDING AT 9 FEET AND PARKING SPACES AT 1 FEET WHERE 12.5 FEET IS REQUIRED

9-7-1 MINIMUM FRONT YARD SETBACK TO PERMIT THE BUILDING AT 21 FEET WHERE 25 FEET IS REQUIRED

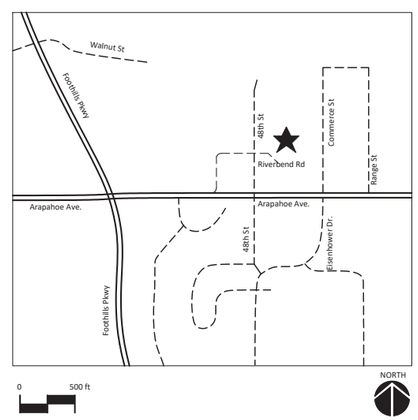
9-7-1 MINIMUM REAR YARD SETBACK TO PERMIT THE PARKING STRUCTURE AT 12 FEET WHERE 25 FEET IS REQUIRED

9-7-1 MINIMUM SIDE YARD LANDSCAPE SETBACK TO PERMIT THE EXISTING STRUCTURE AT 4895 RIVERBEND AS 11 FEET WHERE 15 FEET IS REQUIRED

9-7-1 MAXIMUM PERMITED HEIGHT TO PERMIT 55 FEET WHERE 35 FEET IS THE BY-RIGHT LIMIT (REQUIRES CITY COUNCIL APPROVAL)

9-7-1 MAXIMUM NUMBER OF STORIES TO PERMIT 6 GARAGE PARKING LEVELS WHERE 3 IS THE LIMIT

SITE CONTEXT PLAN



VICINITY MAP

P CURRENT ZONING
P PROPOSED ZONING
PROPERTY BOUNDARY
ADDITIONAL AREAS OF IMRPOVEMENT
NORTH

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00 COVER SHEET

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C1.0 GRADING AND DRAINAGE PLAN
C1.1 RIVERBEND ROAD PLAN AND PROFILE
C2.0 UTILITY PLAN
C3.0 HORIZONTAL CONTROL PLAN
C3.1 ENLARGED 48TH STREET INTERSECTION PLAN
C5.0 EASEMENT AND RIGHT-OF-WAY PLAN

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L1.2 LANDSCAPE MATERIALS PLAN - EAST
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L2.3 THIRD FLOOR COURTYARD AND DETAILS
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SR2-1 ELEVATIONS MEDICAL PAVILION
SR2-2 ELEVATIONS PARKING GARAGE
SR2-3 ENLARGED ELEVATION
SR3-1 BUILDING SECTIONS - MEDICAL PAVILION
SR3-2 BUILDING SECTIONS - MEDICAL PAVILION
SR3-3 BUILDING SECTIONS - PARKING GARAGE
SR4-1 MEDICAL PAVILION FIRST FLOOR PLAN
SR4-2 MEDICAL PAVILION SECOND AND THIRD FLOOR PLAN
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SR5-3 PARKING GARAGE FOURTH AND FIFTH FLOOR PLAN
SR5-4 PARKING GARAGE ROOF PLAN
SR6 SHADOW ANALYSIS
SR7 HEIGHT MODIFICATION DEMONSTRATION
SR8 CHARACTER RENDERINGS
SR9 CHARACTER RENDERINGS

PROJECT NUMBER
152699.01

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AW

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REV.	DESCRIPTION	DATE
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Boulder Community Health

PROJECT
BOULDER COMMUNITY HEALTH RIVERBEND MEDICAL PAVILION AND PARKING GARAGE

SITE REVIEW

LUR2016-00038-40

SHEET TITLE
PROJECT DATA

SHEET NUMBER
01

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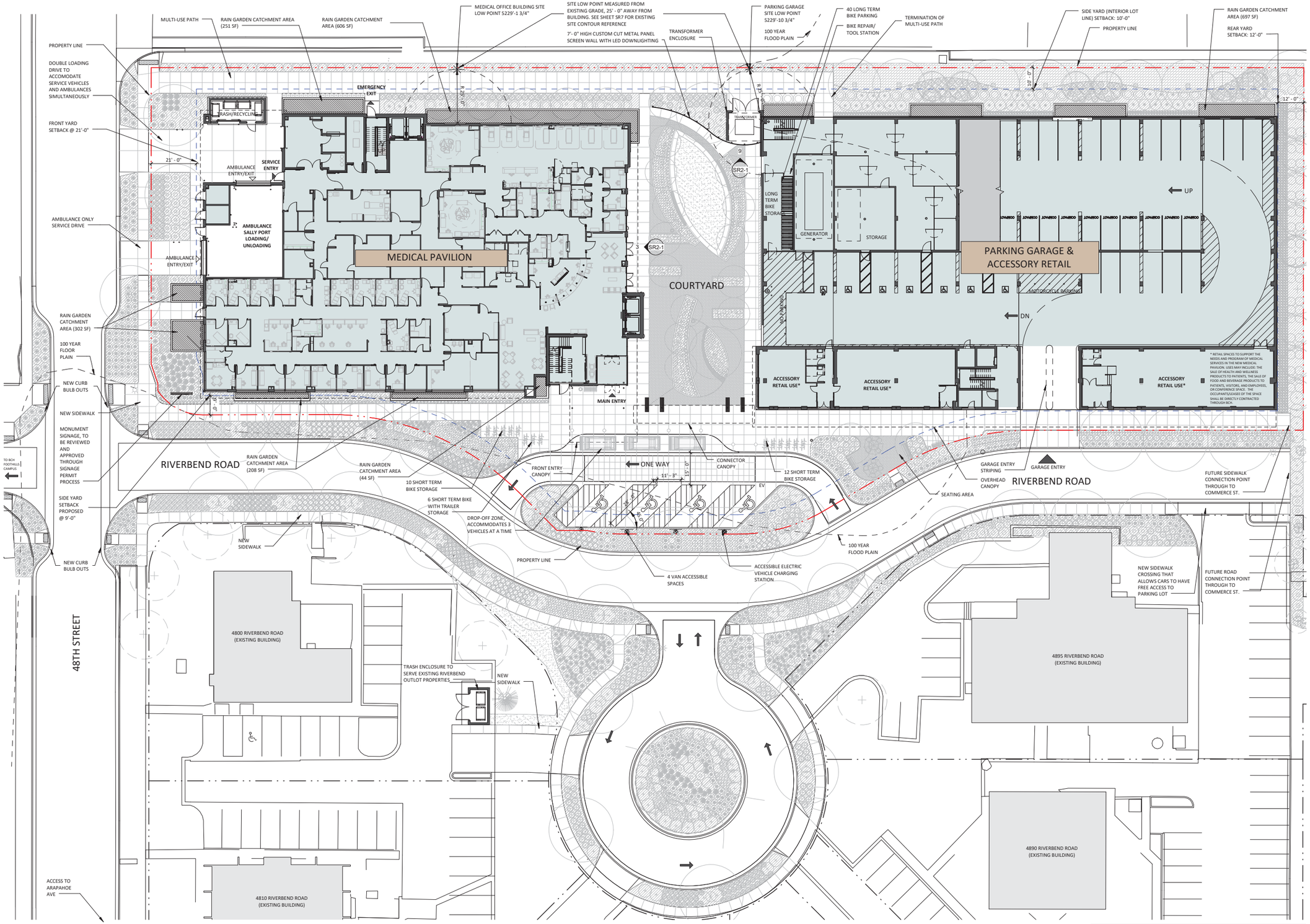

1 SITE DEVELOPMENT PLAN
1" = 20'-0"

SITE DEVELOPMENT PLAN LINETYPES

PROPERTY LINE - MEDICAL PAVILION DEVELOPMENT:
PROPERTY LINE - EXISTING PROPERTIES:
SETBACK:
100 YEAR FLOOD PLAIN:

PROJECT NUMBER
152699.01

DRAWN BY
AW/MF

DATE
9/26/2016

REVISIONS

REV.	DESCRIPTION	DATE
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Boulder Community Health

PROJECT
BOULDER COMMUNITY HEALTH RIVERBEND MEDICAL PAVILION AND PARKING GARAGE

SITE REVIEW

LUR2016-00038-40

SHEET TITLE
SITE DEVELOPMENT PLAN

SHEET NUMBER
SR1

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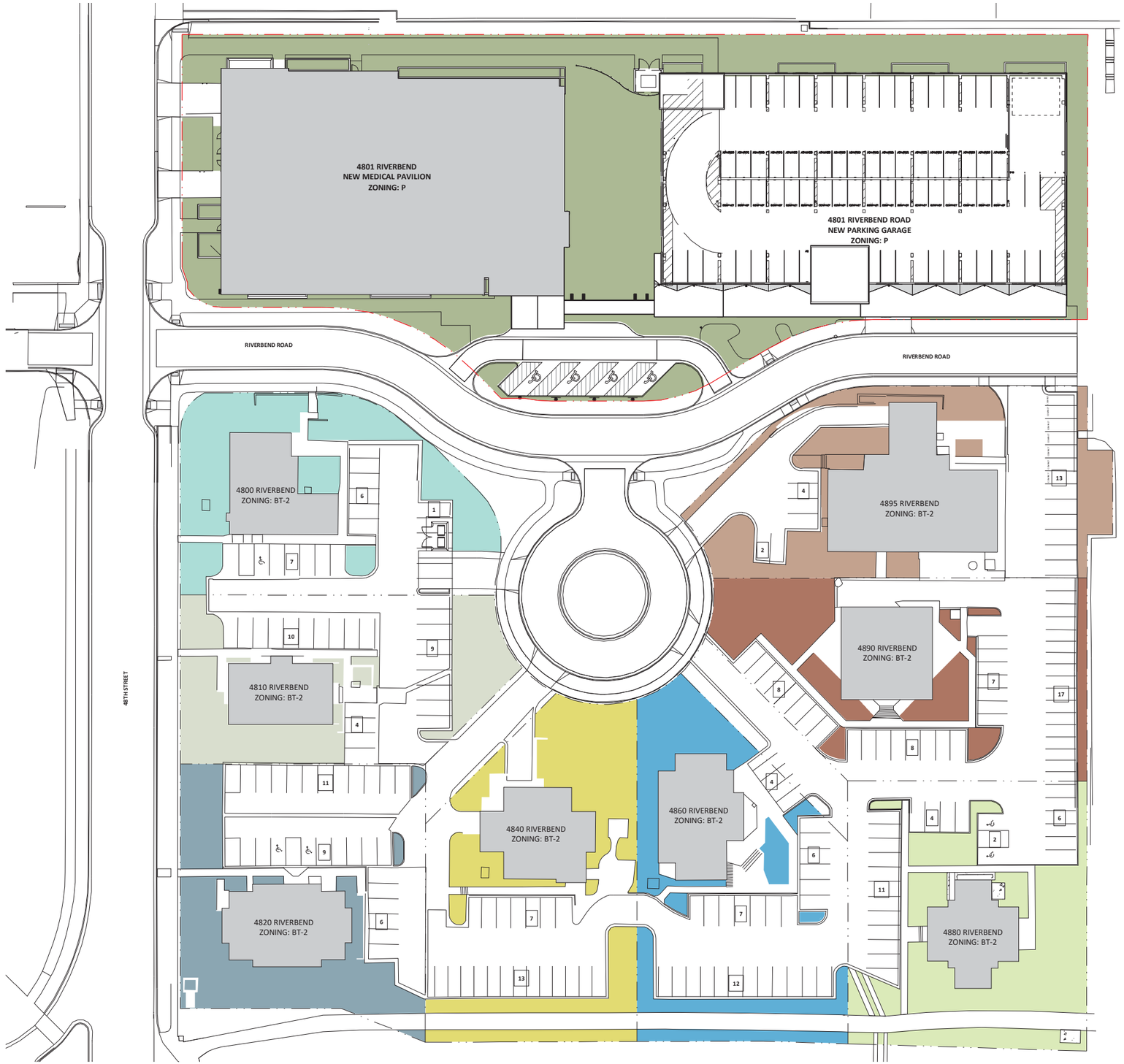

PUD ANALYSIS KEY

	BUILDING FOOTPRINT	PROPERTY LINE - MEDICAL PAVILION DEVELOPMENT:	
#	PARKING STALLS	PROPERTY LINE - EXISTING PROPERTIES:	

1 PUD ANALYSIS PLAN
1" = 30'-0"

AN ANALYSIS OF THE RIVERBEND DEVELOPMENT HAS BEEN PROVIDED BASED ON THE CITY RECORDS SUPPLIED TO THE APPLICANT. RELEVANT DOCUMENTS HAVE BEEN REFERENCED BELOW.

LEGAL DESCRIPTION

ALL OF RIVERBEND SUBDIVISION, IN THE SW 1/4 OF THE SE 1/4 OF SECTION 28, TIN, R70W OF THE 6TH P.M., CITY OF BOULDER, COUNTY OF BOULDER, STATE OF COLORADO

EXISTING PUD APPROVAL: ORDINANCE NO. 7095
(PER CITY COUNCIL SECOND READING, NOVEMBER 14, 2000)

AN ORDINANCE REZONING APPROXIMATELY 7.0 ACRES OF LAND GENERALLY LOCATED EAST OF 48TH STREET AND NORTH OF ARAPAHOE ROAD AND KNOWN AS THE RIVERBEND OFFICE PARK FROM THE IG-D TO TB-E ZONING CLASSIFICATION AS DESCRIBED IN CHAPTER 9-2, BOULDER REVISED CODE, 1981, AND SETTING FORTH DETAIL IN RELATION HERETO.

PROPOSED AMENDMENT TO PUD:

REZONING FROM BT-2 (FORMERLY TB-E) TO P FOR THE REDEVELOPED PROPERTY 4801 RIVERBEND RD.

BOULDER MUNICIPAL CODE REQUIREMENTS FOR OPEN SPACE CALC:

9-8-1. SCHEDULE OF INTENSITY STANDARDS:
BT-2 REQUIREMENT FOR OPEN SPACE ON LOTS = 10-20%
P REQUIREMENT FOR OPEN SPACE ON LOTS = 10-20%
9-9-11(c) - USEABLE OPEN SPACE:
(1) NONRESIDENTIAL BUILDINGS UP TO THIRTY-FIVE FEET IN HEIGHT: ANY BUILDING THAT CONTAINS A BUSINESS OR INDUSTRIAL USE WHICH IS UP TO THIRTY-FIVE FEET IN HEIGHT SHALL PROVIDE AT LEAST TEN PERCENT OF THE TOTAL LAND AREA AS USABLE OPEN SPACE.
(2) BUILDINGS BETWEEN THIRTY-FIVE AND FORTY-FIVE FEET IN HEIGHT: ANY BUILDING OVER THIRTY- FIVE FEET IN HEIGHT SHALL PROVIDE AT LEAST FIFTEEN PERCENT OF THE TOTAL LAND AREA AS USABLE OPEN SPACE.
(3) BUILDINGS OVER FORTY-FIVE FEET IN HEIGHT: ANY BUILIDNG OVER FORTY-FIVE FEET IN HEIGHT BUT LESS THAN FIFTY-FIVE FEET IN HEIGHT SHALL PROVIDE AT LEAST TWENTY PERCENT OF THE TOTAL LANDAREA AS USABLE OPEN SPACE.

KEY
- 4800 RIVERBEND
- 4801 RIVERBEND
- 4810 RIVERBEND
- 4820 RIVERBEND
- 4840 RIVERBEND
- 4860 RIVERBEND
- 4880 RIVERBEND
- 4890 RIVERBEND
- 4895 RIVERBEND

RIVERBEND SURROUNDING PROPERTIES (OPEN SPACE CALC)

PROPERTY	PROPERTY AREA	OPEN SPACE AREA	OPEN SPACE CALC %
EXISTING PROPERTY			
4800 RIVERBEND	19784 SF	7794 SF	39
4810 RIVERBEND	18110 SF	6666 SF	37
4820 RIVERBEND	21497 SF	7351 SF	34
4840 RIVERBEND	22580 SF	8536 SF	38
4860 RIVERBEND	22082 SF	6873 SF	31
4880 RIVERBEND	22307 SF	8917 SF	40
4890 RIVERBEND	23415 SF	5904 SF	25
4895 RIVERBEND	24492 SF	7194 SF	29
NEW MEDICAL PAVILION DEVELOPMENT			
4801 RIVERBEND	97725 SF	33568 SF	34

BOULDER MUNICIPAL CODE REQUIREMENTS FOR PARKING:

TABLE 9-3: NONRESIDENTIAL MOTOR VEHICLE PARKING REQUIREMENTS BY ZONING DISTRICT
MINIMUM NUMBER OF OFF STREET PARKING SPACES PER SQUARE FOOT OF FLOOR AREA FOR NONRESIDENTIAL USES AND THEIR ACCESSORY USES: 1:300 FOR BT-2 & P

NEW (P) RIVERBEND MEDICAL PAVILION

TOTAL BUILDING AREA	REQUIRED MEDICAL PARKING	REQUIRED RETAIL PARKING	TOTAL REQUIRED PARKING	PARKING PROVIDED
4801 RIVERBEND: 75,171 SF	234 STALLS	16 STALLS	250 STALLS	410 STALLS

EXISTING (BT-2) RIVERBEND PROPERTIES

BUILDING AREA* (BASED ON TABLE OF F.A.R. IN ATTACHMENT B OF CITY COUNCIL AGENDA ITEM #15, OCTOBER 17, 2000)	PARKING REQUIRED (PER CURRENT BT-2 STANDARD OF 1:300)	EXISTING PARKING COUNT** (PRE-DEVELOPMENT OF MEDICAL PAVILION, GARAGE & NEW RIVERBEND RD ALIGNMENT)	PROPOSED PARKING COUNT*** (POST-DEVELOPMENT OF MEDICAL PAVILION, GARAGE & NEW RIVERBEND RD ALIGNMENT)
4800 RIVERBEND: 3,476 SF	11 STALLS	19 STALLS	14 STALLS
4810 RIVERBEND: 5,568 SF	18 STALLS	23 STALLS	23 STALLS
4820 RIVERBEND: 5,900 SF	19 STALLS	26 STALLS	26 STALLS
4840 RIVERBEND: 5,484 SF	18 STALLS	20 STALLS	20 STALLS
4860 RIVERBEND: 5,820 SF	19 STALLS	29 STALLS	29 STALLS
4880 RIVERBEND: 4,780 SF	15 STALLS	23 STALLS	23 STALLS
4890 RIVERBEND: 6,030 SF	20 STALLS	40 STALLS	40 STALLS
4895 RIVERBEND: 5,800 SF	19 STALLS	19 STALLS	19 STALLS

*REFLECT ABOVE GRADE AREAS. PER ATTACHMENT B OF CITY COUNCIL AGENDA ITEM #15, DATED OCTOBER 17, 2000, F.A.R. DOES NOT INCLUDE BELOW GRADE OCCUPANCY FOR TB-E (NOW BT-2)

**EXISTING PARKING COUNT REFLECTS THE STALLS CONSTRUCTED AS OF JULY 2016, AND NOT THE STALL COUNT PROVIDED IN THE ATTACHMENT B SCHEDULE OF CITY COUNCIL AGENDA ITEM #15, DATED OCTOBER 17, 2000.

***PROPOSED PARKING WILL NOT BE SHARED BETWEEN THE PROPERTIES.

(EXPANSIONS AND CHANGES ARE SUBJECT TO THE CITY SITE REVIEW AMENDMENT OR MINOR MODIFICATION PROCESSES AS APPLICABLE)

BOULDER MUNICIPAL CODE REQUIREMENTS FOR ALLOWABLE USES

ALLOWABLE USES ARE IN ACCORDANCE TO THE UNDERLYING BT-2 REQUIREMENTS. ANY EXISTING NON-CONFORMING USES WOULD BE REGULATED ACCORDING TO CHAPTER 9-10 "NONCONFORMANCE STANDARDS".

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PROJECT
BOULDER COMMUNITY HEALTH RIVERBEND MEDICAL PAVILION AND PARKING GARAGE

SITE REVIEW

LUR2016-00038-40

SHEET TITLE
PUD ANALYSIS

SHEET NUMBER
SR1-1

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1 MEDICAL PAVILION SOUTH ELEVATION
1/16" = 1'-0"

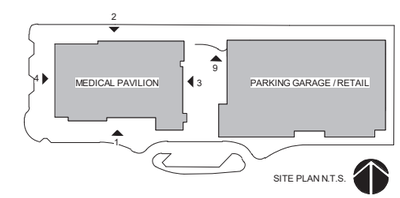
2 MEDICAL PAVILION NORTH ELEVATION
1/16" = 1'-0"

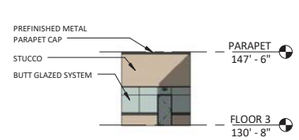
3 MEDICAL PAVILION EAST ELEVATION
1/16" = 1'-0"

4 MEDICAL PAVILION WEST ELEVATION
1/16" = 1'-0"

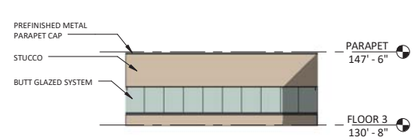
MEDICAL PAVILION MATERIALS LEGEND

- **BRICK** RUNNING BOND, TRI-COLOR BLEND: CANYON ROSE, DESERT ROSE, PINK GRAIN
- **COPPER PANEL** 8" INTERLOCKING PANELS, PATINA TO MATCH EXISTING CONDITION AT FOOTHILLS CAMPUS
- **VISION PANEL** VIRACON VUE 1-40
- **SPANDREL PANEL** VIRACON VUE 1-40
- **MULLION COLOR AND PAINTED STEEL** CHARCOAL
- **CUSTOM ETCHED RAIN SCREEN PANEL**
- **CUSTOM CUT METAL PANEL** AT GROUND FLOOR COURTYARD ONLY
- **STUCCO** AT 3RD FLOOR COURTYARD ONLY

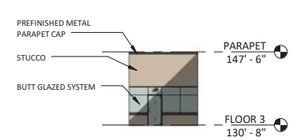




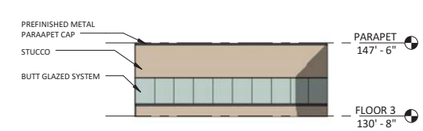
5 ROOF GARDEN - NORTH ELEVATION
G2.3A | SR2-1 1/16" = 1'-0"



6 ROOF GARDEN - EAST ELEVATION
G2.3A | SR2-1 1/16" = 1'-0"



7 ROOF GARDEN - SOUTH ELEVATION
G2.3A | SR2-1 1/16" = 1'-0"



8 ROOF GARDEN - WEST ELEVATION
G2.3A | SR2-1 1/16" = 1'-0"

9 COURTYARD SITE WALL - SOUTH ELEVATION
A2 | SR2-1 1/16" = 1'-0"

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DATE
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BOULDER COMMUNITY HEALTH RIVERBEND MEDICAL PAVILION AND PARKING GARAGE

SITE REVIEW

LUR2016-00038-40

SHEET TITLE
ELEVATIONS MEDICAL PAVILION

SHEET NUMBER
SR2-1

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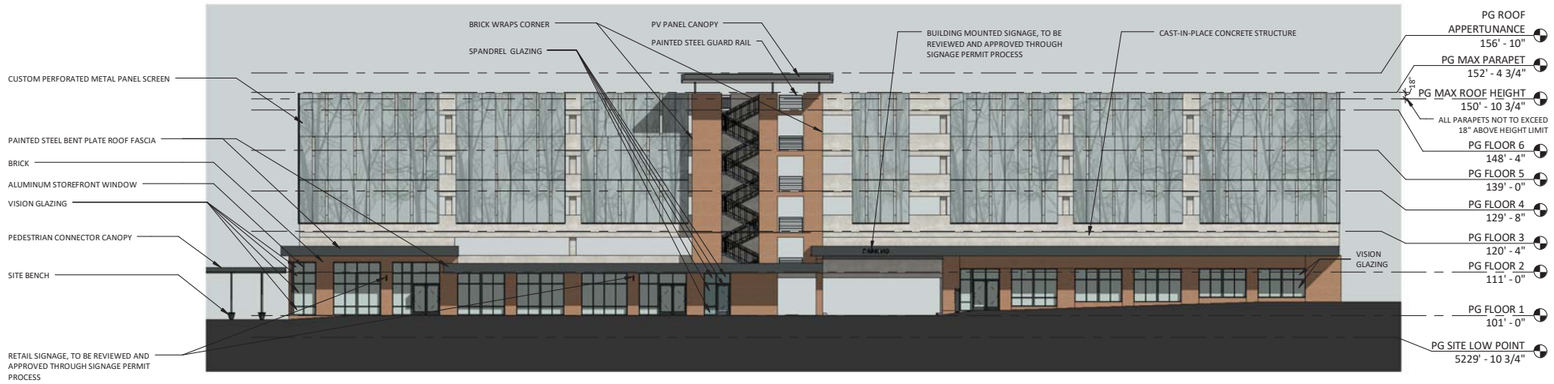


1 PARKING GARAGE SOUTH ELEVATION

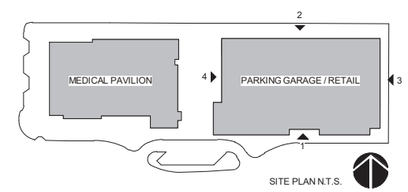
1/16" = 1'-0"

2 PARKING GARAGE NORTH ELEVATION

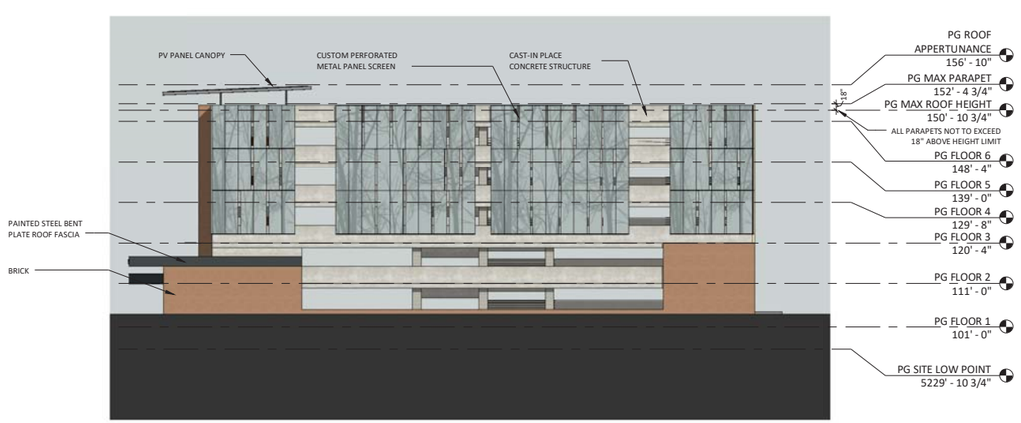
1/16" = 1'-0"

PARKING GARAGE / RETAIL MATERIALS LEGEND

- **BRICK** RUNNING BOND, TRI-COLOR BLEND: CANYON ROSE, DESERT ROSE, PINK GRAIN
- **GLAZING VISION** VIRACON VUE 1-40
- **GLAZING SPANDREL** VIRACON VUE 1-40
- **CONCRETE** CAST IN PLACE
- **MULLION COLOR AND PAINTED STEEL** CHARCOAL
- **CUSTOM PERFORATED METAL PANEL SCREEN**
- **PLANTED GREEN WALL**

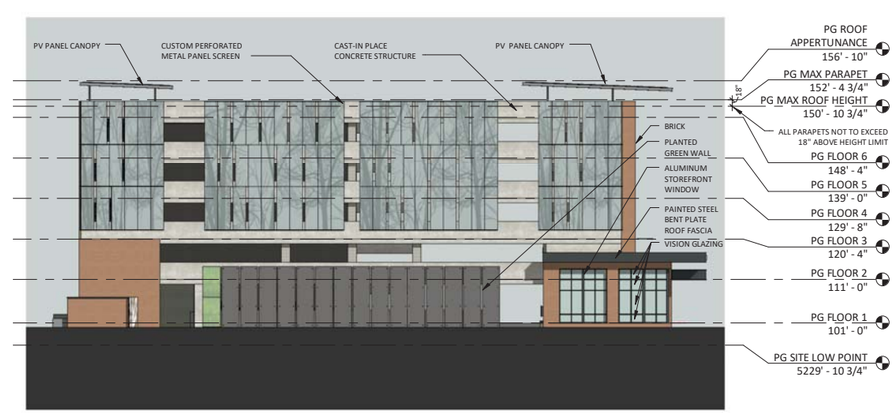


SITE PLAN N.T.S.



3 PARKING GARAGE EAST ELEVATION

1/16" = 1'-0"



4 PARKING GARAGE WEST ELEVATION

1/16" = 1'-0"

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SITE REVIEW

LUR2016-00038-40

SHEET TITLE
ELEVATIONS PARKING GARAGE

SHEET NUMBER
SR2-2

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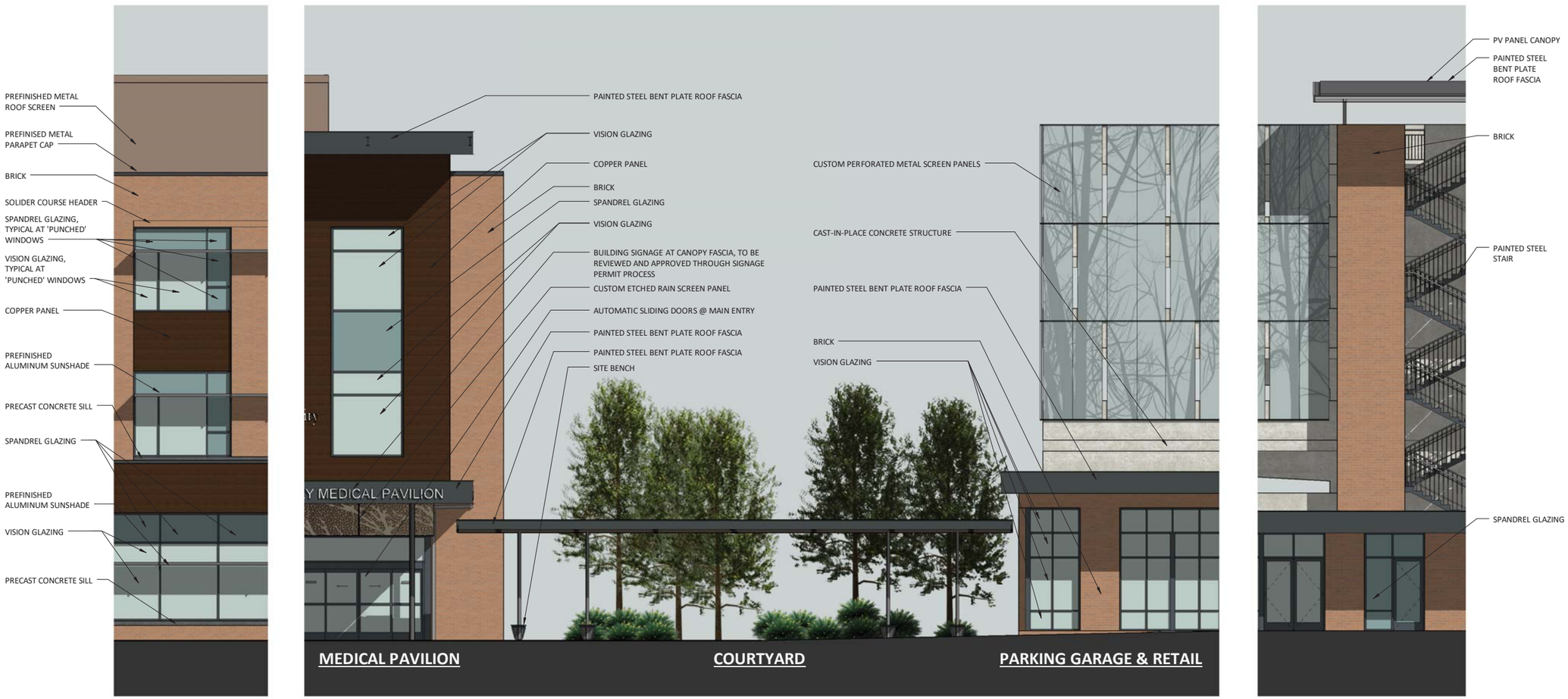
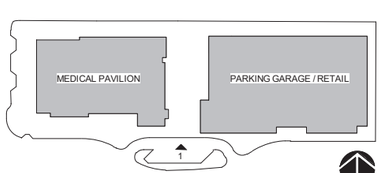
1 SITE ELEVATION
1" = 20'-0"



2 ENLARGED SITE ELEVATION
3/16" = 1'-0"

MEDICAL PAVILION AND PARKING GARAGE MATERIALS

BRICK CANYON ROSE, DESERT ROSE, AND PINK GRAIN	**VISION PANEL** VIRACON VUE 1-40	**MULLION AND PAINTED STEEL** CHARCOAL	**CONCRETE** CAST IN PLACE
COPPER PANEL 8" INTERLOCKING PANELS, PATINA TO MATCH EXISTING CONDITION AT FOOTHILLS CAMPUS	**SPANDREL PANEL** VIRACON VUE 1-40	**CUSTOM ETCHED RAIN SCREEN PANEL**	**CUSTOM PERFORATED METAL PANEL SCREEN**



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SHEET TITLE
ENLARGED ELEVATION

SHEET NUMBER
SR2-3

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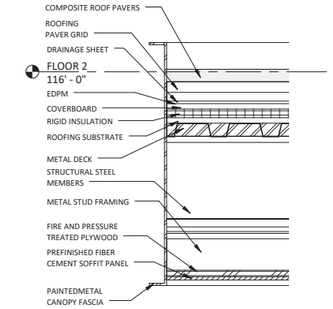
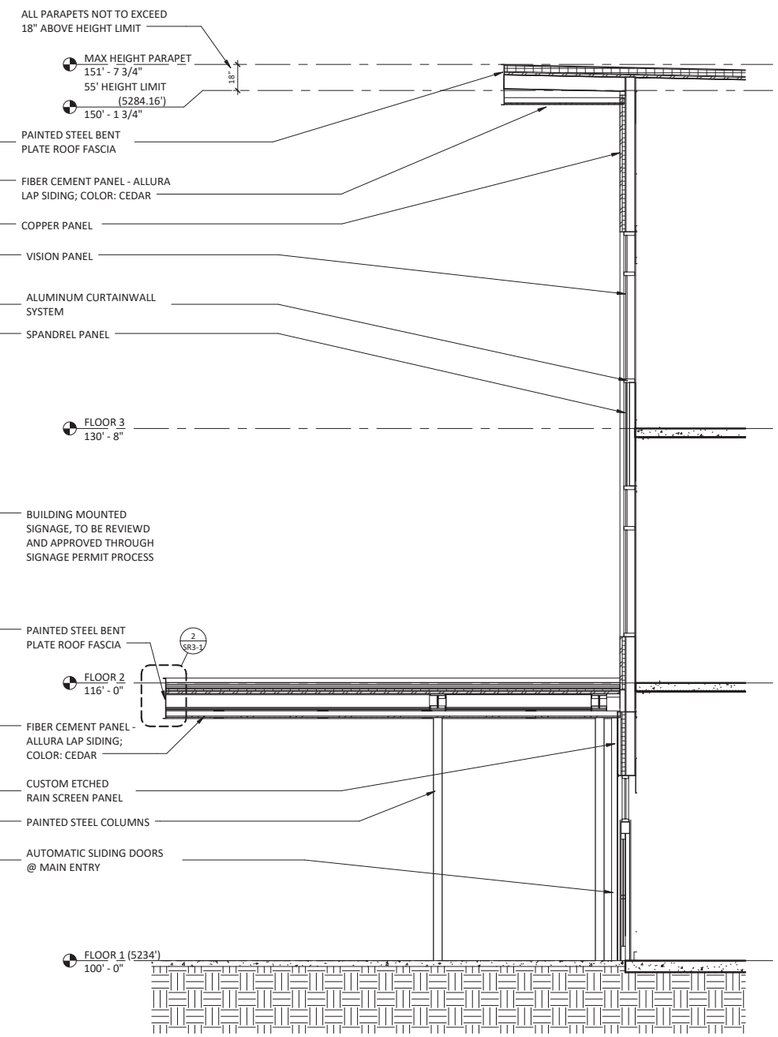
MATERIAL LEGEND - MEDICAL PAVILION

1. **BRICK** TRI-BLEND COLOR PER PHYSICAL MATERIALS BOARD
2. **SOLDIER COURSE HEADER**
3. **PRECAST CONCRETE SILL**
4. **MULLION COLOR AND PAINTED STEEL**
5. **COPPER PANEL**
6. **SPANDREL AND VISION PANEL**
7. **FIBER CEMENT PANEL** ALLURA LAP SIDING; COLOR: CEDAR
8. **CUSTOM ETCHED RAIN SCREEN PANEL**
9. **PREFINISHED ALUMINUM SUNSHADE**



2 PAINTED STEEL CANOPY FASCIA AT ENTRY CANOPY
1 1/2" = 1'-0"



1 WALL SECTION AT MAIN ENTRANCE VESTIBULE
1/4" = 1'-0"

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SITE REVIEW

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SHEET TITLE
BUILDING SECTIONS - MEDICAL PAVILION

SHEET NUMBER
SR3-1

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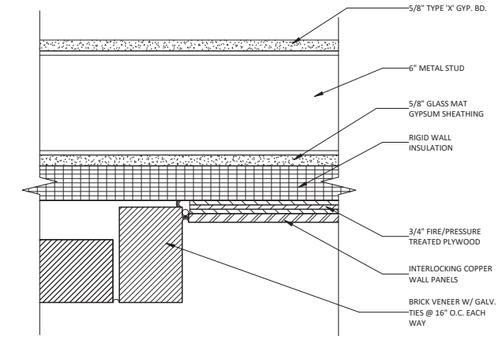
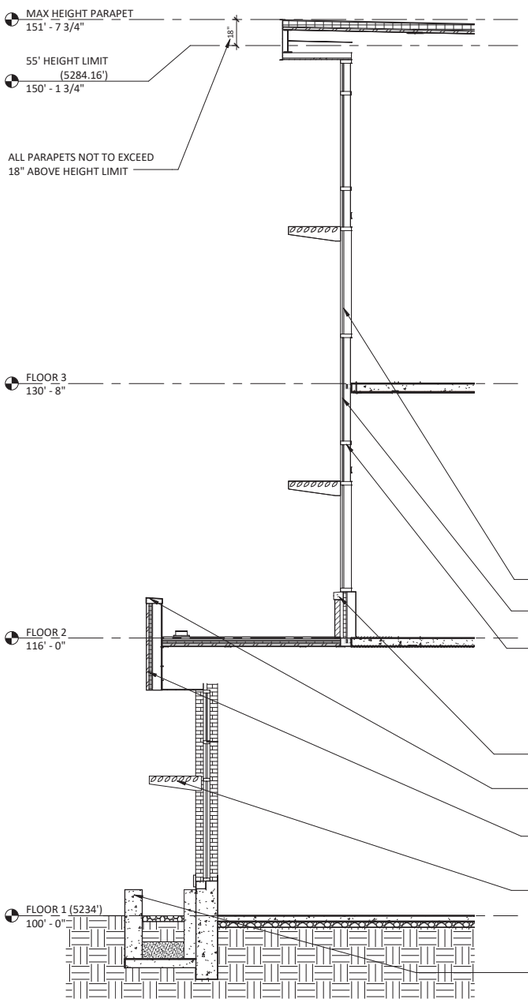
MATERIAL LEGEND - MEDICAL PAVILION

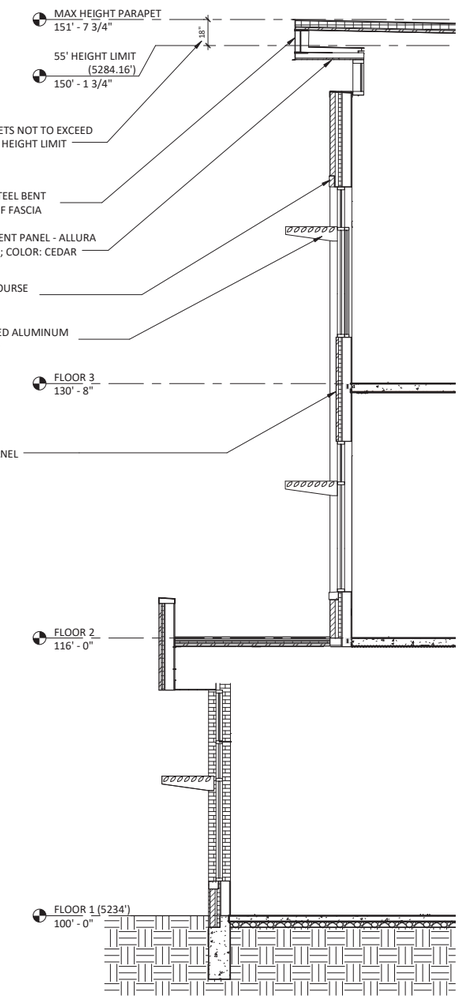
1. **BRICK** TRI-BLEND COLOR PER PHYSICAL MATERIALS BOARD
2. **SOLDIER COURSE HEADER**
3. **PRECAST CONCRETE SILL**
4. **MULLION COLOR AND PAINTED STEEL**
5. **COPPER PANEL**
6. **SPANDREL AND VISION PANEL**
7. **FIBER CEMENT PANEL** ALLURA LAP SIDING; COLOR: CEDAR
8. **CUSTOM ETCHED RAIN SCREEN PANEL**
9. **PREFINISHED ALUMINUM SUNSHADE**



3 PLAN DETAIL - BRICK TO COPPER TRANSITION
3" = 1'-0"



VISION PANEL
SPANDREL PANEL
ALUMINUM CURTAINWALL SYSTEM
BUILDING MOUNTED SIGNAGE, TO BE REVIEWED AND APPROVED THROUGH SIGNAGE PERMIT PROCESS
PRECAST CONCRETE SILL
PREFINISHED COPPER PARAPET CAP
COPPER PANEL
PREFINISHED ALUMINUM SUNSHADE
CONCRETE WALLS FOR RAIN GARDEN



1 WALL SECTION AT RAIN GARDEN
1/4" = 1'-0"

2 WALL SECTION AT HIGH CURTAINWALL
1/4" = 1'-0"

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PROJECT
BOULDER COMMUNITY HEALTH RIVERBEND MEDICAL PAVILION AND PARKING GARAGE

SITE REVIEW

LUR2016-00038-40

SHEET TITLE
BUILDING SECTIONS - MEDICAL PAVILION

SHEET NUMBER
SR3-2

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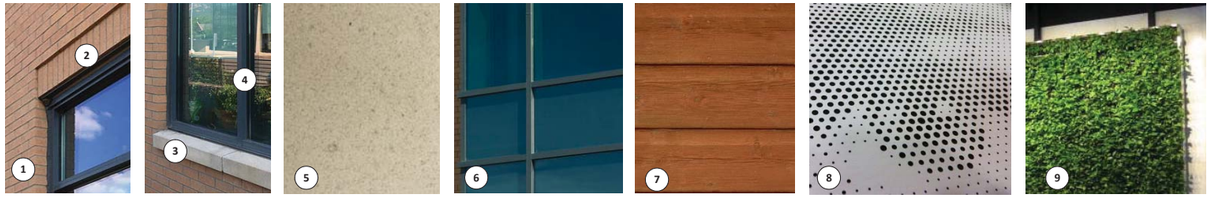
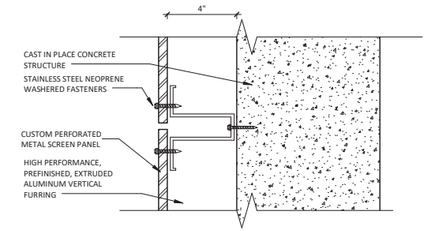
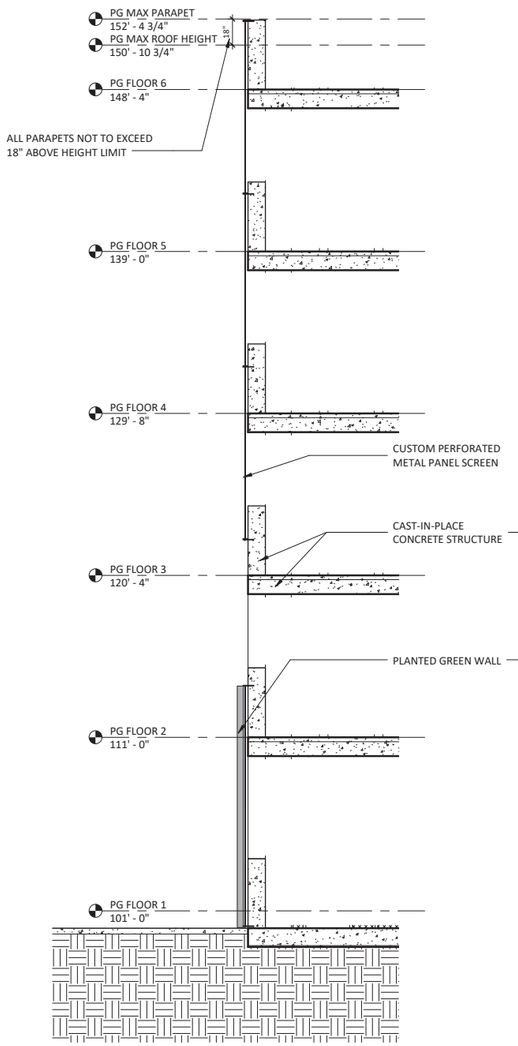
MATERIAL LEGEND - PARKING GARAGE



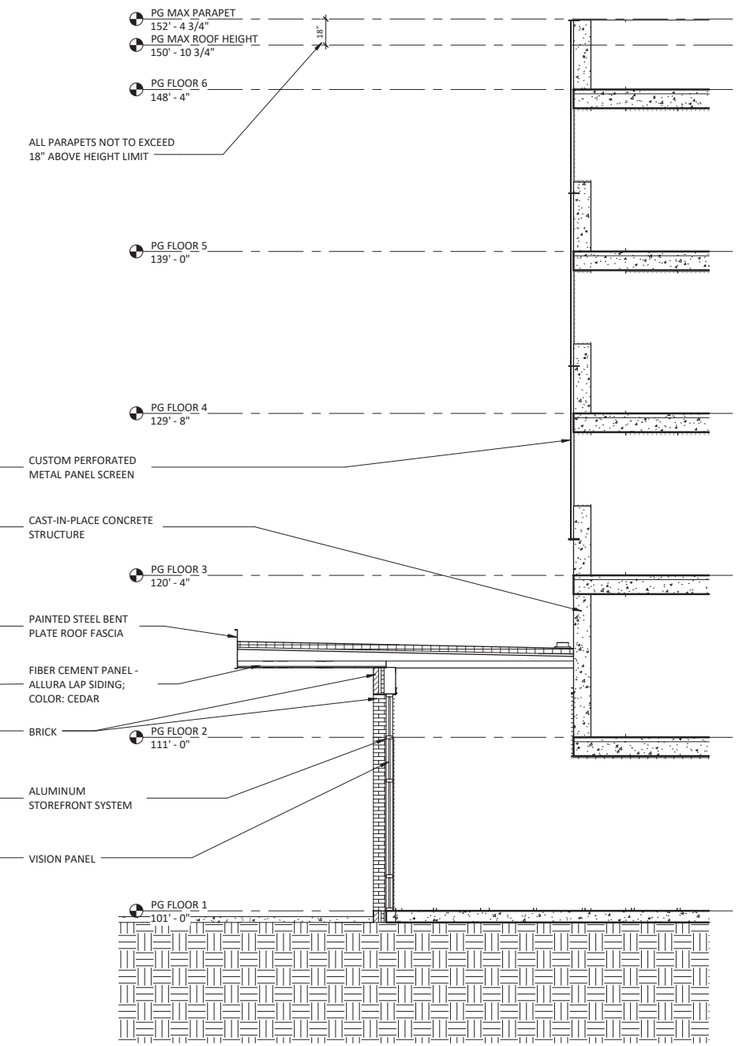
1. **BRICK** TRI-BLEND COLOR PER PHYSICAL MATERIALS BOARD
2. **SOLDIER COURSE HEADER**
3. **PRECAST CONCRETE SILL**
4. **MULLION COLOR AND PAINTED STEEL**
5. **CAST-IN-PLACE CONCRETE STRUCTURE**
6. **SPANDREL AND VISION GLAZING**
7. **FIBER CEMENT PANEL** ALLURA CEDAR SOFFIT PANEL - MAPLE
8. **CUSTOM PERFORATED METAL PANEL SCREEN**
9. **PLANTED GREEN WALL**



3 PLAN DETAIL - PARKING GARAGE SCREEN ATTACHMENT
3" = 1'-0"



1 WALL SECTION AT EAST WALL WITH PLANTED GREEN WALL
1/4" = 1'-0"



2 WALL SECTION AT PARKING GARAGE RETAIL
1/4" = 1'-0"

PROJECT NUMBER
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BOULDER COMMUNITY HEALTH RIVERBEND MEDICAL PAVILION AND PARKING GARAGE

SITE REVIEW

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SHEET TITLE
BUILDING SECTIONS - PARKING GARAGE

SHEET NUMBER
SR3-3

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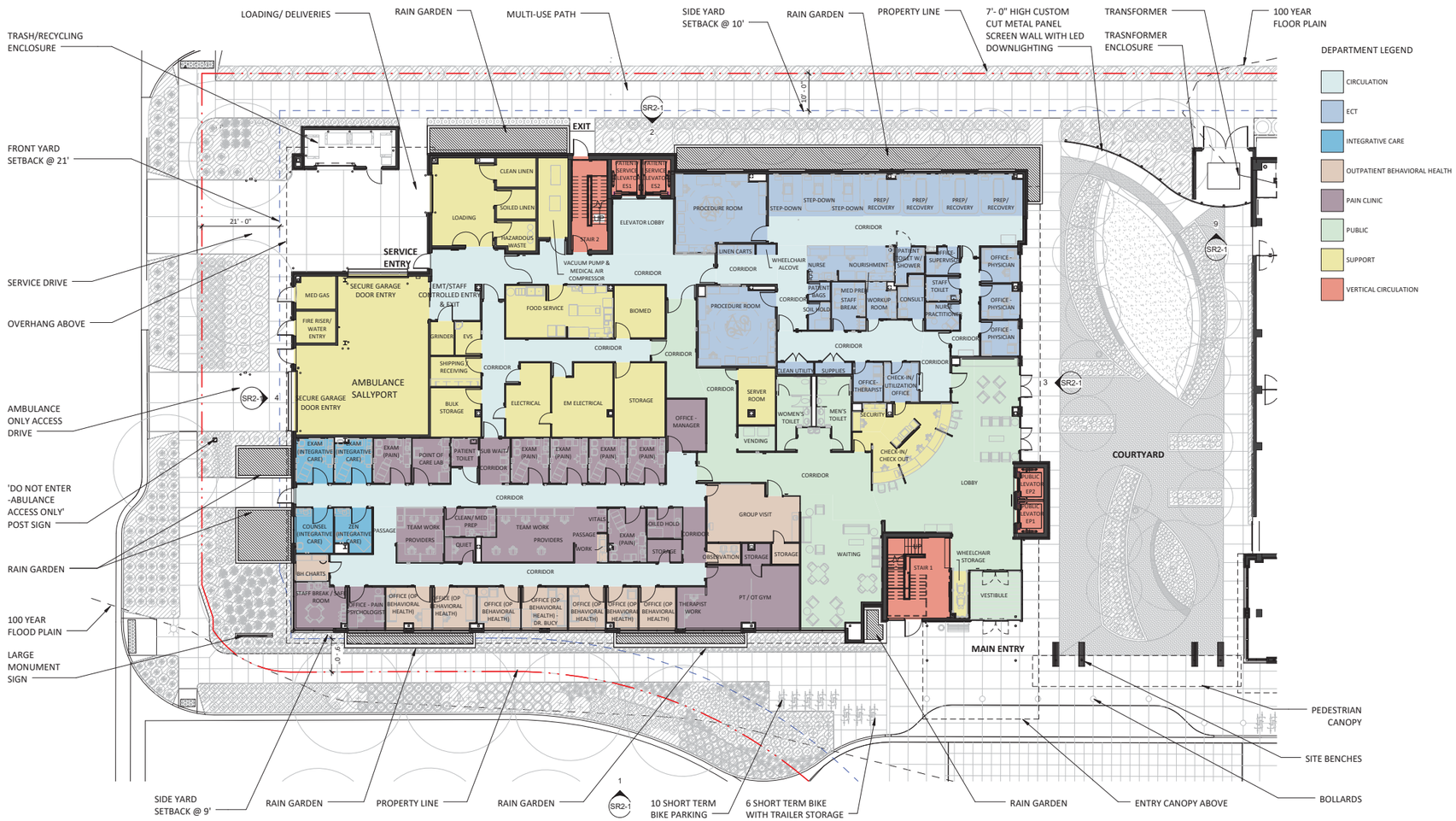

1 MEDICAL PAVILION FIRST FLOOR PLAN
1/16" = 1'-0"

PROJECT NUMBER
152699.01

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DATE
9/26/2016

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SITE REVIEW

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SHEET TITLE
MEDICAL PAVILION FIRST FLOOR PLAN

SHEET NUMBER
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9/26/2016 3:28:28 PM
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1 MEDICAL PAVILION SECOND FLOOR PLAN
1/16" = 1'-0"

2 MEDICAL PAVILION THIRD FLOOR PLAN
1/16" = 1'-0"

PROJECT NUMBER
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BOULDER COMMUNITY HEALTH RIVERBEND MEDICAL PAVILION AND PARKING GARAGE

SITE REVIEW

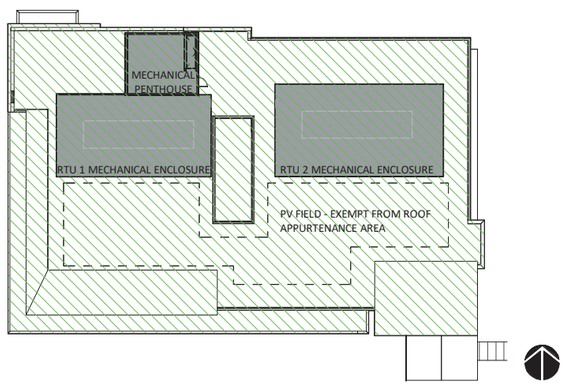
LUR2016-00038-40

SHEET TITLE
MEDICAL PAVILION SECOND AND THIRD FLOOR PLAN

SHEET NUMBER
SR4-2

TTLBv.110221 9/26/2016 3:42:30 PM C:\Revit Local Files\152699.00 BCH Riverbend - A16 Central_awalcb.rvt

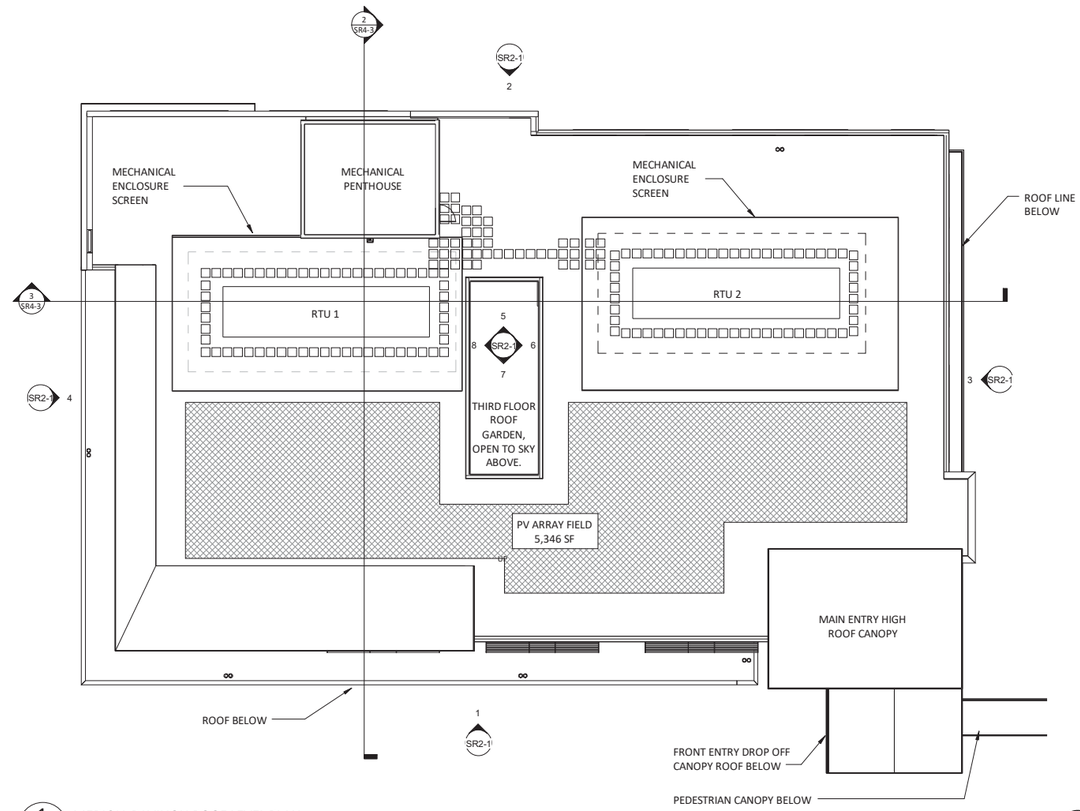
ROOF APPURTENANCE DIAGRAM



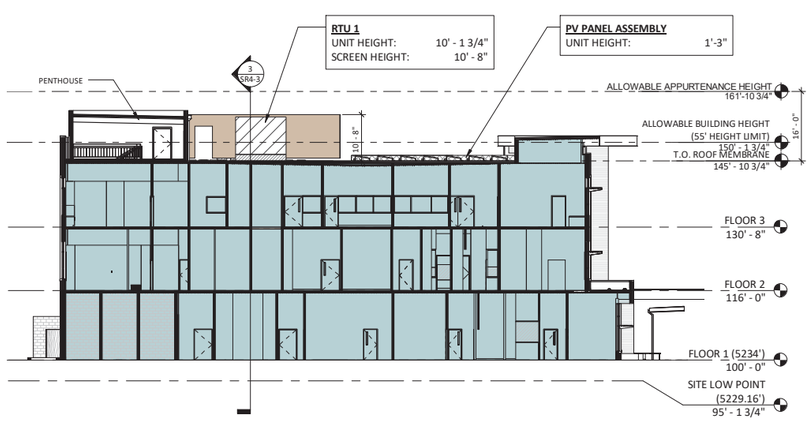
ROOF APPURTENANCE LEGEND

- ROOF APPURTENANCE AREA - INCLUDES MECHANICAL PENTHOUSE AND SCREEN ENCLOSURES.
- OVERALL ROOF AREA
- PV FIELD

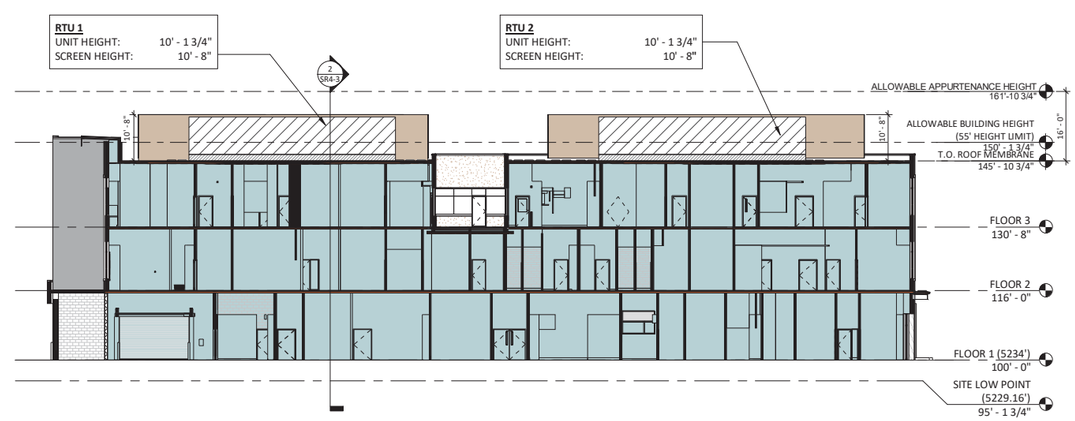
OVERALL ROOF AREA:	26,368 SF
ROOF APPURTENANCE AREA:	6,171 SF
MAXIMUM ROOF APPURTENANCE AREA (25%):	6,592 SF
PROVIDED ROOF APPURTENANCE AREA (23%):	6,171 SF



1 MEDICAL PAVILION ROOF LEVEL PLAN
1/16" = 1'-0"



2 ROOF APPURTENANCE DIAGRAM - NORTH/SOUTH BUILDING SECTION
1/16" = 1'-0"



3 ROOF APPURTENANCE DIAGRAM - EAST/WEST BUILDING SECTION
1/16" = 1'-0"

BUILDING SECTION LEGEND

- CONDITIONED (INTERIOR) BUILDING SPACE
- RTU SCREEN EXTENTS
- RTU
- RTU CURB
- PV PANEL ASSEMBLY

PROJECT NUMBER
152699.01

DRAWN BY
AW/MF

DATE
9/26/2016

REVISIONS

REV.	DESCRIPTION	DATE
1	REVISION #1	07/29/2016
2	REVISION #2	09/02/2016
3	REVISION #3	09/26/2016

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Boulder Community Health

PROJECT
BOULDER COMMUNITY HEALTH RIVERBEND MEDICAL PAVILION AND PARKING GARAGE

SITE REVIEW

LUR2016-00038-40

SHEET TITLE
MEDICAL PAVILION ROOF PLAN

SHEET NUMBER
SR4-3

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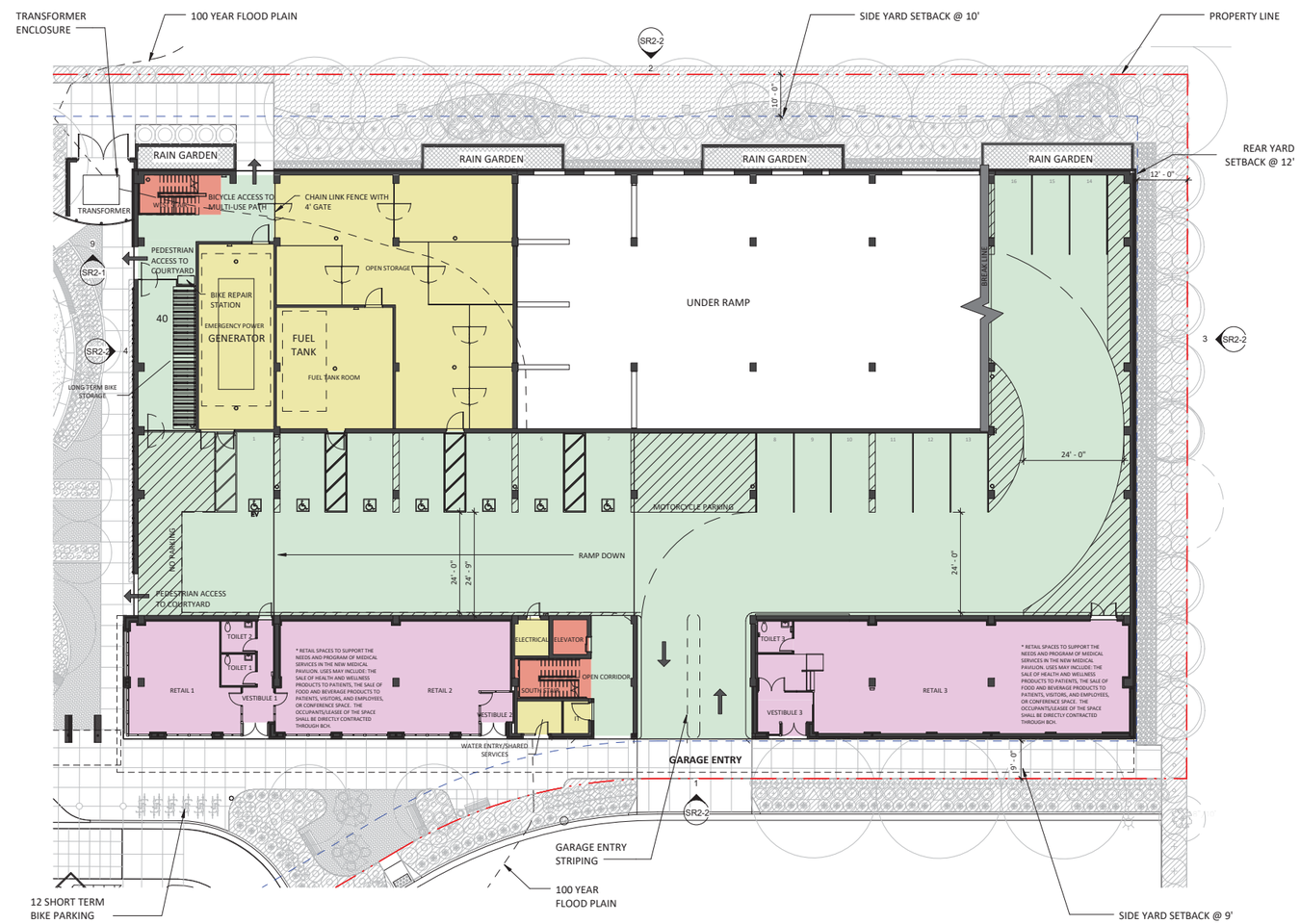
TTL By: 110221



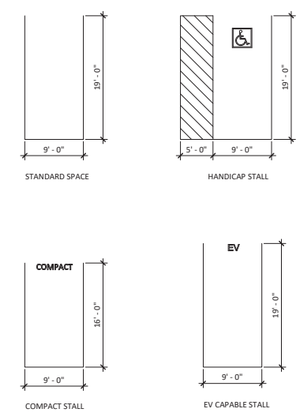
1 PARKING GARAGE FIRST FLOOR PLAN

1/16" = 1'-0"

DEPARTMENT LEGEND

- PUBLIC
- RETAIL
- SUPPORT
- VERTICAL CIRCULATION

PARKING STALL LEGEND



TYPE	COUNT	COMMENTS
GARAGE		
8' x 19' (8' AISLE)	8	ADA
9' x 16' GARAGE PARKING COMPACT STALL	108	COMPACT
9' x 16' GARAGE PARKING COMPACT STALL - PATIENT	65	COMPACT - PATIENT
9' x 16' GARAGE PARKING COMPACT STALL - RETAIL	7	COMPACT - RETAIL.
9' x 19' (5' AISLE) ADA GARAGE PARKING	6	ADA
9' x 19' (5' AISLE) ADA GARAGE PARKING - EV	1	ONE EV CAPABLE
9' x 19' EV GARAGE PARKING STANDARD STALL	5	EV CAPABLE
9' x 19' GARAGE PARKING STANDARD STALL	131	STANDARD
9' x 19' GARAGE PARKING STANDARD STALL - PATIENT	65	STANDARD - PATIENT
9' x 19' GARAGE PARKING STANDARD STALL - RETAIL	10	STANDARD - RETAIL
	406	
SITE		
8' x 19' (8' AISLE) ADA EV SITE PARKING	1	VAN ACCESSIBLE ADA AND EV CAPABLE
8' x 19' (8' AISLE) ADA SITE PARKING	3	VAN ACCESSIBLE ADA
	4	
TOTAL: 410	410	

PROJECT NUMBER
152699.01

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AW/JS

DATE
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SITE REVIEW

LUR2016-00038-40

SHEET TITLE
PARKING GARAGE GROUND FLOOR PLAN

SHEET NUMBER
SR5-1

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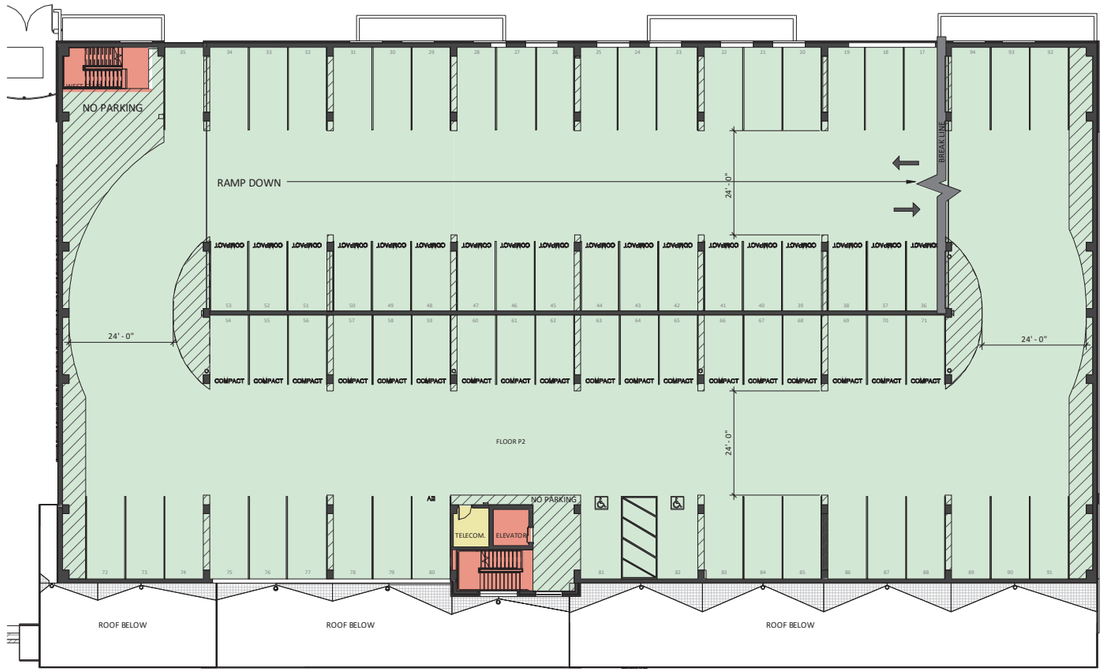
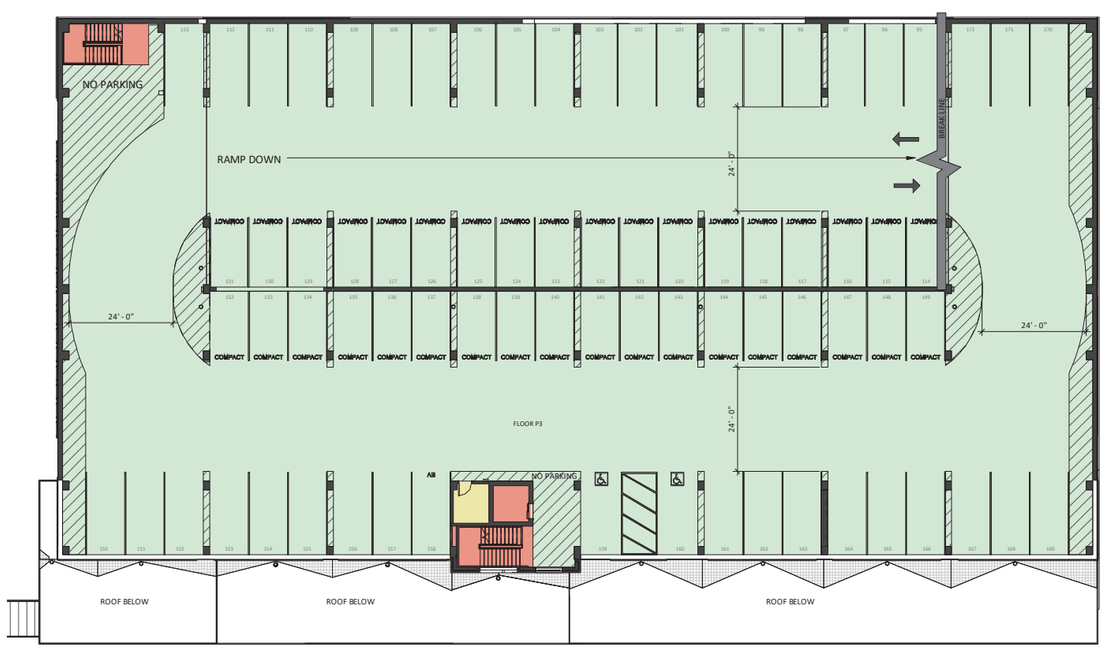


1 PARKING GARAGE SECOND FLOOR PLAN

1/16" = 1'-0"



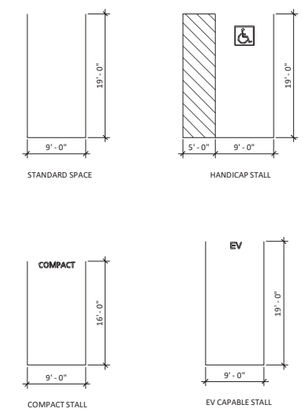
2 PARKING GARAGE THIRD FLOOR PLAN

1/16" = 1'-0"

DEPARTMENT LEGEND

- PUBLIC
- SUPPORT
- VERTICAL CIRCULATION

PARKING STALL LEGEND



TYPE	COUNT	COMMENTS
GARAGE		
8' x 19' (8' AISLE)	8	ADA
9' x 16' GARAGE PARKING COMPACT STALL	108	COMPACT
9' x 16' GARAGE PARKING COMPACT STALL - PATIENT	65	COMPACT - PATIENT
9' x 16' GARAGE PARKING COMPACT STALL - RETAIL	7	COMPACT - RETAIL.
9' x 19' (5' AISLE) ADA GARAGE PARKING	6	ADA
9' x 19' (5' AISLE) ADA GARAGE PARKING - EV	1	ONE EV CAPABLE
9' x 19' EV GARAGE PARKING STANDARD STALL	5	EV CAPABLE
9' x 19' GARAGE PARKING STANDARD STALL	131	STANDARD
9' x 19' GARAGE PARKING STANDARD STALL - PATIENT	65	STANDARD - PATIENT
9' x 19' GARAGE PARKING STANDARD STALL - RETAIL	10	STANDARD - RETAIL
	406	
SITE		
8' x 19' (8' AISLE) ADA EV SITE PARKING	1	VAN ACCESSIBLE ADA AND EV CAPABLE
8' x 19' (8' AISLE) ADA SITE PARKING	3	VAN ACCESSIBLE ADA
	4	
TOTAL: 410	410	

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PARKING GARAGE SECOND AND THIRD FLOOR PLAN

SHEET NUMBER
SR5-2

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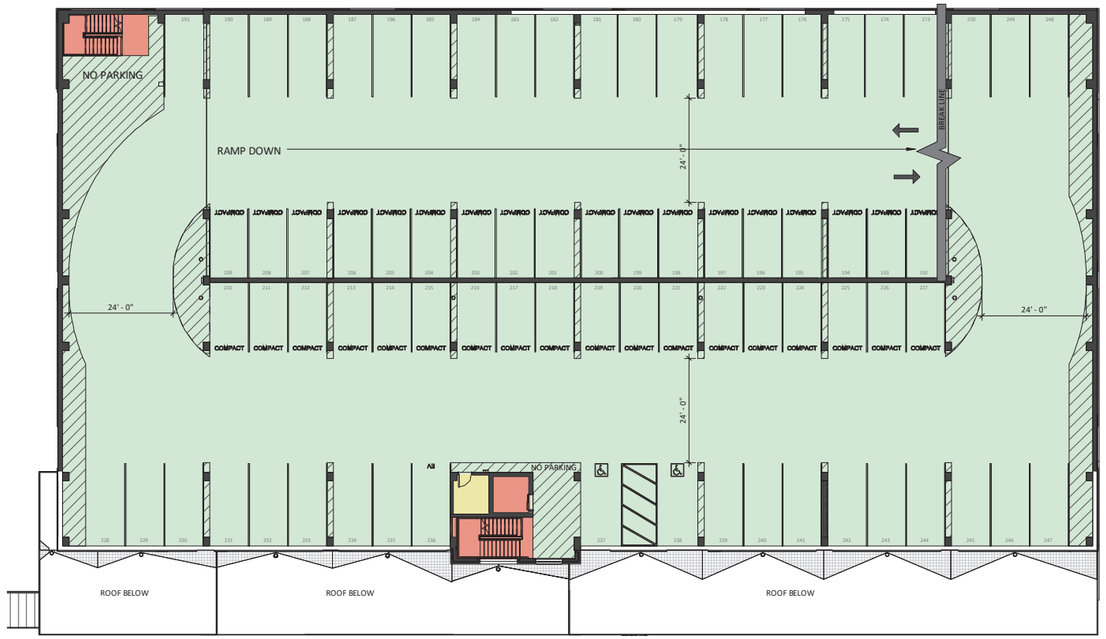
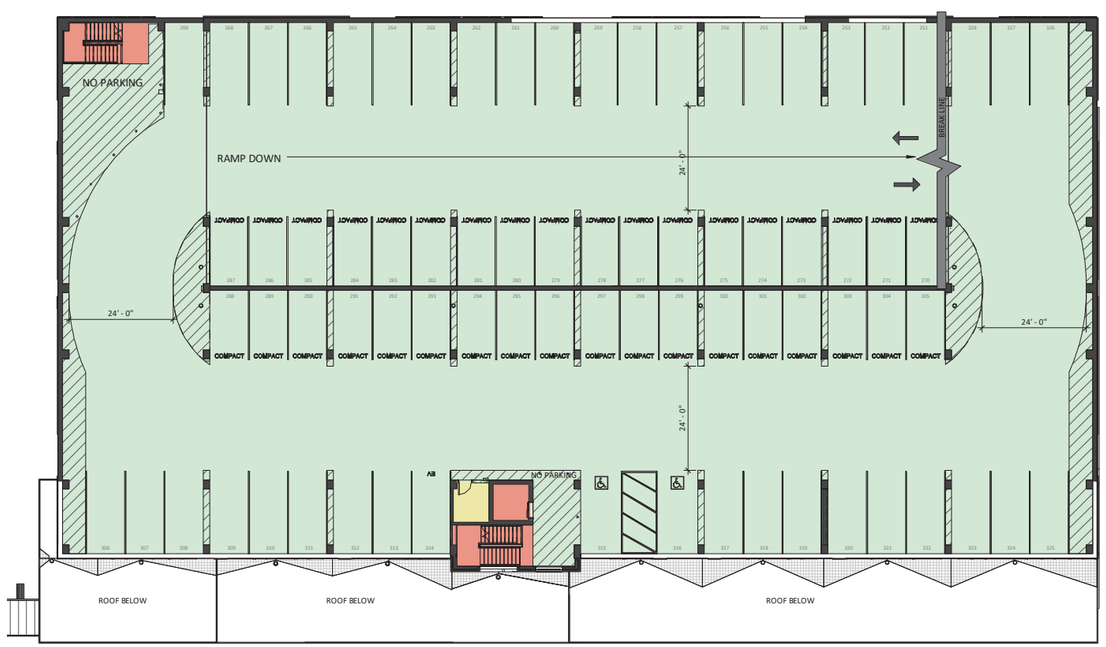


1 PARKING GARAGE FOURTH FLOOR
1/16" = 1'-0"

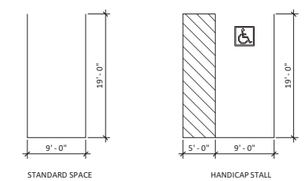


2 PARKING GARAGE FIFTH FLOOR PLAN
1/16" = 1'-0"

DEPARTMENT LEGEND

- PUBLIC
- SUPPORT
- VERTICAL CIRCULATION

PARKING STALL LEGEND



TYPE	COUNT	COMMENTS
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9' x 16' GARAGE PARKING COMPACT STALL	108	COMPACT
9' x 16' GARAGE PARKING COMPACT STALL - PATIENT	65	COMPACT - PATIENT
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9' x 19' (5' AISLE) ADA GARAGE PARKING - EV	1	ONE EV CAPABLE
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SITE		
8' x 19' (8' AISLE) ADA EV SITE PARKING	1	VAN ACCESSIBLE ADA AND EV CAPABLE
8' x 19' (8' AISLE) ADA SITE PARKING	3	VAN ACCESSIBLE ADA
	4	
TOTAL: 410	410	

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Author

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BOULDER COMMUNITY HEALTH RIVERBEND MEDICAL PAVILION AND PARKING GARAGE

SITE REVIEW

LUR2016-00038-40

SHEET TITLE
PARKING GARAGE FOURTH AND FIFTH FLOOR PLAN

SHEET NUMBER
SR5-3

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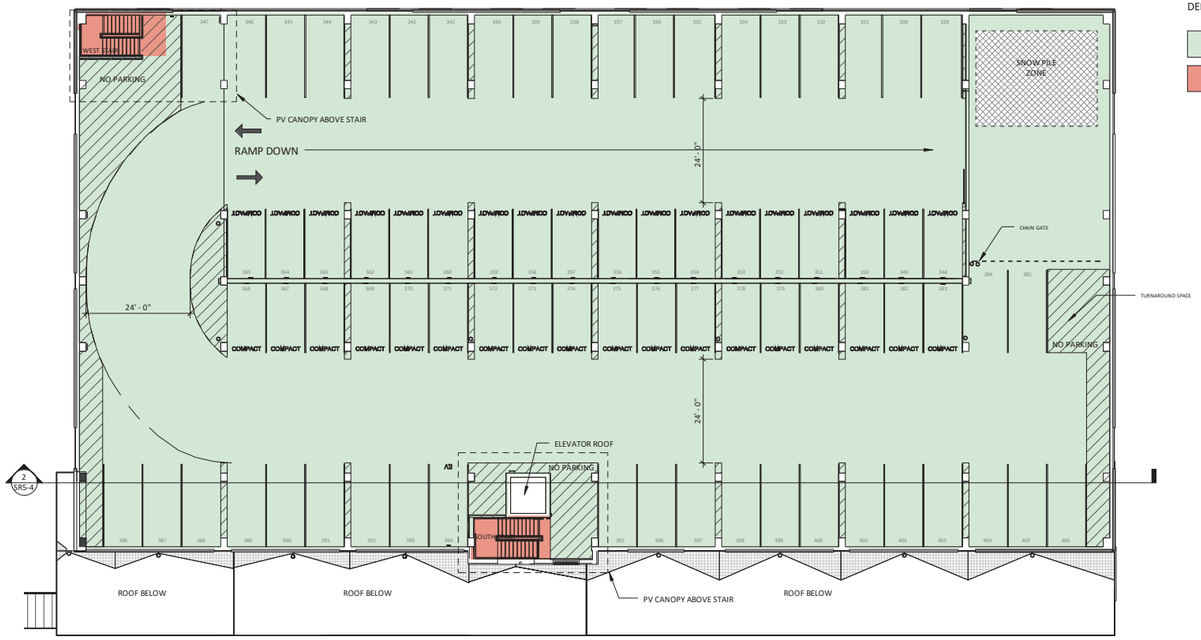
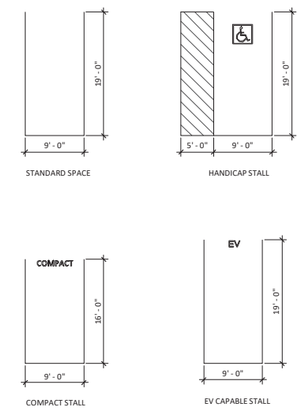


1 PARKING GARAGE SIXTH FLOOR ROOF LEVEL PLAN
1/16" = 1'-0"

DEPARTMENT LEGEND

- PUBLIC
- VERTICAL CIRCULATION

PARKING STALL LEGEND



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9' x 16' GARAGE PARKING COMPACT STALL	108	COMPACT
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9' x 16' GARAGE PARKING COMPACT STALL - RETAIL	7	COMPACT - RETAIL.
9' x 19' (5' AISLE) ADA GARAGE PARKING	6	ADA
9' x 19' (5' AISLE) ADA GARAGE PARKING - EV	1	ONE EV CAPABLE
9' x 19' EV GARAGE PARKING STANDARD STALL	5	EV CAPABLE
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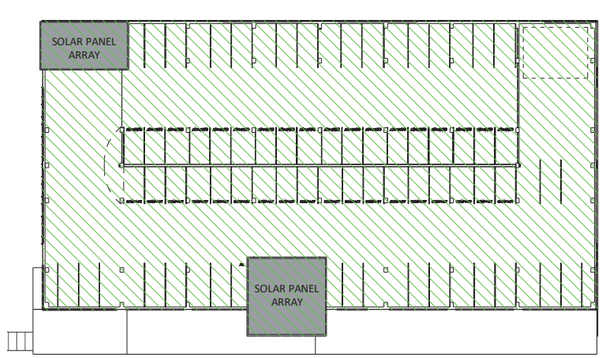
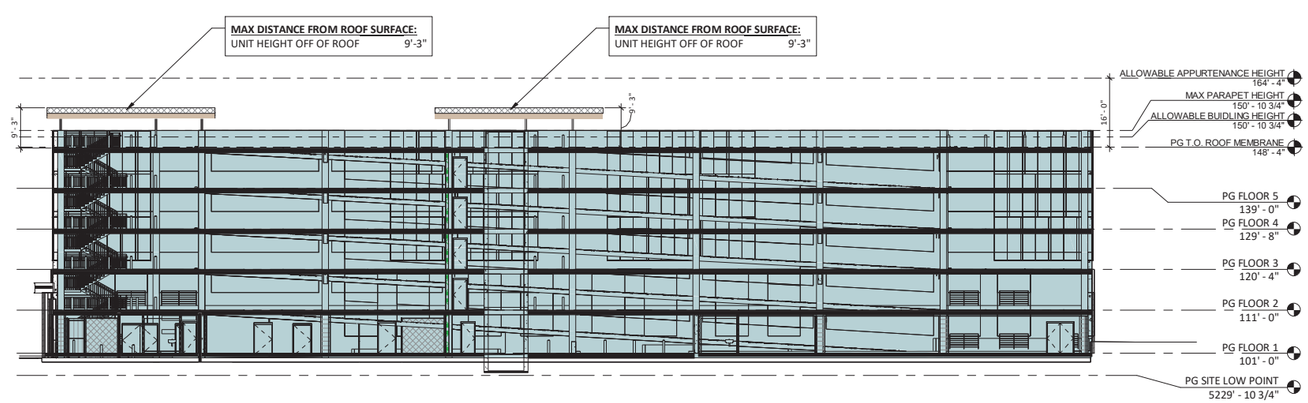
8' x 19' (8' AISLE) ADA SITE PARKING	3	VAN ACCESSIBLE ADA
	4	
TOTAL: 410	410	

ROOF APPURTENANCE DIAGRAM PARKING GARAGE





2 ROOF APPURTENANCE DIAGRAM - EAST/WEST PARKING GARAGE SECTION
1/16" = 1'-0"

ROOF APPURTENANCE LEGEND

- ROOF APPURTENANCE AREA - INCLUDES SOLAR PANEL ARRAY
- OVERALL ROOF AREA

OVERALL ROOF AREA:	30,514 SF
ROOF APPURTENANCE AREA:	1,995 SF
MAXIMUM ROOF APPURTENANCE AREA (25%):	7,629 SF
PROVIDED ROOF APPURTENANCE AREA (7%):	1,995 SF

PARKING GARAGE SECTION LEGEND

- UNCONDITIONED (INTERIOR) PARKING GARAGE STRUCTURE
- CANOPY ASSEMBLY
- PV PANEL ASSEMBLY

PROJECT NUMBER
152699.01

DRAWN BY
Author

DATE
9/26/2016

REVISIONS

REV.	DESCRIPTION	DATE
1	REVISION #1	07/29/2016
2	REVISION #2	09/02/2016
3	REVISION #3	09/26/2016

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BOULDER COMMUNITY HEALTH RIVERBEND MEDICAL PAVILION AND PARKING GARAGE

SITE REVIEW

LUR2016-00038-40

SHEET TITLE
PARKING GARAGE ROOF PLAN

SHEET NUMBER
SR5-4

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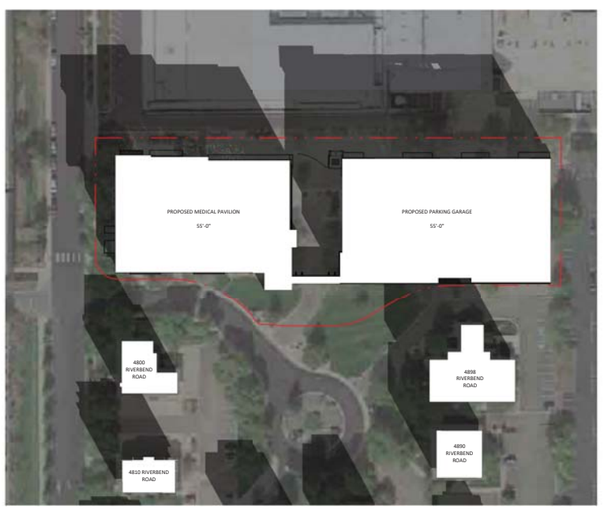
9/26/2016 3:43:19 PM
TTLBy: 110221

1 SHADOWS @ 35 FT BUILDING HEIGHT - DECEMBER 21ST 10 AM
1" = 80'-0"

2 SHADOWS @ 35 FT BUILDING HEIGHT - DECEMBER 21ST 12 PM
1" = 80'-0"

3 SHADOWS @ 35 FT BUILDING HEIGHT - DECEMBER 21ST 2PM
1" = 80'-0"



4 SHADOWS @ PROPOSED BUILDING HEIGHT - DECEMBER 21ST 10 AM
1" = 80'-0"

5 SHADOWS @ PROPOSED BUILDING HEIGHT - DECEMBER 21ST 12 PM
1" = 80'-0"

6 SHADOWS @ PROPOSED BUILDING HEIGHT - DECEMBER 21ST 2 PM
1" = 80'-0"

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SITE REVIEW

LUR2016-00038-40

SHEET TITLE
SHADOW ANALYSIS

SHEET NUMBER
SR6

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9/25/2016 4:19:41 PM
TTLBy:110221

EXISTING CONTEXT PHOTOGRAPHS

BCH FOOTHILLS HOSPITAL

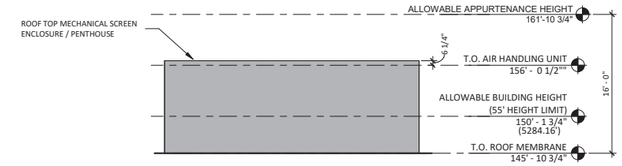
EXISTING BUILDING (4855 RIVERBEND RD.) WITH BALL AEROSPACE BUILDING TO THE NORTH

ANDERSON MEDICAL CENTER

EXISTING BUILDING - 4810 RIVERBEND ROAD

TEBO MEDICAL CENTER

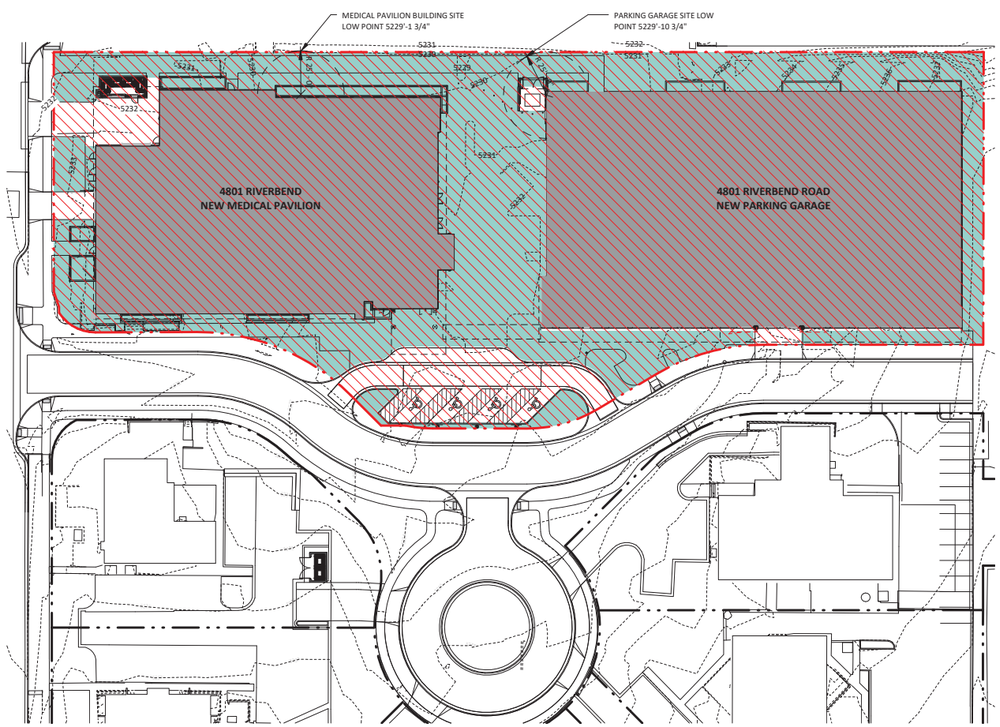
BALL AEROSPACE - VIEW FROM 48TH STREET LOOKING EAST



ROOF APPURTENANCE DIAGRAM MEDICAL PAVILION

1 - AERIAL VIEW LOOKING NORTH TOWARDS SITE FROM ARAPAHOE AVE

2 - BIRD'S EYE VIEW LOOKING NORTH TOWARDS BALL AEROSPACE THROUGH THE COURTYARD GARDEN



OPEN SPACE CALC DIAGRAM AND SITE LOW POINT EXHIBIT

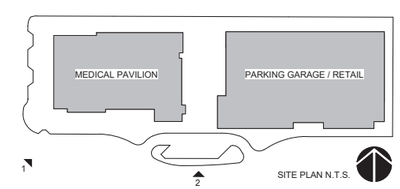
SITE REVIEW LEGEND

- OPEN SPACE
- SITE
- PROPOSED BUILDINGS

OPEN SPACE CALCULATION

NAME	AREA
4801 RIVERBEND	33568 SF

SITE AREA:	97,725 SF / 2.24 ACRES
REQURIED OPEN SPACE (20%):	19,545 SF / .45 ACRES
PROVIDED OPEN SPACE (34%):	33,568 SF / .77 ACRES



SITE PLAN N.T.S.

PROJECT NUMBER
152699.01

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SITE REVIEW

LUR2016-00038-40

SHEET TITLE
HEIGHT MODIFICATION DEMONSTRATION

SHEET NUMBER
SR7

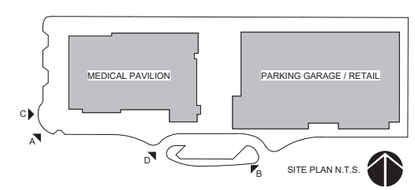
C:\Revit Local Files\152699.00 BCH Riverbend -A16 Central_awaldo.rvt
9/26/2016 3:26:26 PM
TTLBy: 110221

A - VIEW FROM 48TH ST

B - VIEW FROM RIVERBEND ROAD

C - APPROACH VIEW FROM 48TH ST

D - VIEW FROM RIVERBEND ROAD



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SITE REVIEW

LUR2016-00038-40

SHEET TITLE
CHARACTER RENDERINGS

SHEET NUMBER
SR8

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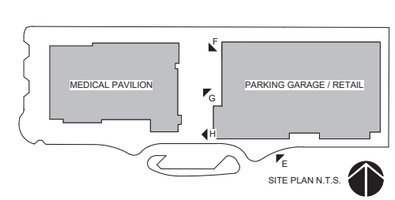
9/26/2016 3:26:59 PM
TTLBv.110221

E - RETAIL SEATING

F - COURTYARD VIEW

G - COURTYARD VIEW

H - MEDICAL PAVILION ENTRANCE AND CONNECTOR CANOPY



PROJECT NUMBER
152699.01

DRAWN BY
AW

DATE
9/26/2016

REVISIONS

REV.	DESCRIPTION	DATE
1	REVISION #1	07/29/2016
2	REVISION #2	09/02/2016
3	REVISION #3	09/26/2016

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Boulder Community Health

PROJECT
BOULDER COMMUNITY HEALTH RIVERBEND MEDICAL PAVILION AND PARKING GARAGE

SITE REVIEW

LUR2016-00038-40

SHEET TITLE
CHARACTER RENDERINGS

SHEET NUMBER
SR9

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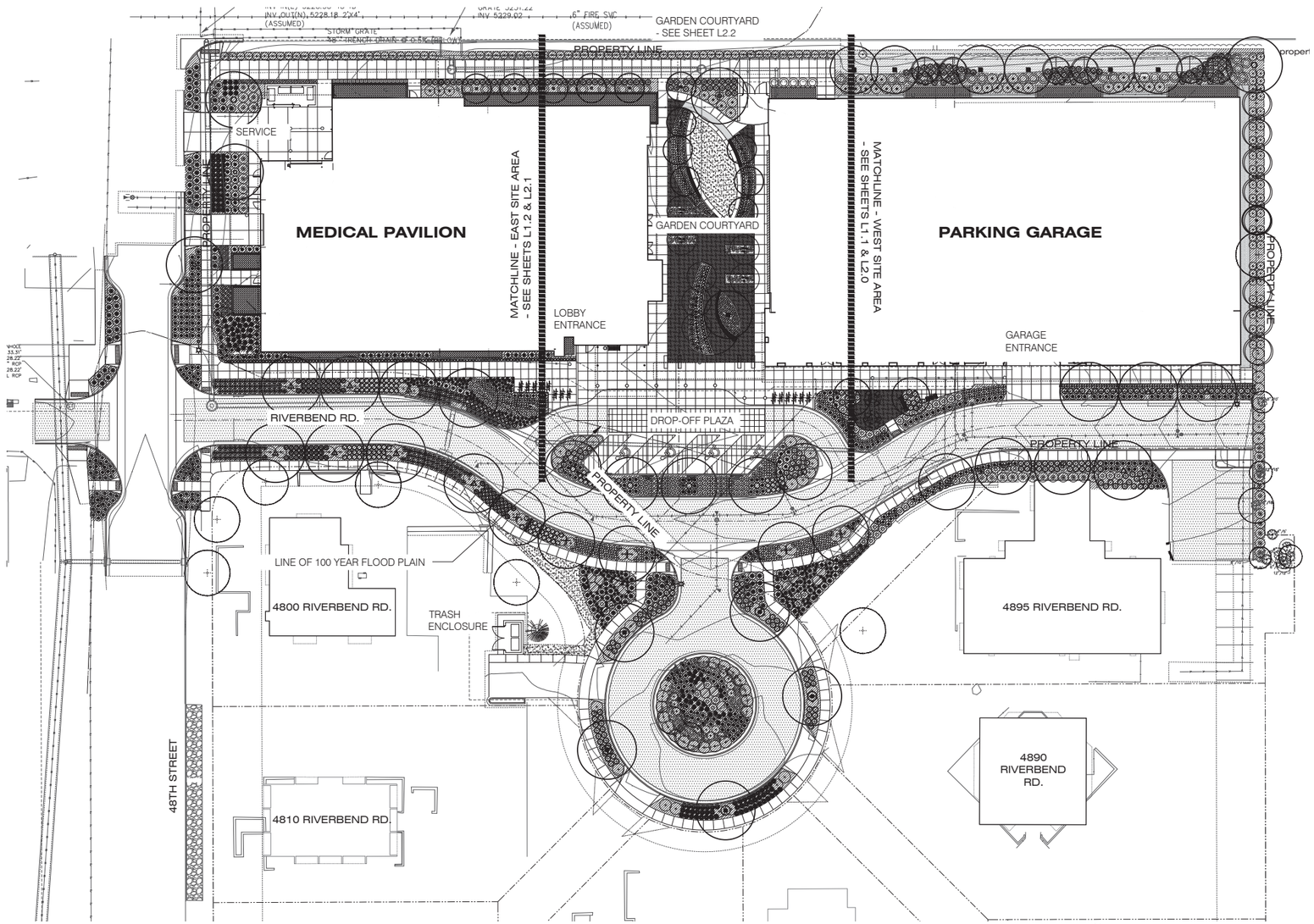

1 **OVERALL LANDSCAPE PLAN**
SCALE: 1" = 30'-0"

N

SCALE: 1" = 30'-0"
0 15' 30' 60' 90'

GENERAL LANDSCAPE NOTES

1. IMPORTED, SCREENED TOPSOIL IS REQUIRED TO ALL LANDSCAPE AREAS AT THE FOLLOWING DEPTHS: CONTINUOUS PLANT BEDS, 8"; TREE PIT EXCAVATION, 12"; TREE PITS IN PAVED AREAS - 36"; TURF LAWN AREAS, 4".
2. TOPSOIL SHALL BE FURNISHED BY THE CONTRACTOR AND SHALL BE A NATURAL, FRIABLE SOIL REPRESENTATIVE SOURCES AND BLENDED FROM PRODUCTIVE SOILS LOCALLY.
3. TOPSOIL SHALL BE FERTILE, FRIABLE, LOAMY OR SANDY LOAM SOIL, REASONABLY FREE FROM SUBSOIL, REFUSE, ROOTS, HEAVY OR STIFF CLAY, STONES LARGER THAN 1 INCH, COARSE SAND, NOXIOUS SEEDS, STICKS, BRUSH, LITTER, AND OTHER DELETERIOUS SUBSTANCES. IT MUST BE SUITABLE FOR THE GERMINATION OF SEEDS AND THE SUPPORT OF VEGETATIVE GROWTH. THE PH VALUE SHALL BE BETWEEN 7.0 AND 8.0.
4. AT LEAST 10 DAYS PRIOR TO TOPSOIL DELIVERY, NOTIFY LANDSCAPE ARCHITECT OF THE SOURCE(S) FROM WHICH TOPSOIL IS TO BE FURNISHED.
5. IMPORTED SOIL TEXTURE: SAND, 30 TO 50 PERCENT; SILT, 30 TO 50 PERCENT; CLAY, 5 TO 30 PERCENT; COMPOST TYPE AND FERTILIZER ADDITIVES: AS DETERMINED BY SOIL FERTILITY TESTS; PERCENTAGE ORGANIC CONTENT: 2.0% MINIMUM; SOLUBLE SALTS: ELECTRIC CONDUCTIVITY SHALL BE LESS THAN 3.3 MMHOS/CM FOR DRYLAND AREAS AND LESS THAN 5.1 MMHOS/CM FOR IRRIGATED LANDS.
6. PLANTING CULTIVATION: SCARIFY COMPACTED SUB-GRADE TO A 6-INCH DEPTH TO BOND IMPORTED TOPSOIL TO SUBSOIL. PLACE TOPSOIL TO MINIMUM DEPTHS NOTED ABOVE AFTER SETTLEMENT. TOPSOIL SHALL BE FREE FROM WEEDS, SOD, CLODS AND STONES LARGER THAN 1-INCH, TOXIC SUBSTANCES, LITTER AND OTHER DELETERIOUS MATERIAL. SPREAD EVENLY AND GRADE TO ELEVATIONS AND SLOPES SHOWN. HAND RAKE AREAS INACCESSIBLE TO MACHINE GRADING.
7. COMPOST AMENDMENT FOR TREE, SHRUB, ORNAMENTAL GRASSES AND PERENNIAL PLANT BEDS: CONTRACTOR IS TO ROTO-TILL TO A DEPTH OF EIGHT (8) INCHES INTO THE IMPORTED SOIL OF FIVE (5) CUBIC YARDS OF ORGANIC COMPOST PER 1,000 SQUARE FEET OF AREA. EXCAVATE TREE AND SHRUB PITS AND BLEND SUBSOIL FROM PITS WITH COMPOST & EXISTING SOIL AND RETURN TO PIT. CONTRACTOR IS TO APPLY TOP DRESSING OF FOUR (4) CUBIC YARDS OF COMPOST TO PLANT BED AREA PRIOR TO PLANTING.
8. COMPOST AMENDMENT FOR LAWN AREAS: CONTRACTOR IS TO ROTO- TILL TO A DEPTH OF EIGHT (8) INCHES INTO THE IMPORTED TOPSOIL OF 5 CUBIC YARDS OF ORGANIC COMPOST PER 1,000 SQUARE FEET OF AREA. PRIOR TO SOD INSTALLATION CONTRACTOR IS TO APPLY THREE (3) YARDS OF COMPOST PER 1,000 SQUARE FEET TO SOIL AND MAKE FINAL PREPARATIONS.
9. ORGANIC MULCH TYPE: WASHINGTON RED CEDAR (GORILLA HAIR), PLACED LOOSELY TO A DEPTH OF 3 INCHES.
10. LANDSCAPE EDGING IS GALVANIZED STEEL EDGING, 6" WIDE x 14 GAUGE THICK WITH MANUFACTURER'S RECOMMENDED STAKES AND ACCESSORIES.
11. AUTOMATIC IRRIGATION SYSTEM: PERMANENT, UNDERGROUND IRRIGATION WILL BE PROVIDED TO ALL LANDSCAPE AREAS. TURF AREAS WILL BE ZONED SEPARATELY FROM BED AREAS; THE CONTROLLER WILL INCLUDE A RAIN & WIND SHUT-OFF SYSTEM; IRRIGATION ZONES WILL BE DESIGNED BASED ON HYDRO ZONES ACCORDING TO WATER-DEMAND.
12. PLANT SIZE MINIMUM STANDARDS:
    EVERGREEN TREES: 6' HEIGHT
    DECIDUOUS SHADE TREES: 2.5" CALIPER
    ORNAMENTAL TREES: 2" CALIPER
    SHRUBS: #5 CONTAINER
    GROUNDCOVERS: F15, 4" POTS
    PERENNIALS: #1 CONTAINER
    ORNAMENTAL GRASSES: #1 CONTAINER
13. TREES IN PAVEMENT: ALL TREES IN PAVEMENT TO RECEIVE A MINIMUM OF 750 CU. FT. OF GROWING MEDIUM PER TREE TO A DEPTH OF 3'-0". GROWING MEDIUM IS TO INCLUDE AMENDED TOPSOIL WITHIN PLANT BED AND CU STRUCTURAL SOIL UNDER PAVEMENT.

SUMMARY CHART

TOTAL LOT SIZE:	97,725 SF	
TOTAL PARKING LOT SIZE (EAST LOT): (INCLUDING DRIVES & DRIVEWAYS)	2,025 SF	
TOTAL BUILDING FOOTPRINT:	25,247 SF	
TOTAL GARAGE FOOTPRINT:	26,446 SF	
TOTAL AREA NOT COVERED BY BUILDING OR PARKING LOT:	45,007 SF	
	REQUIRED	PROVIDED
TOTAL NUMBER OF PARKING STALLS	---	6
TOTAL INTERIOR PARKING LOT LANDSCAPED AREA (5%)	N/A	N/A (EAST PARKING)
TOTAL INTERIOR PARKING LOT LANDSCAPED AREA AS A PERCENTAGE OF TOTAL PARKING LOT AREA	N/A	N/A
TOTAL NUMBER OF TREES IN INTERIOR LOT LANDSCAPED AREA	0	0
TOTAL PERIMETER PARKING LOT LANDSCAPE AREA (5%)	102 SF	290 SF
TOTAL NUMBER OF STREET TREES	22	13 (EAST SIDE 48TH/NORTH SIDE RIVERBEND) 13 (SOUTH SIDE RIVERBEND)
(48th STREET FRONTAGE=185 L.F.; RIVERBEND FRONTAGE=583 L.F. DIVIDED BY 35 L.F.= 22 TREES)		
TOTAL QUANTITY OF PLANT MATERIAL ON SITE PLAN (TREES & SHRUBS)	29 TREES 143 SHRUBS	83 TREES 2,736 SHRUBS

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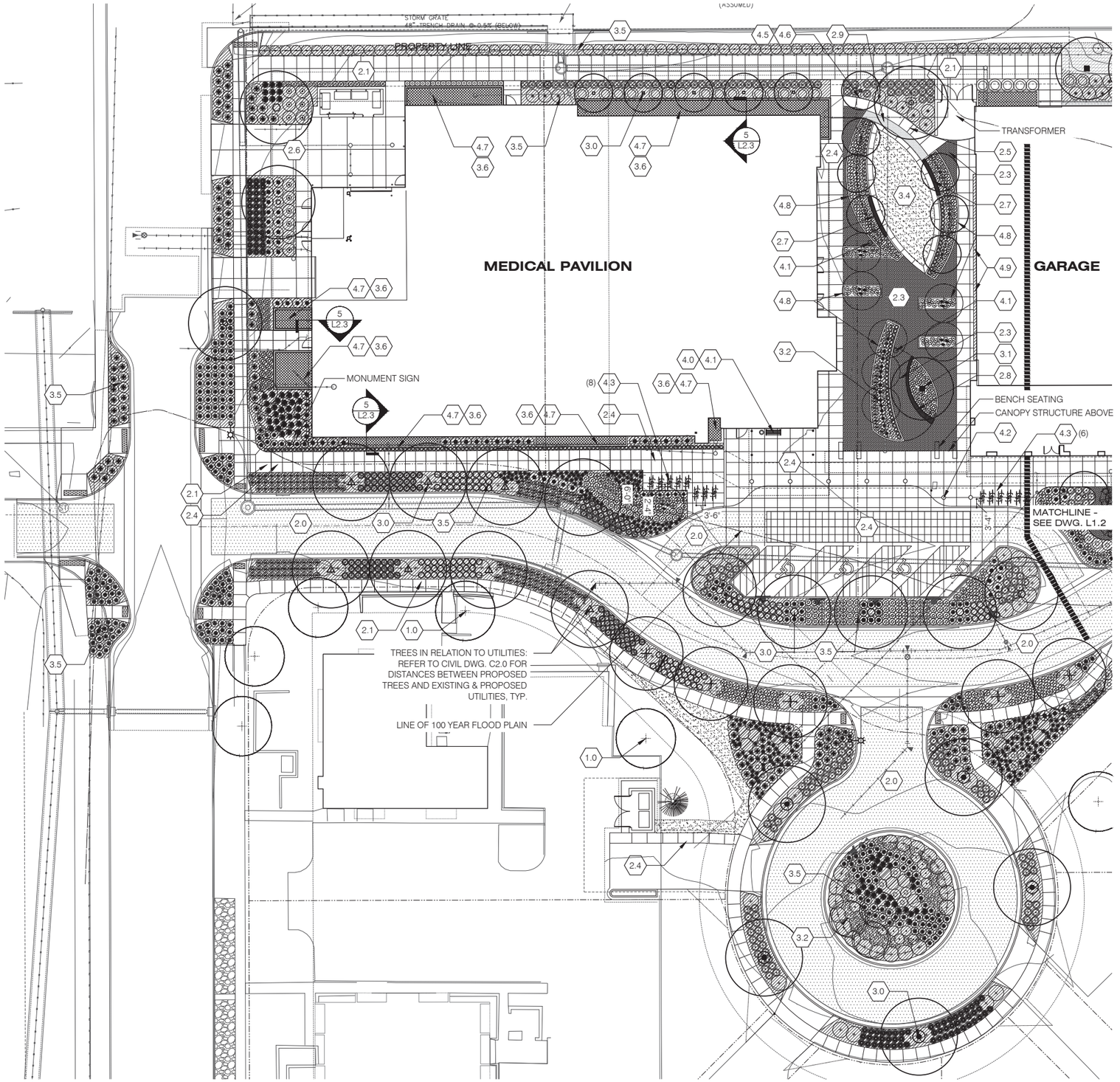
SHEET TITLE
OVERALL LANDSCAPE PLAN

SHEET NUMBER
L1.0



1 **MATERIALS PLAN - WEST**
SCALE: 1" = 20'-0"

LANDSCAPE MATERIAL KEYNOTES

EXISTING LANDSCAPE

1.0 EXISTING TREE TO BE PROTECTED - TREES TO REMAIN ARE TO BE EVALUATED BASED ON TREE INVENTORY & ARBORIST RECOMMENDATIONS, INPUT FROM CITY OF BOULDER FORESTRY, RISK TO TREE FROM NEW CONSTRUCTION, ABILITY TO PROTECT TREE FROM DRIPLINE & OVERALL HEALTH OF THE TREE: TREE PROTECTION DETAIL - SEE DWG. L2.3

HARDSCAPE / PAVING LOCATION & MATERIALS

2.0 ASPHALT PAVING, RE CIVIL DWGS.

2.1 SIDEWALKS: NATURAL GRAY CONCRETE PAVEMENT BROOM FINISH, HAND TOOLED JOINTS

2.2 DROP-OFF LANE & HANDICAP PARKING: INTEGRAL COLORED CONCRETE PAVEMENT W/ SAW CUT - V-GROOVE JOINTS; NATURAL GRAY; LIGHT BROOM FINISH

2.3 PERMEABLE PAVERS: NATURAL CLAY, 4 x 8 x 2 3/8", COLOR: MEDIUM IRONSPOT, NO CHAMFER, SAND SET ON ENGINEERED SUB BASE

2.4 INTEGRAL COLORED CONCRETE PAVEMENT W/ SAW CUT - V-GROOVE JOINTS; SAND TEXTURE FINISH

2.5 THERAPY RAMP & STEPS: C.I.P CONCRETE, BROOM FINISH

2.6 SERVICE AREA: NATURAL GRAY CONCRETE; MEDIUM BROOM FINISH - HAND JOINTS

2.7 SEAT WALL TYPE 1: 20" HIGH x 15" WIDE, PRECAST CONCRETE WITH HARDWOOD SLAT SEAT SURFACE

2.8 SEAT WALL TYPE 2: 20" HIGH x VARYING WIDTH, PRECAST CONCRETE WITH HARDWOOD SLAT SEAT SURFACE

2.9 THERAPY GARDEN PATHWAY: 4" COMPACTED, GRAY CRUSHER FINES

2.10 NON-IRRIGATION ZONE: 3" - 6", SPECKLED WHITE RIVER COBBLES ON WEED BARRIER FABRIC - SEE DETAIL 8, SHEET L4.0 & SPECS.

2.11 STEEL EDGER: 6" DEEP x 14 GA. GALVANIZED STEEL EDGER

PLANTING

3.0 DECIDUOUS SHADE TREE: 2.0-2.5" CALIPER, B&B

3.1 ACCENT TREE IN COURTYARD: 3" CALIPER, SPECIMEN, B&B, DECIDUOUS TREE

3.2 ORNAMENTAL FLOWERING TREE: CLUMP/MULTI-STEM, 8', B&B

3.3 ORNAMENTAL FLOWERING TREE: 2" CALIPER, B&B

3.4 TURF GRASS - DROUGHT TOLERANT BLUE GRASS VARIETY - TEXAS HYBRID - 'BANDERA', 'SPITFIRE', 'THERMAL BLUE' - T.B.D.

3.5 DECIDUOUS AND EVERGREEN SHRUBS, ORNAMENTAL GRASSES, GROUND COVERS, PERENNIAL PLANTING IN SHREDDED NATURAL CEDAR MULCH, 3" DEPTH

3.6 RAIN GARDEN PLANTING: ORNAMENTAL GRASSES AND GROUNDCOVERS IN 2" WHITE RIVER COBBLES.

3.7 EVERGREEN TREES: 7', B&B, MATURE SIZE SHOWN

SITE ELEMENTS AND AMENITIES

4.0 BENCH SEATING: DUMOR 160 SERIES, 6'-0" BENCH TO MATCH MAIN CAMPUS BY DUMOR SITE FURNISHINGS; 1/L2.3

4.1 TRASH RECEPTACLE: DUMOR RECEPTACLE W/ 32 GALLON LINER TO MATCH MAIN CAMPUS; 2 / L2.3

4.2 CONCRETE BOLLARD: 18" DIA. x 36" HIGH, PRECAST CONCRETE BY PETERSEN MANUFACTURING, TYPE B11, LIGHTLY EXPOSED AGGREGATE FINISH

4.3 BICYCLE RACK: U-LOOP BIKE RACK; 3 / L2.3

4.4 THERAPY GARDEN RAMP & STEPS W/ RAILING

4.5 COURTYARD GARDEN SCREEN WALL: 7' HIGH STEEL DECORATIVE STEEL PANELS W/ LASER CUT PERFORATED PATTERN; RE ARCH DWGS.; MANUFACTURED BY PARASOLEIL, BOULDER, CO.

4.6 SCREEN WALL LIGHTING - LED STRIP LIGHTING MOUNTED INSIDE FACING MATERIAL PROVIDING CONTINUOUS 'WASH' OF LIGHTING ALONG LENGTH OF STEEL PANELS

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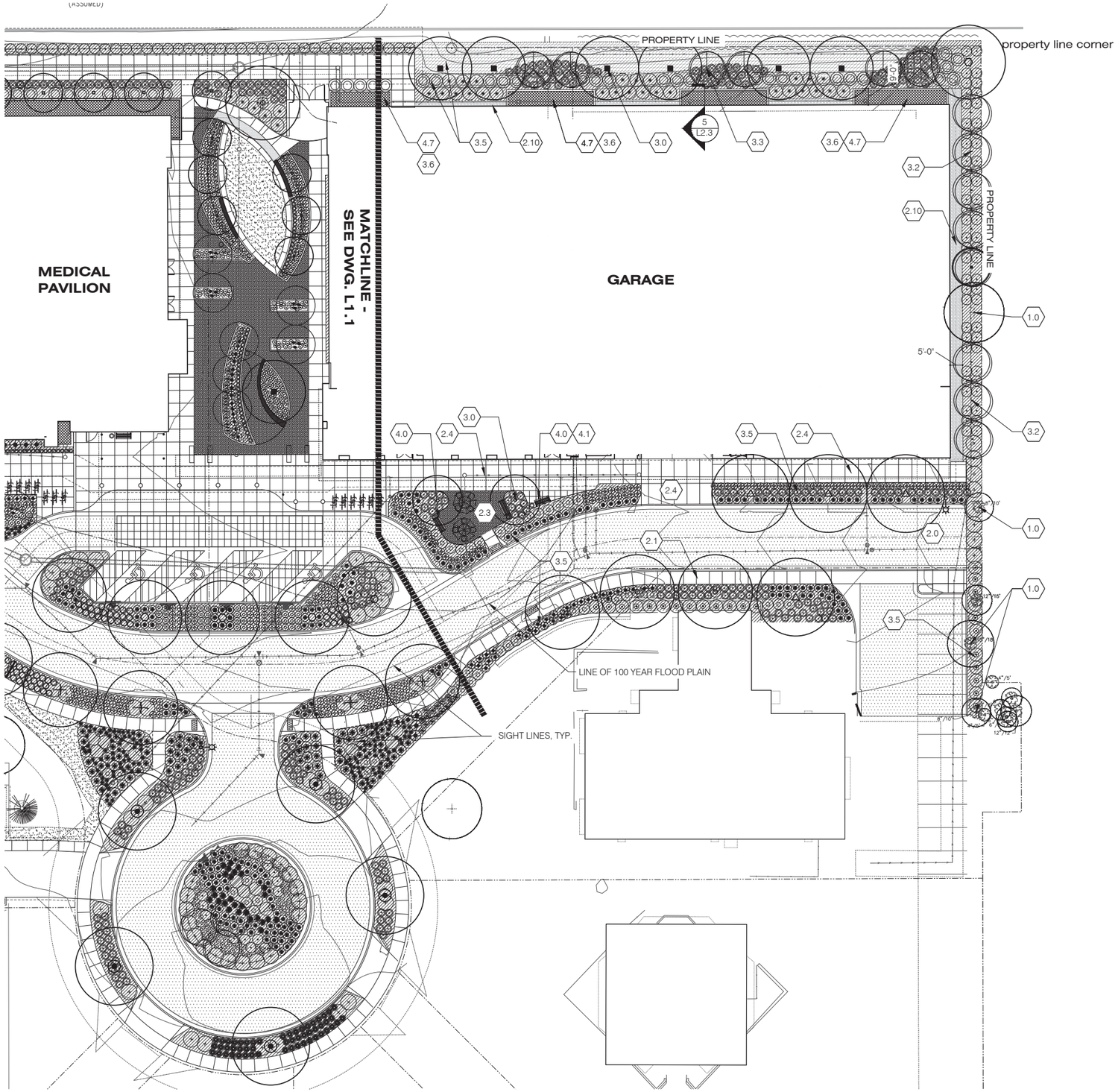
SHEET TITLE
LANDSCAPE MATERIALS PLAN - WEST

SHEET NUMBER
L1.1



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SITE REVIEW

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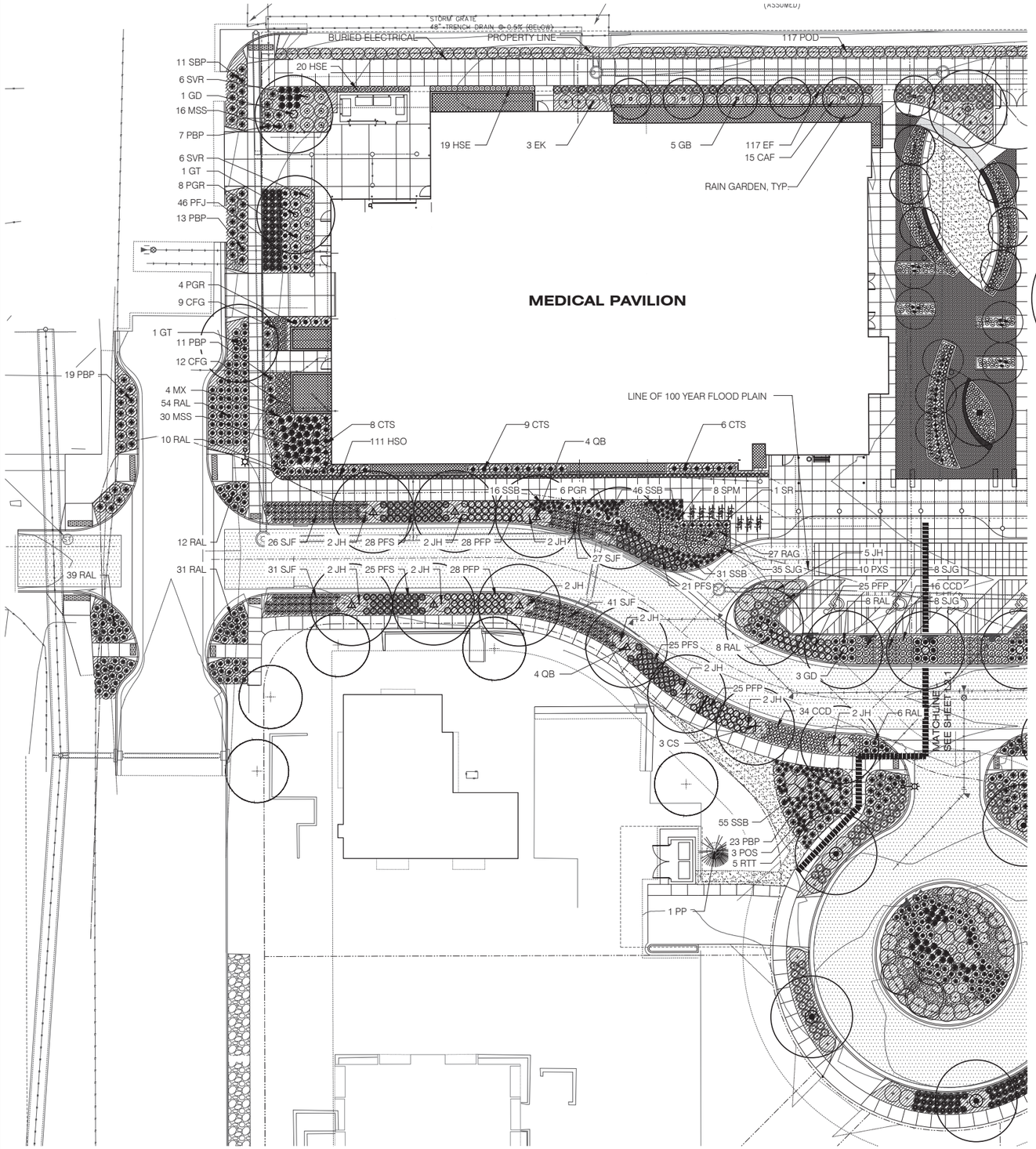
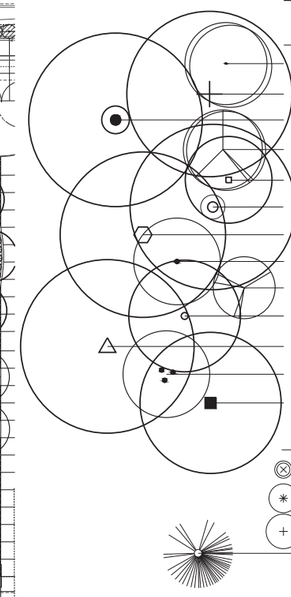
SHEET TITLE
LANDSCAPE MATERIALS PLAN - EAST

SHEET NUMBER
L1.2



1 **PLANTING PLAN - WEST**
SCALE: 1" = 20'-0"

PLANT LEGEND



ABBR.	QTY	BOTANICAL NAME/COMMON NAME	SIZE	COMMENTS
		DECIDUOUS TREES		
AC	11	AMELANCHIER CANADENSIS SHADBLOW SERVICEBERRY	8' CLUMP 15' O.C.	B&B 15-25'-S
CS	6	CATALPA SPECIOSA WESTERN CATALPA	2.0" 35' O.C.	B&B 40' - Su
CO	6	CELTIS OCCIDENTALIS WESTERN HACKBERRY	2.5" CAL. 35' O.C.	B&B 50'-S
CC	6	CERCIS CANADENSIS EASTERN REDBUD	2.5" CAL. 15' O.C.	B&B 25'-FSh-Sh
GB	6	GINGKO BILOBA 'PRINCETON SENTRY' PRINCETON SENTRY GINKGO	2.0" CAL. 15' O.C.	B&B 35'-S
GTI	3	GLEDITSIA TRIACANTHOS INERMIS IMPERIAL IMPERIAL HONEYLOCUST	2.5" CAL. 30' O.C.	B&B 35' - Su
GD	9	GYMNOCLADUS DIOICUS 'ESPRESSO' KENTUCKY COFFEETREE (SEEDLESS)	2.5" CAL. 35' O.C.	B&B 50'-S
MP	3	MALUS 'PROFUSION' PROFUSION CRABAPPLE	2" CAL. 15' O.C.	B&B 25'-S
MX	4	MALUS x 'CORALCOLE' CORALBURST CRAB APPLE	2" CAL. 12' O.C.	B&B 12-15'-S
PC	8	PYRUS CALLERYANA 'CHANTICLEER' CHANTICLEER PEAR	2.5" CAL. 15' O.C.	B&B 20-30'-S
QB	14	QUERCUS BICOLOR SWAMP WHITE OAK	2.5" CAL. 30' O.C.	B&B 30'-40'-S
SR	6	SYRINGA RETICULATA JAPANESE TREE LILAC	2.5" CAL. 15' O.C.	B&B 15-25'-S-FSh
TC	7	TILIA CORDATA 'GREENSPIRE' GREENSPIRE LINDEN	2.5" O.C. 25' O.C.	B&B 30-40'-S
		EVERGREENS		
EF	--	EUONYMUS FORTUNEI 'COLORATUS' PURPLELEAF WINTERCREEPER	#1 3' O.C.	CONTAINER 1-1.5'-FSh-Sh
EK	--	EUONYMUS KIAUTSCHOVICA 'MANHATTAN' MANHATTAN EUONYMUS	#5 5' O.C.	CONTAINER 4-6'-Sh
JH	--	JUNIPERUS HORIZONTALIS 'BLUE CHIP' BLUE CHIP JUNIPER	#5 6' O.C.	CONTAINER <1'-S
PP	1	PICEA PUNGENS 'HOOPSII' HOOPSII SPRUCE	7' 12' O.C.	B&B 25'-ADAPT
		DECIDUOUS SHRUBS		
CFG	--	CARAGANA FRUTEX 'GLOBOSA' GLOBE RUSSIAN PEA SHRUB	#5 30" O.C.	CONTAINER 3-4'-Su
CCD	--	CARYOPTERIS X CLANDONENSIS 'DARK KNIGHT' DARK KNIGHT BLUE MIST SPIREA	#5 30" O.C.	CONTAINER 3-4'-Su
CTS	--	CHAENOMELES SPECIOSA 'TEXAS SCARLET' TEXAS SCARLET QUINCE	#5 48" O.C.	CONTAINER 3-4'-Su-PSh
CAF	--	CORNUS SERICEA 'ISANTI' ISANTI DOGWOOD	#5 5' O.C.	CONTAINER 5'-ADAPT
HAA	--	HYDRANGEA ARBORESCENS 'ANNABELLE' ANNABELLE SMOOTH HYDRANGEA	#5 36" O.C.	CONTAINER 3-4'-FSh-Sh
PXS	--	PHILADELPHUS X 'SNOWBELLE' SNOWBELLE MOCKORANGE	#5 36" O.C.	CONTAINER 3-4'-Su
POS	--	PHYSOCARPUS OPULIFOLIUS 'SUMMER WINE' SUMMER WINE NINEBARK	#5 48" O.C.	CONTAINER 4-6'-Su
POD	--	PHYSOCARPUS OPULIFOLIUS 'DART'S GOLD' DART'S GOLD NINEBARK	#5 48" O.C.	CONTAINER 3-5'-Su
PFJ	--	POTENTILLA FRUTICOSA 'JACKMANNII' JACKMANN POTENTILLA	#5 30" O.C.	CONTAINER 2-3'-Su
PFS	--	POTENTILLA FRUTICOSA 'McKAY'S WHITE' McKAY'S WHITE POTENTILLA	#5 30" O.C	CONTAINER 2-3'-Su
PBP	--	PRUNUS BESSEYI PAWNEE BUTTES CREEPING WESTERN SAND CHERRY	#5 36" O.C.	CONTAINER 2-2.5'-Su
PGR	--	PRUNUS GLANDULOSA 'ROSEA PLENA' PINK FLOWERING ALMOND	#5 48" O.C.	CONTAINER 4-6'-Su
PFP	--	POTENTILLA FRUTICOSA 'PINK BEAUTY' PINK BEAUTY POTENTILLA	#5 30" O.C.	CONTAINER 2-3'-Su
RAG	--	RIBES ALPINUM 'GREEN MOUND' GREEN MOUND CURRANT	#5 30" O.C.	CONTAINER 3-4'-Su-FSh
RAL	--	RHUS AROMATICA 'GRO-LOW' GROW LOW SUMAC	#5 36" O.C.	CONTAINER 2-3'-Su
RTT	--	RHUS TYPHINA 'TIGER EYES' TIGER EYES SUMAC	#5 6' O.C.	CONTAINER 6' - Su
SNB	--	SAMBUCUS NIGRA 'BLACK LACE' BLACK LACE ELDER	#5 6'-0" O.C.	CONTAINER 6-10'-Su
SJF	--	SPIRAEA JAPONICA 'FROEBELII' FROEBEL SPIREA	#5 30" O.C.	CONTAINER 3-4'-Su-FSh
SJG	--	SPIRAEA JAPONICA 'GOLD FLAME' GOLDFLAME SPIREA	#5 30" O.C.	CONTAINER 2-3'-Su-FSh
SVR	--	SPIRAEA x VANHOUTTEI 'RENAISSANCE' RENAISSANCE VANHOUTTE SPIREA	#5 60" O.C.	CONTAINER 5-7'-S-FSh
SPM	--	SYRINGA PATULA 'MISS KIM' MISS KIM DWARF LILAC	#5 24" O.C.	CONTAINER 3-5'-S
		ORNAMENTAL GRASSES / PERENNIALS / GROUNDCOVERS		
HSB	--	HELICTOTRICHON SEMPERVIRENS BLUE OAT (AVENA) GRASS	#5 24" O.C.	CONTAINER 2-3'-S
HPB	--	HEMEROCALLIS 'PRAIRIE BLUE EYES' LAVENDER DAYLILY	#1 18" O.C.	CONTAINER 2'-S
HSO	--	HEMEROCALLIS 'STELLA DE ORO' DWARF GOLD DAYLILY	#2 18" O.C.	CONTAINER 2'-S
HXF	--	HOSTA x FORTUNEI 'FRANCEE' FRANCEE HOSTA	#1. 30" O.C.	CONTAINER 1.5-2'-Fsh-Sh-WG
HSE	--	HOSTA SIEBOLDIANA 'ELEGANS' BLUE GIANT PLANTAIN LILY	#1 24" O.C.	CONTAINER 2-3'-FSh-Sh - WG
MSS	--	MISCANTHUS SINENSIS 'MORNING LIGHT' MORNING LIGHT MAIDEN GRASS	#5 30" O.C.	CONTAINER 4'-S
IPA	--	IRIS PALLIDA - IRIS ENSATA - IRIS x SIBERICA VARIEGATED, JAPANESE, BEARDED IRIS MIX	#1 15" O.C.	CONTAINER 2'-S-FSh-MIXED-WG
SSB	--	SCHIZACHYRIUM SCOPARIUM 'BLAZE' BLAZE LITTLE BLUESTEM GRASS	#5 24" O.C.	CONTAINER 3-4'-S - WG
VMB	--	VINCA MINOR 'BOWLES VARIETY' BOWLES PERIWINKLE	#1 18" O.C.	CONTAINER 6"-ADAPT

PROJECT NUMBER
152699.01

DRAWN BY
AW

DATE
9/26/2016

REVISIONS

REV.	DESCRIPTION	DATE
1	REVISION 1	7/29/2016
2	REVISION 2	09/02/2016
3	REVISION 3	09/26/2016

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Boulder Community Health

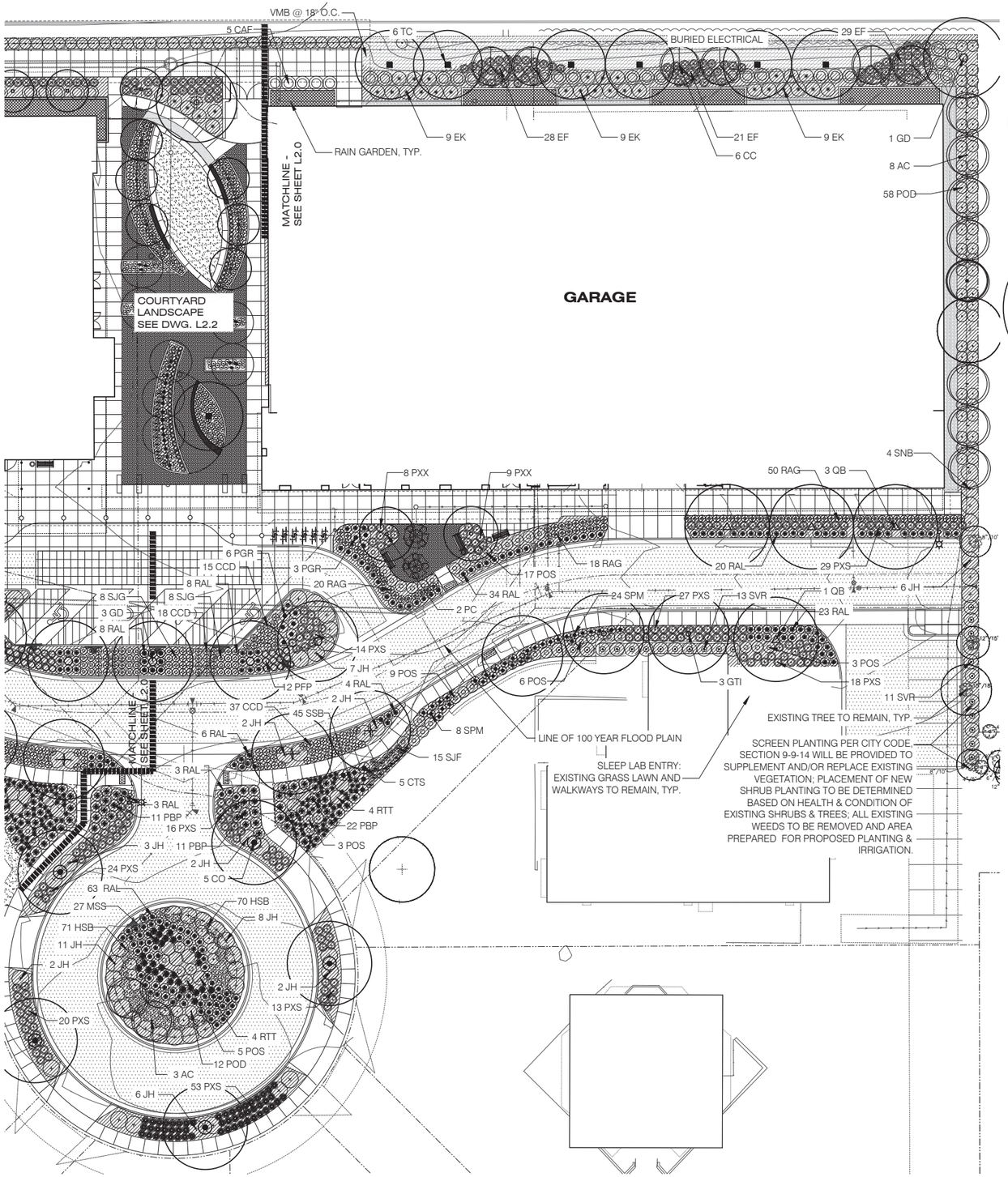
PROJECT
BOULDER COMMUNITY HEALTH RIVERBEND MEDICAL PAVILION AND PARKING GARAGE

SITE REVIEW

LUR 2016-00038-40

SHEET TITLE
PLANTING PLAN - WEST

SHEET NUMBER
L2.0



1 **PLANTING PLAN - EAST**
SCALE: 1" = 20'-0"

N

SCALE: 1" = 20'-0"
0 10' 20' 40' 60'

PLANT LEGEND

ABBR.	QTY	BOTANICAL NAME/COMMON NAME	SIZE	COMMENTS
		DECIDUOUS TREES		
AC	11	AMELANCHIER CANADENSIS	8' CLUMP	B&B
		SHADBLOW SERVICEBERRY	15' O.C.	15-25'-S
CS	6	CATALPA SPECIOSA	2.0"	B&B
		WESTERN CATALPA	35' O.C.	40' - Su
CO	6	CELTIS OCCIDENTALIS	2.5" CAL.	B&B
		WESTERN HACKBERRY	35' O.C.	50'-S
CC	6	CERCIS CANADENSIS	2.5" CAL.	B&B
		EASTERN REDBUD	15' O.C.	25'-FSh-Sh
GB	6	GINGKO BILOBA 'PRINCETON SENTRY'	2.0" CAL.	B&B
		PRINCETON SENTRY GINKGO	15' O.C.	35'-S
GTI	3	GLEDITSIA TRIACANTHOS INERMIS IMPERIAL	2.5" CAL.	B&B
		IMPERIAL HONEYLOCUST	30' O.C.	35' - Su
GD	9	GYMNOCLADUS DIOICUS 'ESPRESSO'	2.5" CAL.	B&B
		KENTUCKY COFFEETREE (SEEDLESS)	35' O.C.	50'-S
MP	3	MALUS 'PROFUSION'	2" CAL.	B&B
		PROFUSION CRABAPPLE	15' O.C.	25'-S
MX	4	MALUS x 'CORALCOLE'	2" CAL.	B&B
		CORALBURST CRAB APPLE	12' O.C.	12-15'-S
PC	8	PYRUS CALLERYANA 'CHANTICLEER'	2.5" CAL.	B&B
		CHANTICLEER PEAR	15' O.C.	20-30'-S
QB	14	QUERCUS BICOLOR	2.5" CAL.	B&B
		SWAMP WHITE OAK	30' O.C.	30'-40'-S
SR	6	SYRINGA RETICULATA	2.5" CAL.	B&B
		JAPANESE TREE LILAC	15' O.C.	15-25'-S-FSh
TC	7	TILIA CORDATA 'GREENSPIRE'	2.5" O.C.	B&B
		GREENSPIRE LINDEN	25' O.C.	30-40'-S
		EVERGREENS		
EF	--	EUONYMUS FORTUNEI 'COLORATUS'	#1	CONTAINER
		PURPLELEAF WINTERCREEPER	3' O.C.	1-1.5'-FSh-Sh
EK	--	EUONYMUS KIAUTSCHOVICA 'MANHATTAN'	#5	CONTAINER
		MANHATTAN EUONYMUS	5' O.C.	4-6'-Sh
JH	--	JUNIPERUS HORIZONTALIS 'BLUE CHIP'	#5	CONTAINER
		BLUE CHIP JUNIPER	6' O.C.	<1'-S
PP	1	PICEA PUNGENS 'HOOPSII'	7'	B&B
		HOOPSII SPRUCE	12' O.C.	25'-ADAPT
		DECIDUOUS SHRUBS		
CFG	--	CARAGANA FRUTEX 'GLOBOSA'	#5	CONTAINER
		GLOBE RUSSIAN PEA SHRUB	30" O.C.	3-4'-Su
CCD	--	CARYOPTERIS X CLANDONENSIS 'DARK KNIGHT'	#5	CONTAINER
		DARK KNIGHT BLUE MIST SPIREA	30" O.C.	3-4'-Su
CTS	--	CHAENOMELES SPECIOSA 'TEXAS SCARLET"	#5	CONTAINER
		TEXAS SCARLET QUINCE	48" O.C.	3-4'-Su-PSh
CAF	--	CORNUS SERICEA 'ISANTI'	#5	CONTAINER
		ISANTI DOGWOOD	5' O.C.	5'-ADAPT
HAA	--	HYDRANGEA ARBORESCENS 'ANNABELLE'	#5	CONTAINER
		ANNABELLE SMOOTH HYDRANGEA	36" O.C.	3-4'-FSh-Sh
PXS	--	PHILADELPHUS X 'SNOWBELLE'	#5	CONTAINER
		SNOWBELLE MOCKORANGE	36" O.C.	3-4'-Su
POS	--	PHYSOCARPUS OPULIFOLIUS 'SUMMER WINE'	#5	CONTAINER
		SUMMER WINE NINEBARK	48" O.C.	4-6'-Su
POD	--	PHYSOCARPUS OPULIFOLIUS 'DART'S GOLD'	#5	CONTAINER
		DART'S GOLD NINEBARK	48" O.C.	3-5'-Su
PFJ	--	POTENTILLA FRUTICOSA 'JACKMANNII'	#5	CONTAINER
		JACKMANN POTENTILLA	30" O.C.	2-3'-Su
PFS	--	POTENTILLA FRUTICOSA 'McKAY'S WHITE"	#5	CONTAINER
		McKAY'S WHITE POTENTILLA	30" O.C	2-3'-Su
PBP	--	PRUNUS BESSEYI PAWNEE BUTTES	#5	CONTAINER
		CREEPING WESTERN SAND CHERRY	36" O.C.	2-2.5'-Su
PGR	--	PRUNUS GLANDULOSA 'ROSEA PLENA'	#5	CONTAINER
		PINK FLOWERING ALMOND	48" O.C.	4-6'-Su
PFP	--	POTENTILLA FRUTICOSA 'PINK BEAUTY'	#5	CONTAINER
		PINK BEAUTY POTENTILLA	30" O.C.	2-3'-Su
RAG	--	RIBES ALPINUM 'GREEN MOUND'	#5	CONTAINER
		GREEN MOUND CURRANT	30" O.C.	3-4'-Su-FSh
RAL	--	RHUS AROMATICA 'GRO-LOW'	#5	CONTAINER
		GROW LOW SUMAC	36" O.C.	2-3'-Su
RTT	--	RHUS TYPHINA 'TIGER EYES'	#5	CONTAINER
		TIGER EYES SUMAC	6' O.C.	6' - Su
SNB	--	SAMBUCUS NIGRA 'BLACK LACE'	#5	CONTAINER
		BLACK LACE ELDER	6'-0" O.C.	6-10'-Su
SJF	--	SPIRAEA JAPONICA 'FROEBELII'	#5	CONTAINER
		FROEBEL SPIREA	30" O.C.	3-4'-Su-FSh
SJG	--	SPIRAEA JAPONICA 'GOLD FLAME"	#5	CONTAINER
		GOLDFLAME SPIREA	30" O.C.	2-3'-Su-FSh
SVR	--	SPIRAEA x VANHOUTTEI 'RENAISSANCE'	#5	CONTAINER
		RENAISSANCE VANHOUTTE SPIREA	60" O.C.	5-7'-S-FSh
SPM	--	SYRINGA PATULA 'MISS KIM'	#5	CONTAINER
		MISS KIM DWARF LILAC	24" O.C.	3-5'-S
		ORNAMENTAL GRASSES / PERENNIALS / GROUNDCOVERS		
HSB	--	HELICTOTRICHON SEMPERVIRENS	#5	CONTAINER
		BLUE OAT (AVENA) GRASS	24" O.C.	2-3'-S
HPB	--	HEMEROCALLIS 'PRAIRIE BLUE EYES'	#1	CONTAINER
		LAVENDER DAYLILY	18" O.C.	2'-S
HSO	--	HEMEROCALLIS 'STELLA DE ORO'	#2	CONTAINER
		DWARF GOLD DAYLILY	18" O.C.	2'-S
HXF	--	HOSTA x FORTUNEI 'FRANCEE'	#1.	CONTAINER
		FRANCEE HOSTA	30" O.C.	1.5-2'-Fsh-Sh-WG
HSE	--	HOSTA SIEBOLDIANA 'ELEGANS'	#1	CONTAINER
		BLUE GIANT PLANTAIN LILY	24" O.C.	2-3'-FSh-Sh - WG
MSS	--	MISCANTHUS SINENSIS 'MORNING LIGHT'	#5	CONTAINER
		MORNING LIGHT MAIDEN GRASS	30" O.C.	4'-S
IPA	--	IRIS PALLIDA - IRIS ENSATA - IRIS x SIBERICA	#1	CONTAINER
		VARIEGATED, JAPANESE, BEARDED IRIS MIX	15" O.C.	2'-S-FSh-MIXED-WG
SSB	--	SCHIZACHYRIUM SCOPARIUM 'BLAZE'	#5	CONTAINER
		BLAZE LITTLE BLUESTEM GRASS	24" O.C.	3-4'-S - WG
VMB	--	VINCA MINOR 'BOWLES VARIETY'	#1	CONTAINER
		BOWLES PERIWINKLE	18" O.C.	6"-ADAPT

PROJECT NUMBER
152699.01

DRAWN BY
AW

DATE
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1	REVISION 1	7/29/2016
2	REVISION 2	09/02/2016
3	REVISION 3	09/26/2016

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Boulder Community Health

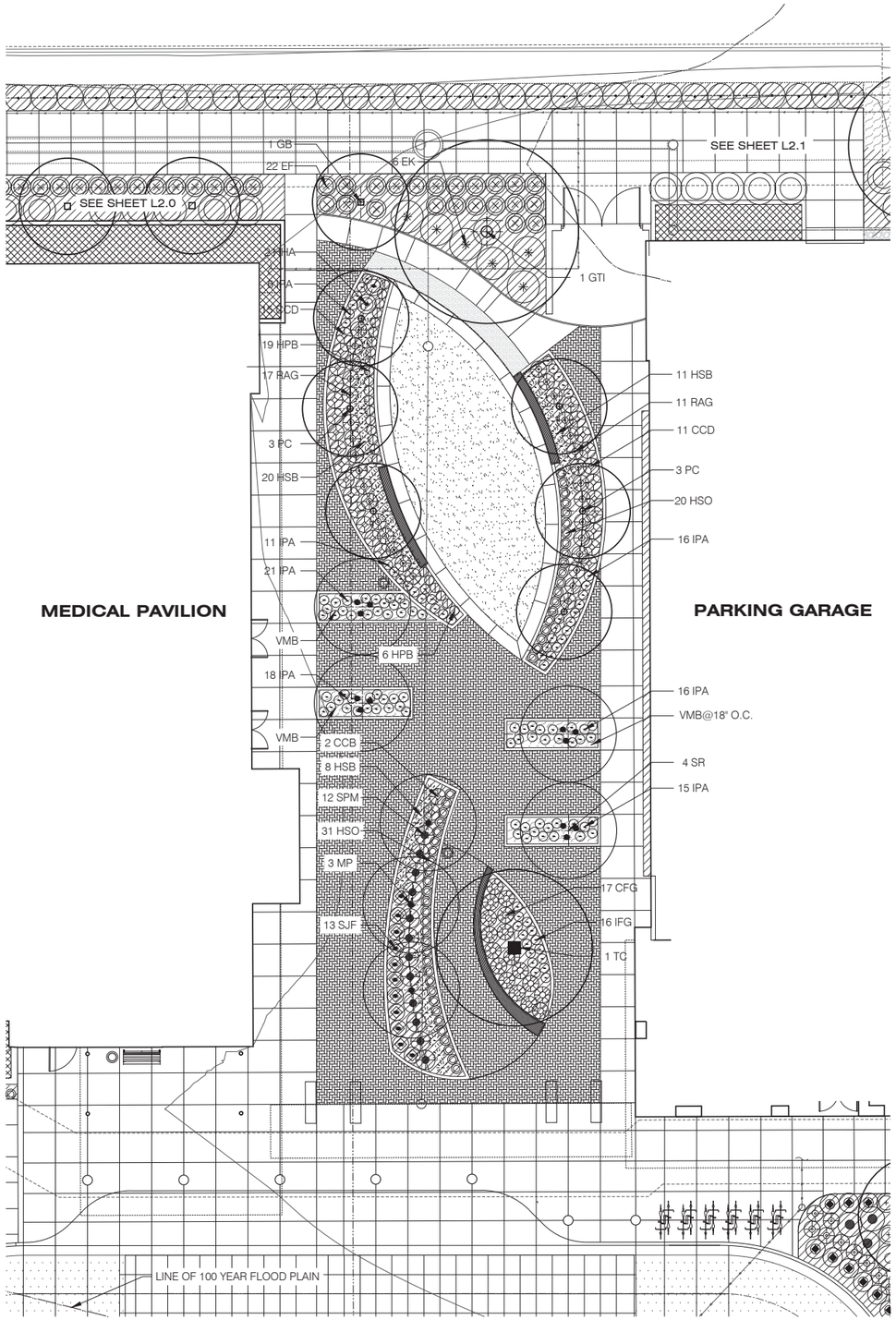
PROJECT
BOULDER COMMUNITY HEALTH RIVERBEND MEDICAL PAVILION AND PARKING GARAGE

SITE REVIEW

LUR 2016-00038-40

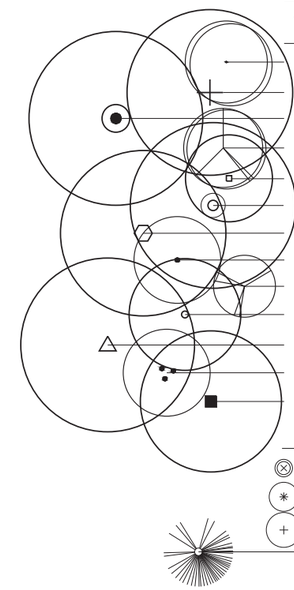
SHEET TITLE
PLANTING PLAN - EAST

SHEET NUMBER
L2.1



1 **PLANTING PLAN - COURTYARD GARDEN**
SCALE: 1" = 10'-0"

PLANT LEGEND



ABBR.	QTY	BOTANICAL NAME/COMMON NAME	SIZE	COMMENTS
		DECIDUOUS TREES		
AC	11	AMELANCHIER CANADENSIS SHADBLOW SERVICEBERRY	8' CLUMP 15' O.C.	B&B 15-25'-S
CS	6	CATALPA SPECIOSA WESTERN CATALPA	2.0" 35' O.C.	B&B 40' - Su
CO	6	CELTIS OCCIDENTALIS WESTERN HACKBERRY	2.5" CAL. 35' O.C.	B&B 50'-S
CC	6	CERCIS CANADENSIS EASTERN REDBUD	2.5" CAL. 15' O.C.	B&B 25'-FSh-Sh
GB	6	GINGKO BILOBA 'PRINCETON SENTRY' PRINCETON SENTRY GINKGO	2.0" CAL. 15' O.C.	B&B 35'-S
GTI	3	GLEDITSIA TRIACANTHOS INERMIS IMPERIAL IMPERIAL HONEYLOCUST	2.5" CAL. 30' O.C.	B&B 35' - Su
GD	9	GYMNOCLADUS DIOICUS 'ESPRESSO' KENTUCKY COFFEETREE (SEEDLESS)	2.5" CAL. 35' O.C.	B&B 50'-S
MP	3	MALUS 'PROFUSION' PROFUSION CRABAPPLE	2" CAL. 15' O.C.	B&B 25'-S
MX	4	MALUS x 'CORALCOLE' CORALBURST CRAB APPLE	2" CAL. 12' O.C.	B&B 12-15'-S
PC	8	PYRUS CALLERYANA 'CHANTICLEER' CHANTICLEER PEAR	2.5" CAL. 15' O.C.	B&B 20-30'-S
QB	14	QUERCUS BICOLOR SWAMP WHITE OAK	2.5" CAL. 30' O.C.	B&B 30'-40'-S
SR	6	SYRINGA RETICULATA JAPANESE TREE LILAC	2.5" CAL. 15' O.C.	B&B 15-25'-S-FSh
TC	7	TILIA CORDATA 'GREENSPIRE' GREENSPIRE LINDEN	2.5" O.C. 25' O.C.	B&B 30-40'-S
		EVERGREENS		
EF	--	EUONYMUS FORTUNEI 'COLORATUS' PURPLELEAF WINTERCREEPER	#1 3' O.C.	CONTAINER 1-1.5'-FSh-Sh
EK	--	EUONYMUS KIAUTSCHOVICA 'MANHATTAN' MANHATTAN EUONYMUS	#5 5' O.C.	CONTAINER 4-6'-Sh
JH	--	JUNIPERUS HORIZONTALIS 'BLUE CHIP' BLUE CHIP JUNIPER	#5 6' O.C.	CONTAINER <1'-S
PP	1	PICEA PUNGENS 'HOOPSII' HOOPSII SPRUCE	7' 12' O.C.	B&B 25'-ADAPT
		DECIDUOUS SHRUBS		
CFG	--	CARAGANA FRUTEX 'GLOBOSA' GLOBE RUSSIAN PEA SHRUB	#5 30" O.C.	CONTAINER 3-4'-Su
CCD	--	CARYOPTERIS X CLANDONENSIS 'DARK KNIGHT' DARK KNIGHT BLUE MIST SPIREA	#5 30" O.C.	CONTAINER 3-4'-Su
CTS	--	CHAENOMELES SPECIOSA 'TEXAS SCARLET' TEXAS SCARLET QUINCE	#5 48" O.C.	CONTAINER 3-4'-Su-PSh
CAF	--	CORNUS SERICEA 'ISANTI' ISANTI DOGWOOD	#5 5' O.C.	CONTAINER 5'-ADAPT
HAA	--	HYDRANGEA ARBORESCENS 'ANNABELLE' ANNABELLE SMOOTH HYDRANGEA	#5 36" O.C.	CONTAINER 3-4'-FSh-Sh
PXS	--	PHILADELPHUS X 'SNOWBELLE' SNOWBELLE MOCKORANGE	#5 36" O.C.	CONTAINER 3-4'-Su
POS	--	PHYSOCARPUS OPULIFOLIUS 'SUMMER WINE' SUMMER WINE NINEBARK	#5 48" O.C.	CONTAINER 4-6'-Su
POD	--	PHYSOCARPUS OPULIFOLIUS 'DART'S GOLD' DART'S GOLD NINEBARK	#5 48" O.C.	CONTAINER 3-5'-Su
PFJ	--	POTENTILLA FRUTICOSA 'JACKMANNII' JACKMANN POTENTILLA	#5 30" O.C.	CONTAINER 2-3'-Su
PFS	--	POTENTILLA FRUTICOSA 'McKAY'S WHITE' McKAY'S WHITE POTENTILLA	#5 30" O.C	CONTAINER 2-3'-Su
PBP	--	PRUNUS BESSEYI PAWNEE BUTTES CREEPING WESTERN SAND CHERRY	#5 36" O.C.	CONTAINER 2-2.5'-Su
PGR	--	PRUNUS GLANDULOSA 'ROSEA PLENA' PINK FLOWERING ALMOND	#5 48" O.C.	CONTAINER 4-6'-Su
PFP	--	POTENTILLA FRUTICOSA 'PINK BEAUTY' PINK BEAUTY POTENTILLA	#5 30" O.C.	CONTAINER 2-3'-Su
RAG	--	RIBES ALPINUM 'GREEN MOUND' GREEN MOUND CURRANT	#5 30" O.C.	CONTAINER 3-4'-Su-FSh
RAL	--	RHUS AROMATICA 'GRO-LOW' GROW LOW SUMAC	#5 36" O.C.	CONTAINER 2-3'-Su
RTT	--	RHUS TYPHINA 'TIGER EYES' TIGER EYES SUMAC	#5 6' O.C.	CONTAINER 6' - Su
SNB	--	SAMBUCUS NIGRA 'BLACK LACE' BLACK LACE ELDER	#5 6'-0" O.C.	CONTAINER 6-10'-Su
SJF	--	SPIRAEA JAPONICA 'FROEBELII' FROEBEL SPIREA	#5 30" O.C.	CONTAINER 3-4'-Su-FSh
SJG	--	SPIRAEA JAPONICA 'GOLD FLAME' GOLDFLAME SPIREA	#5 30" O.C.	CONTAINER 2-3'-Su-FSh
SVR	--	SPIRAEA x VANHOUTTEI 'RENAISSANCE' RENAISSANCE VANHOUTTE SPIREA	#5 60" O.C.	CONTAINER 5-7'-S-FSh
SPM	--	SYRINGA PATULA 'MISS KIM' MISS KIM DWARF LILAC	#5 24" O.C.	CONTAINER 3-5'-S
		ORNAMENTAL GRASSES / PERENNIALS / GROUNDCOVERS		
HSB	--	HELICTOTRICHON SEMPERVIRENS BLUE OAT (AVENA) GRASS	#5 24" O.C.	CONTAINER 2-3'-S
HPB	--	HEMEROCALLIS 'PRAIRIE BLUE EYES' LAVENDER DAYLILY	#1 18" O.C.	CONTAINER 2'-S
HSO	--	HEMEROCALLIS 'STELLA DE ORO' DWARF GOLD DAYLILY	#2 18" O.C.	CONTAINER 2'-S
HXF	--	HOSTA x FORTUNEI 'FRANCEE' FRANCEE HOSTA	#1. 30" O.C.	CONTAINER 1.5-2'-Fsh-Sh-WG
HSE	--	HOSTA SIEBOLDIANA 'ELEGANS' BLUE GIANT PLANTAIN LILY	#1 24" O.C.	CONTAINER 2-3'-FSh-Sh - WG
MSS	--	MISCANTHUS SINENSIS 'MORNING LIGHT' MORNING LIGHT MAIDEN GRASS	#5 30" O.C.	CONTAINER 4'-S
IPA	--	IRIS PALLIDA - IRIS ENSATA - IRIS x SIBERICA VARIEGATED, JAPANESE, BEARDED IRIS MIX	#1 15" O.C.	CONTAINER 2'-S-FSh-MIXED-WG
SSB	--	SCHIZACHYRIUM SCOPARIUM 'BLAZE' BLAZE LITTLE BLUESTEM GRASS	#5 24" O.C.	CONTAINER 3-4'-S - WG
VMB	--	VINCA MINOR 'BOWLES VARIETY' BOWLES PERIWINKLE	#1 18" O.C.	CONTAINER 6"-ADAPT

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Boulder Community Health

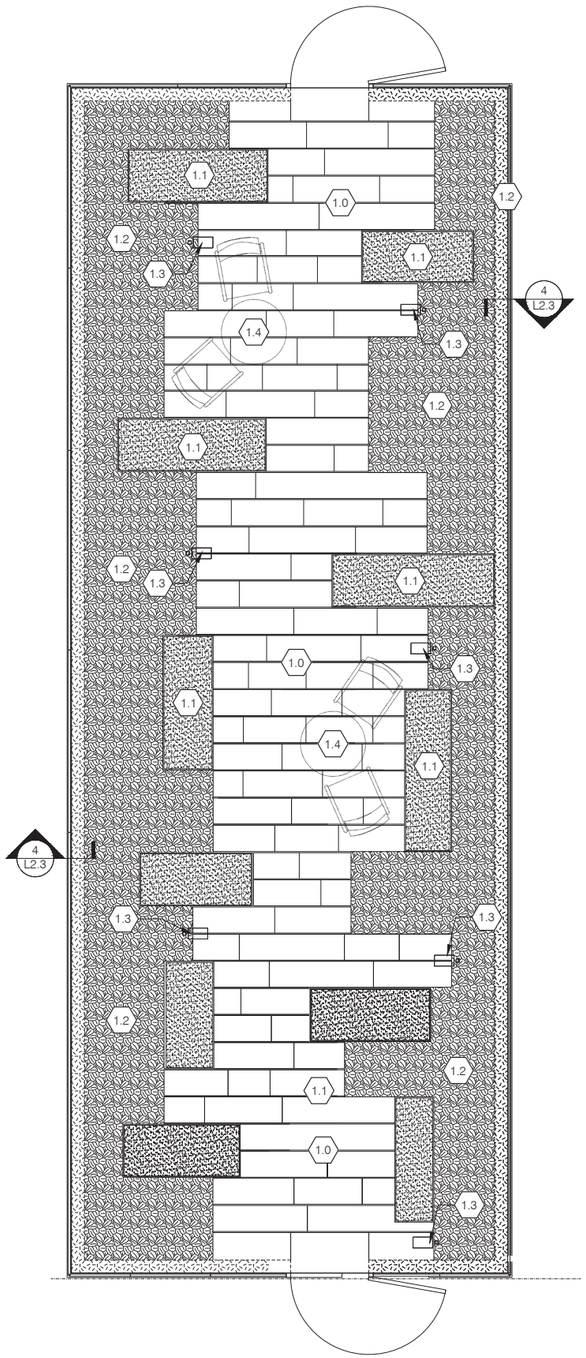
PROJECT
BOULDER COMMUNITY HEALTH RIVERBEND MEDICAL PAVILION AND PARKING GARAGE

SITE REVIEW

LUR 2016-00038-40

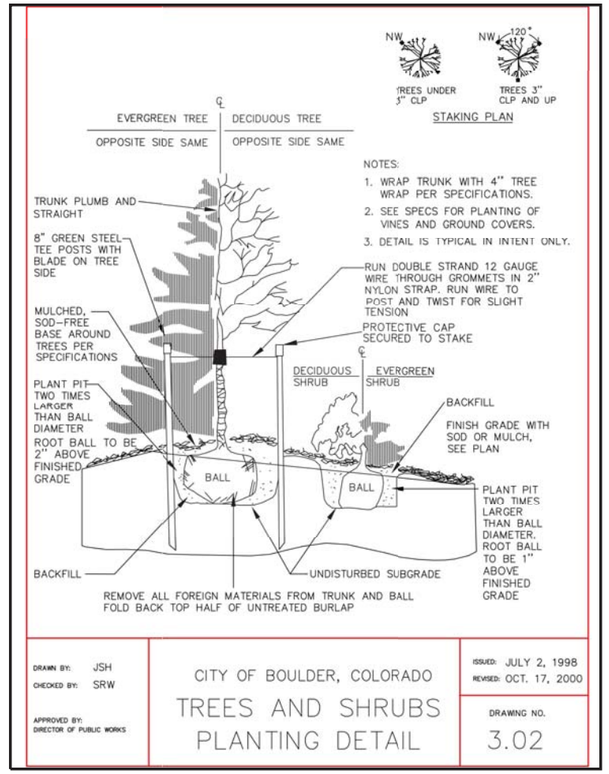
SHEET TITLE
COURTYARD PLANTING PLAN

SHEET NUMBER
L2.2



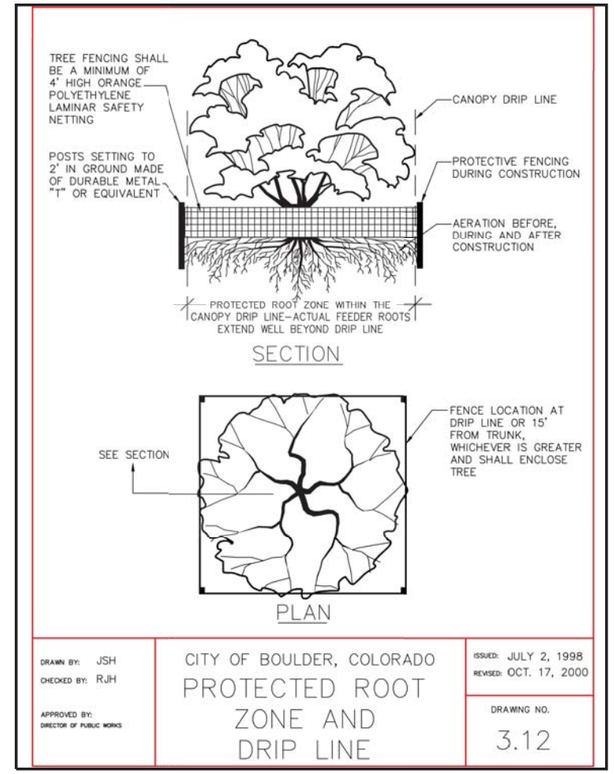
1 THIRD FLOOR COURTYARD - SCHEMATIC PLAN

SCALE: 3/8" = 1'-0"



2 CITY OF BOULDER PLANTING DETAIL

SCALE: N.T.S

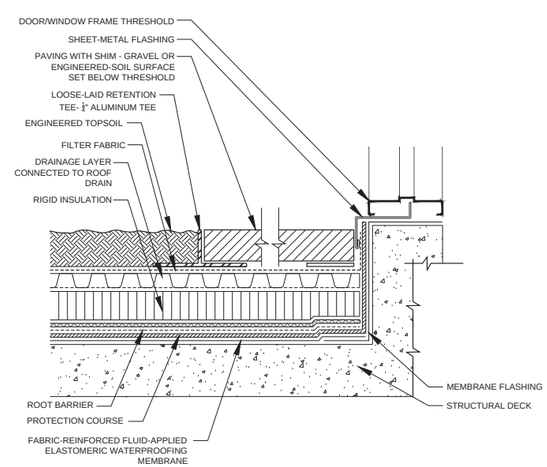


3 CITY OF BOULDER TREE PROTECTION DETAIL

SCALE: N.T.S

THIRD FLOOR COURTYAI LANDSCAPE MATERIAL

- 1.0 12" WIDE x RANDOM LENGTH x 2" THK. SAW CUT SANDSTONE PAVERS
- 1.1 SANDSTONE BENCHES: 20" HIGH x 12"-24" WIDE x RANDOM LENGTH, SAW CUT, SOLID RED SANDSTONE
- 1.2 GROUNDCOVER AND LOW ORNAMENTAL GRASSES IN MANUFACTURED LIGHTWEIGHT TOPSOIL
- 1.3 BOLLARD LIGHTING
- 1.4 TABLE & CHAIRS

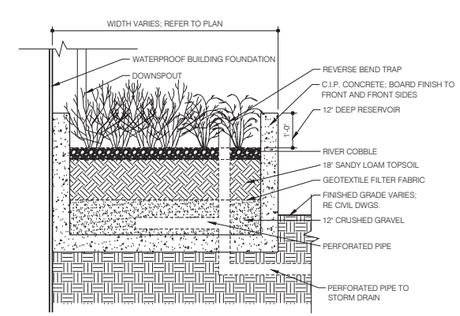


4 THIRD FLOOR COURTYARD - SECTION DETAIL

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

RAIN GARDEN PLANTING PALETTE

AQU	--	AQUILEGIA COERULEA	#1	CONTAINER
		ROCKY MOUNTAIN COLUMBINE	12" O.C.	1'-FSh-Sh
CMO	--	CAREX MORROWII 'ICE DANCE'	#1	CONTAINER
		VARIEGATED JAPANESE SEDGE	18" O.C.	12"-FSh-Sh
DPU	--	DALEA PURPUREA	#1	CONTAINER
		PURPLE PRAIRIE CLOVER	18" O.C.	2'-S
EPU	--	ECHINACEA PURPUREA	#1	CONTAINER
		PURPLE CONEFLOWER	24" O.C.	2'-S
EGO	--	ERIOGONUM UMBELLATUM 'KANNAH CREEK'	#1	CONTAINER
		SULPHUR FLOWER	18" O.C.	6-12"-S
GAR	--	GAILLARDIA ARISTATA	#1	CONTAINER
		NATIVE BLANKET FLOWER	18" O.C.	18"-S
SPH	--	SPOROBOLUS HETEROLEPSIS	#1	CONTAINER
		PRAIRIE DROPSEED GRASS	18" O.C.	24"-S



5 RAIN GARDEN - TYPICAL SECTION DETAIL

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

PROJECT NUMBER
152699.01

DRAWN BY
AW

DATE
9/26/2016

REVISIONS

REV.	DESCRIPTION	DATE
1	REVISION 1	7/29/2016
2	REVISION 2	09/02/2016
3	REVISION 3	09/26/2016

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Registration #301

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Boulder Community Health

PROJECT
BOULDER COMMUNITY HEALTH RIVERBEND MEDICAL PAVILION AND PARKING GARAGE

SITE REVIEW

LUR 2016-00038-40

SHEET TITLE
THIRD FLOOR COURTYARD & DETAILS

SHEET NUMBER
L2.3

DuMor, inc.

DU MOR, INC.
15 INDUSTRIAL CIRCLE, P.O. BOX 142
MIFFLINTOWN, PA 17059-0142
TOLL FREE: 1-800-598-4018
PHONE: (717) 436-2106
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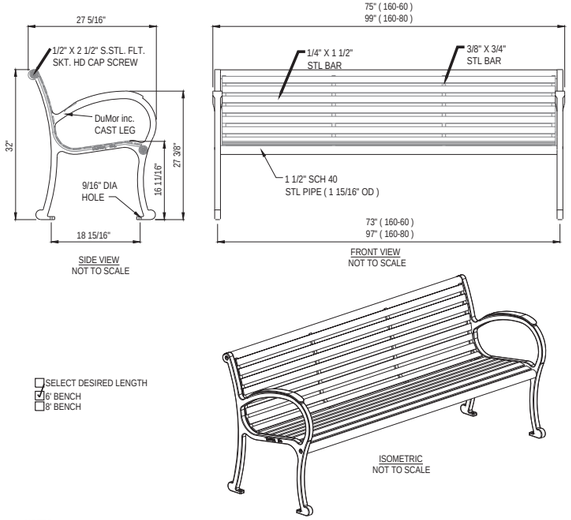
www.dumor.com



NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWINGS.
3. ALL STL. MEMBERS COATED W/ ZINC RICH EPOXY THEN FINISHED W/ POLYESTER POWDER COATING.
4. BENCH IS SHIPPED UNASSEMBLED.
5. 1/2" X 3 3/4" EXPANSION ANCHOR BOLTS PROVIDED.
6. CONTRACTOR'S NOTE: FOR PRODUCT AND PURCHASING INFORMATION VISIT www.CADdetails.com/info REFERENCE NUMBER 017-237.

160 SERIES STEEL BENCH
NOT TO SCALE

017-237 REVISION DATE 04/21/2015

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1 BOULDER COMMUNITY HEALTH STANDARD BENCH

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CANTERBURY® INTERNATIONAL

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LOS ANGELES, CA 90016
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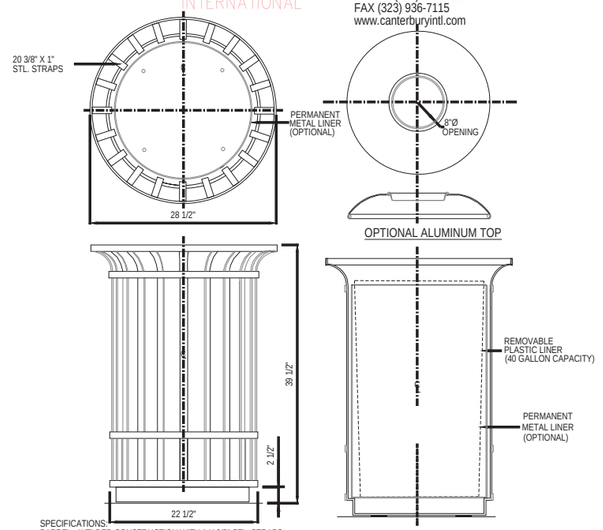

SPECIFICATIONS:
BARREL - WELDED CONSTRUCTION WITH 1 X 3/8" STL. STRAPS.
BOTTOM - STEEL CROSS BAR WITH 4 MOUNTING TABS ¼" HOLES (4 PCS.)
PLASTIC LINER - RIGID REMOVABLE PLASTIC - 40 GALLON CAPACITY.
METAL LINER - OPTIONAL DECORATIVE PERMANENT STEEL LINER.
FINISHES: PAINTED FINISH IN COLORS PER OUR STANDARD COLOR CHART. CUSTOM COLORS AVAILABLE.

PACKAGING: UNIT SHIPPED FULLY ASSEMBLED.
ORDERING:
SPECIFY: "BOWERY TRASH RECEPTACLE" PLUS TOP (OPTIONAL) AND METAL LINER (OPTIONAL) AND FINISH.

NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
2. DO NOT SCALE DRAWINGS.
3. CONTRACTORS NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info REFERENCE NUMBER 382-069.

BOWERY TRASH RECEPTACLE
N.T.S.

382-069

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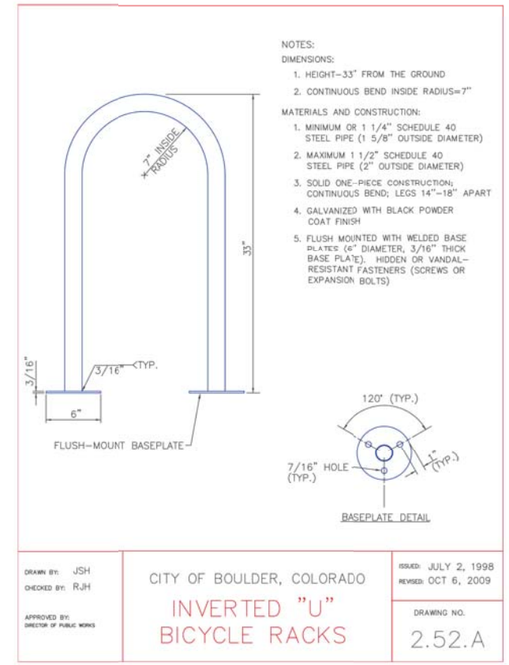
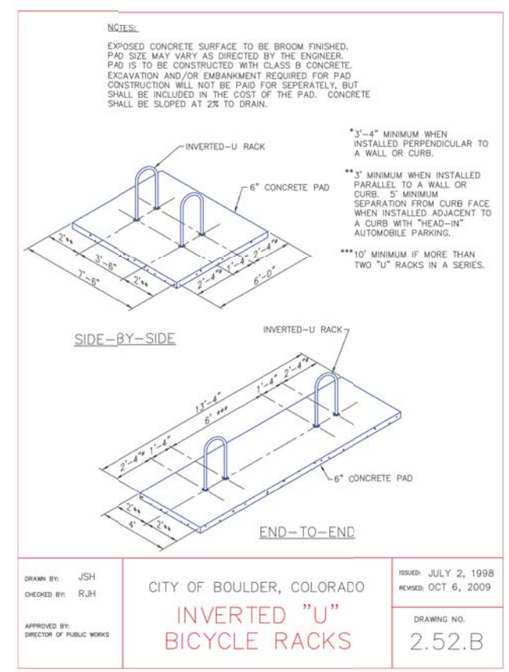
2 BOULDER COMMUNITY HEALTH STANDARD TRASH RECEPTACLE

SUBJECT TO CHANGE - UNDER REVIEW - ALTERNATIVE TRASH RECEPTACLE WILL BE EQUAL OR BETTER QUALITY - N.T.S.





3 CITY OF BOULDER INVERTED U BICYCLE RACK DETAILS

SCALE: N.T.S.

PROJECT NUMBER
152699.01

DRAWN BY
AW

DATE
9/26/2016

REVISIONS

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1	REVISION 1	7/29/2016
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Boulder Community Health

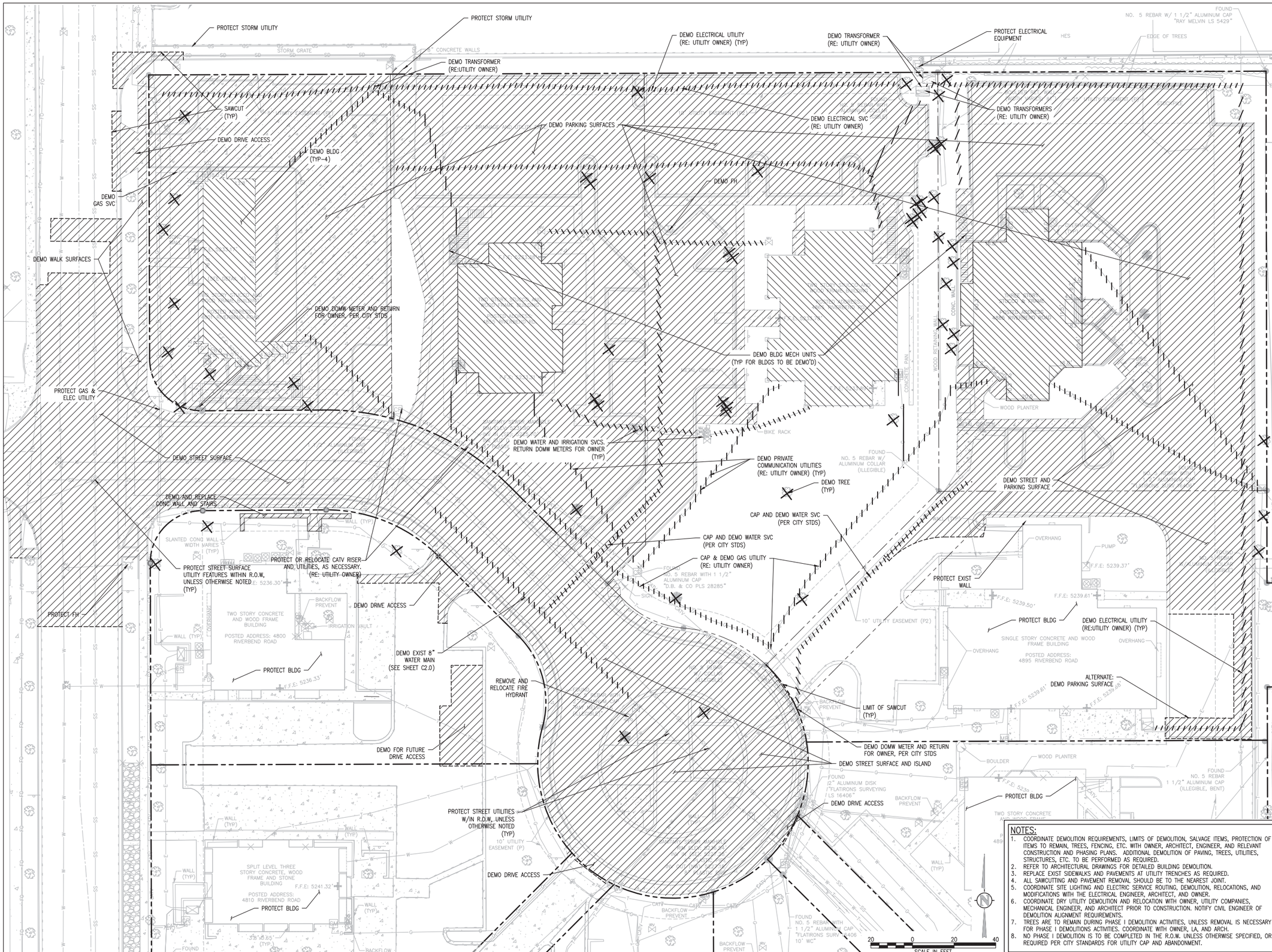
PROJECT
BOULDER COMMUNITY HEALTH RIVERBEND MEDICAL PAVILION AND PARKING GARAGE

SITE REVIEW

LUR 2016-00038-40

SHEET TITLE
SITE FURNISHINGS

SHEET NUMBER
L3.0



NOTES:

1. COORDINATE DEMOLITION REQUIREMENTS, LIMITS OF DEMOLITION, SALVAGE ITEMS, PROTECTION OF ITEMS TO REMAIN, TREES, FENCING, ETC. WITH OWNER, ARCHITECT, ENGINEER, AND RELEVANT CONSTRUCTION AND PHASING PLANS. ADDITIONAL DEMOLITION OF PAVING, TREES, UTILITIES, STRUCTURES, ETC. TO BE PERFORMED AS REQUIRED.
2. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILED BUILDING DEMOLITION.
3. REPLACE EXIST SIDEWALKS AND PAVEMENTS AT UTILITY TRENCHES AS REQUIRED.
4. ALL SAWCUTTING AND PAVEMENT REMOVAL SHOULD BE TO THE NEAREST JOINT.
5. COORDINATE SITE LIGHTING AND ELECTRIC SERVICE ROUTING, DEMOLITION, RELOCATIONS, AND MODIFICATIONS WITH THE ELECTRICAL ENGINEER, ARCHITECT, AND OWNER.
6. COORDINATE DRY UTILITY DEMOLITION AND RELOCATION WITH OWNER, UTILITY COMPANIES, MECHANICAL ENGINEER, AND ARCHITECT PRIOR TO CONSTRUCTION. NOTIFY CIVIL ENGINEER OF DEMOLITION ALIGNMENT REQUIREMENTS.
7. TREES ARE TO REMAIN DURING PHASE I DEMOLITION ACTIVITIES, UNLESS REMOVAL IS NECESSARY FOR PHASE I DEMOLITIONS ACTIVITIES. COORDINATE WITH OWNER, LA, AND ARCH.
8. NO PHASE I DEMOLITION IS TO BE COMPLETED IN THE R.O.W. UNLESS OTHERWISE SPECIFIED, OR REQUIRED PER CITY STANDARDS FOR UTILITY CAP AND ABANDONMENT.

PROJECT NUMBER
152699.01

DRAWN BY
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DATE
9/26/2016

REVISIONS

REV.	DESCRIPTION	DATE
1	REVISION #1	07/29/2016
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PROJECT
BOULDER COMMUNITY HEALTH RIVERBEND MEDICAL PAVILION AND PARKING GARAGE

SITE REVIEW

LUR2016-00038-40

SHEET TITLE
DEMOLITION PLAN

SHEET NUMBER
C0.3

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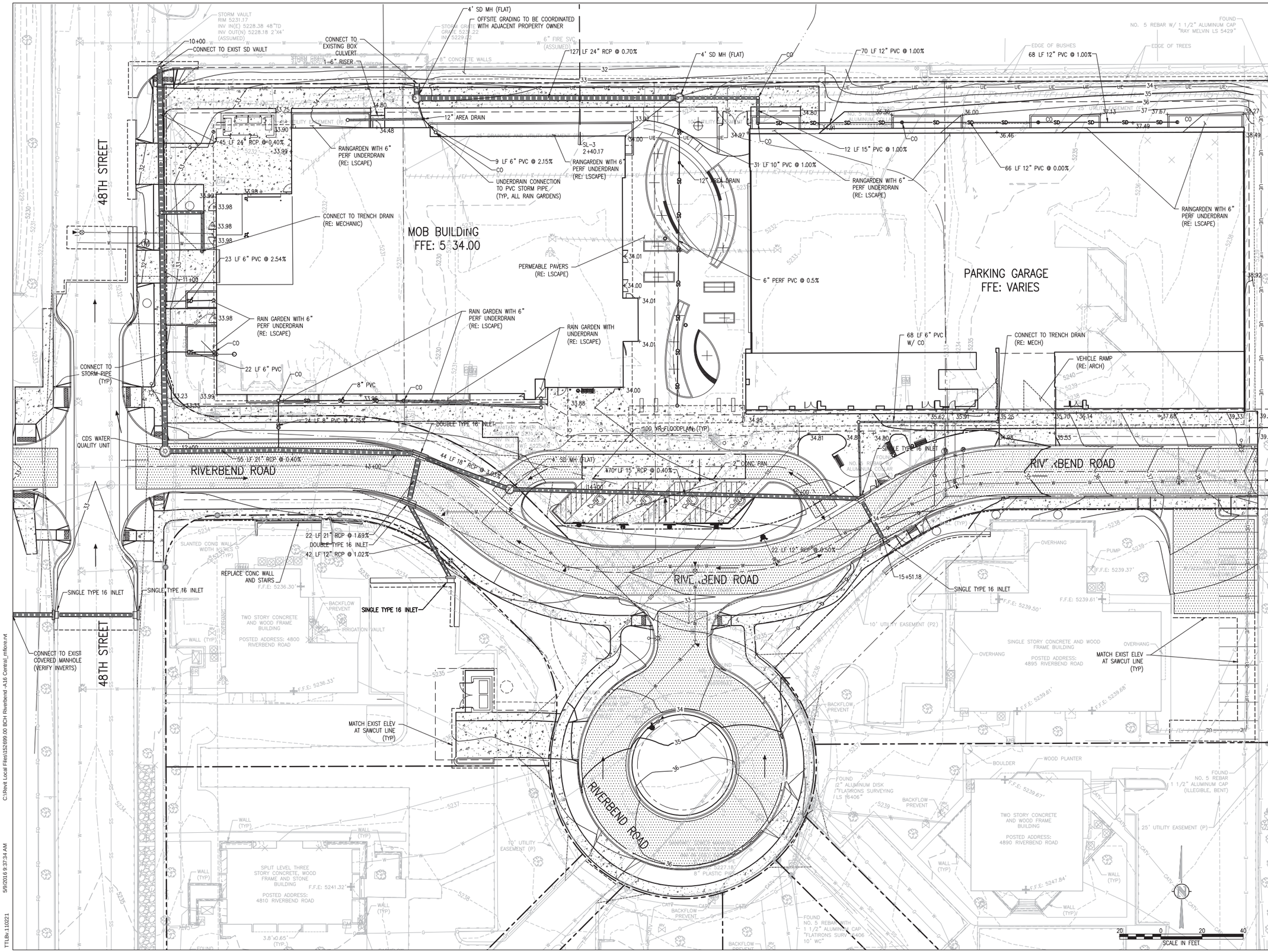

PROJECT NUMBER
152699.01

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MGR/NAS

DATE
9/26/2016

REVISIONS

REV.	DESCRIPTION	DATE
1	REVISION #1	07/29/2016
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PROJECT
BOULDER COMMUNITY HEALTH RIVERBEND MEDICAL PAVILION AND PARKING GARAGE

SITE REVIEW

LUR2016-00038-40

SHEET TITLE
GRADING AND DRAINAGE PLAN

SHEET NUMBER
C1.0

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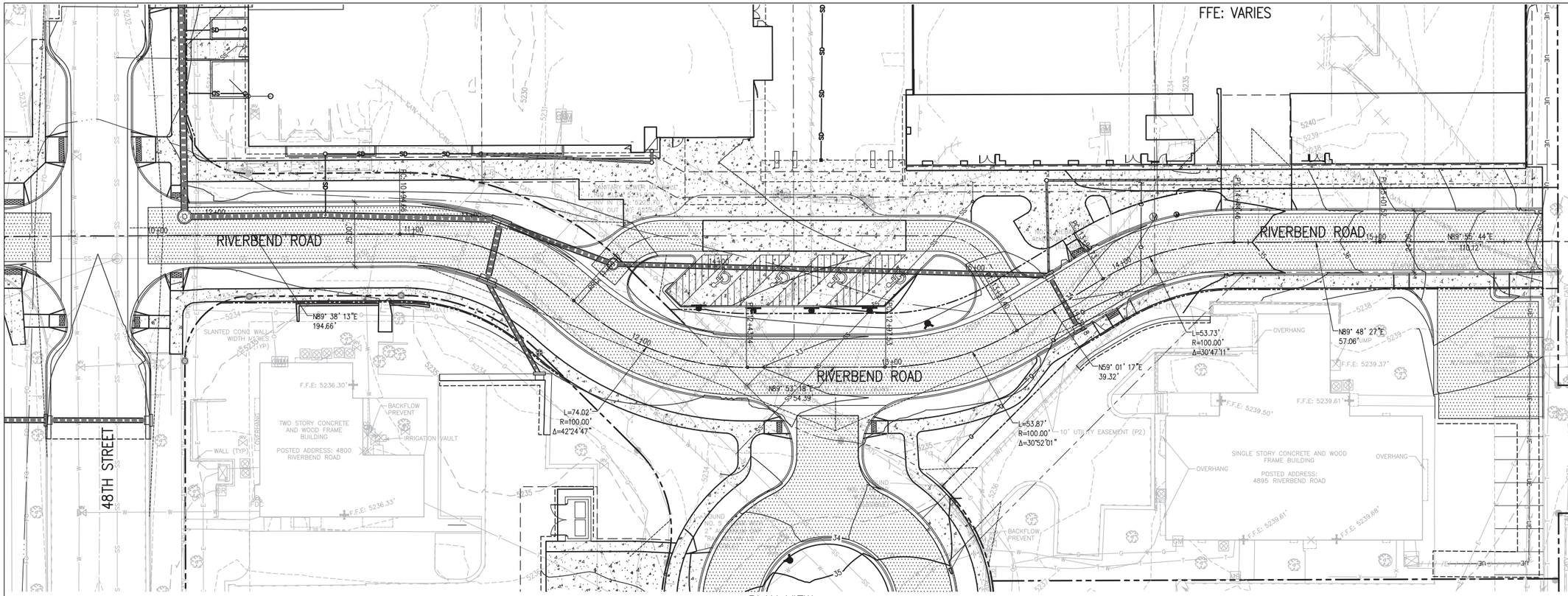
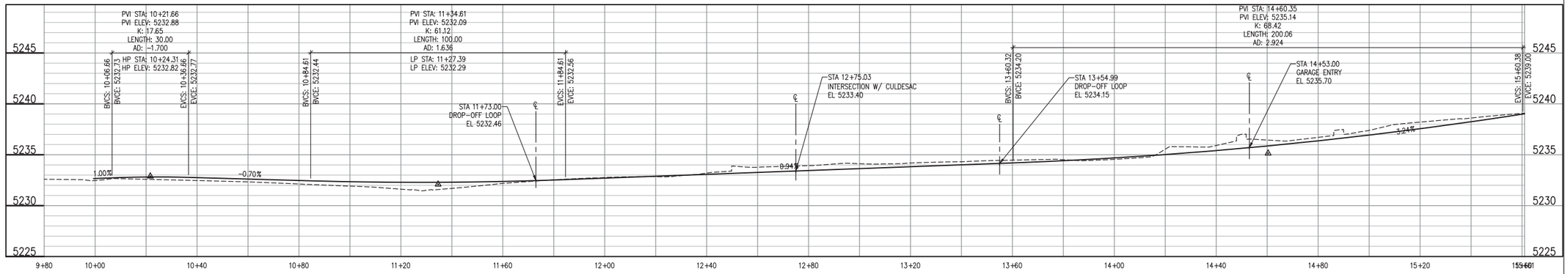
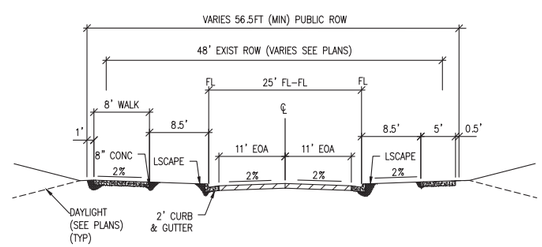


PLAN VIEW

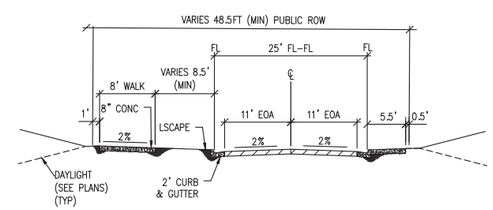


RIVERBEND ROAD PROFILE

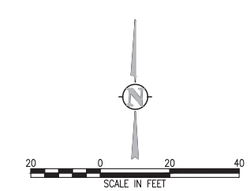
SCALE: 1"=20' HORIZ
1"=5' VERT



WEST ROAD SECTION ON RIVERBEND ROAD (PUBLIC)
N.T.S.



EAST ROAD SECTION ON RIVERBEND ROAD (PUBLIC)
N.T.S.



PROJECT NUMBER
152699.01

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REV.	DESCRIPTION	DATE
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BOULDER COMMUNITY HEALTH RIVERBEND MEDICAL PAVILION AND PARKING GARAGE

SITE REVIEW

LUR2016-00038-40

SHEET TITLE
RIVERBEND ROAD PLAN AND PROFILE

SHEET NUMBER
C1.1

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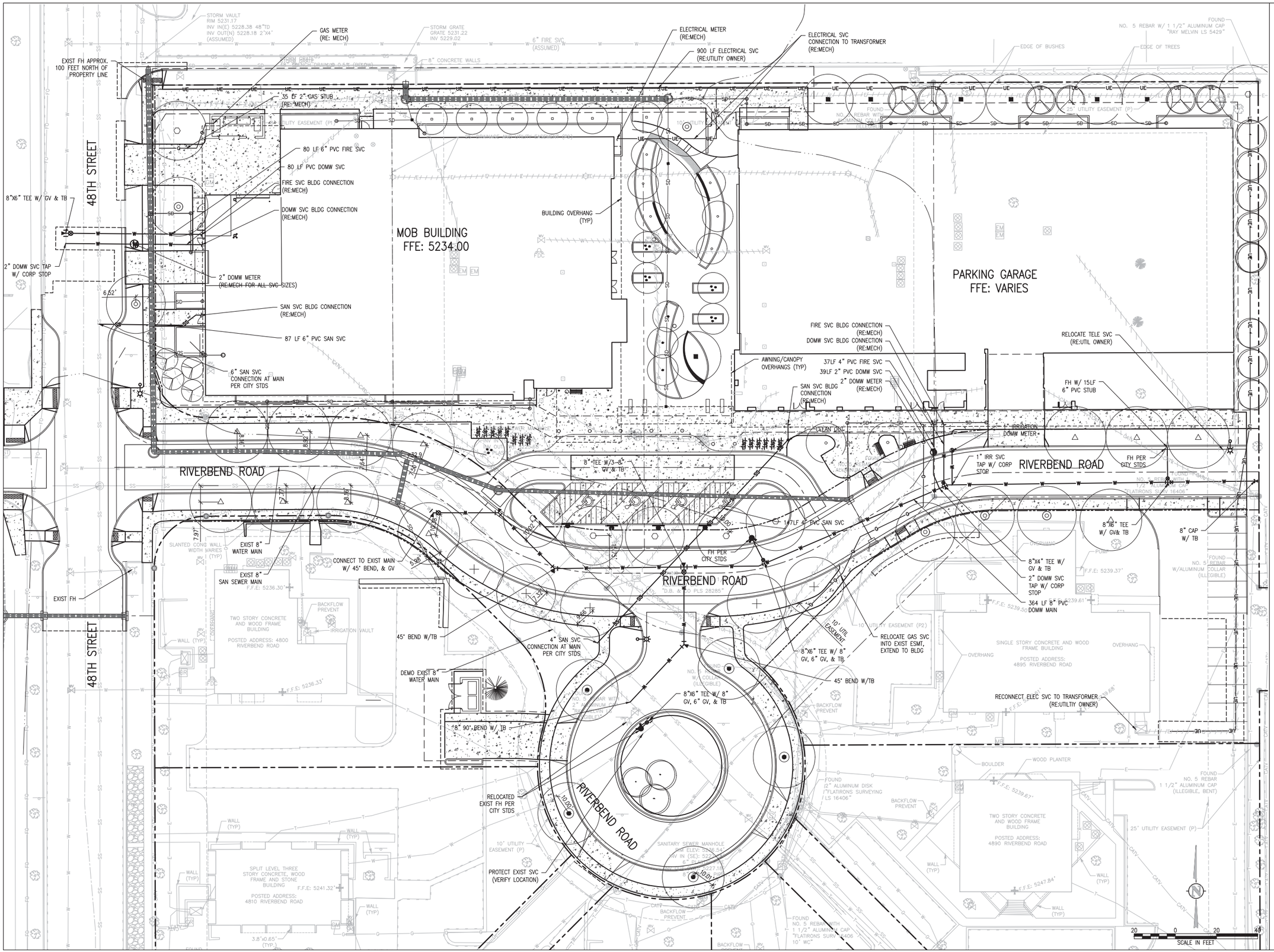

PROJECT NUMBER
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1	REVISION #1	07/29/2016
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BOULDER COMMUNITY HEALTH RIVERBEND MEDICAL PAVILION AND PARKING GARAGE

SITE REVIEW

LUR2016-00038-40

SHEET TITLE
UTILITY PLAN

SHEET NUMBER
C2.0

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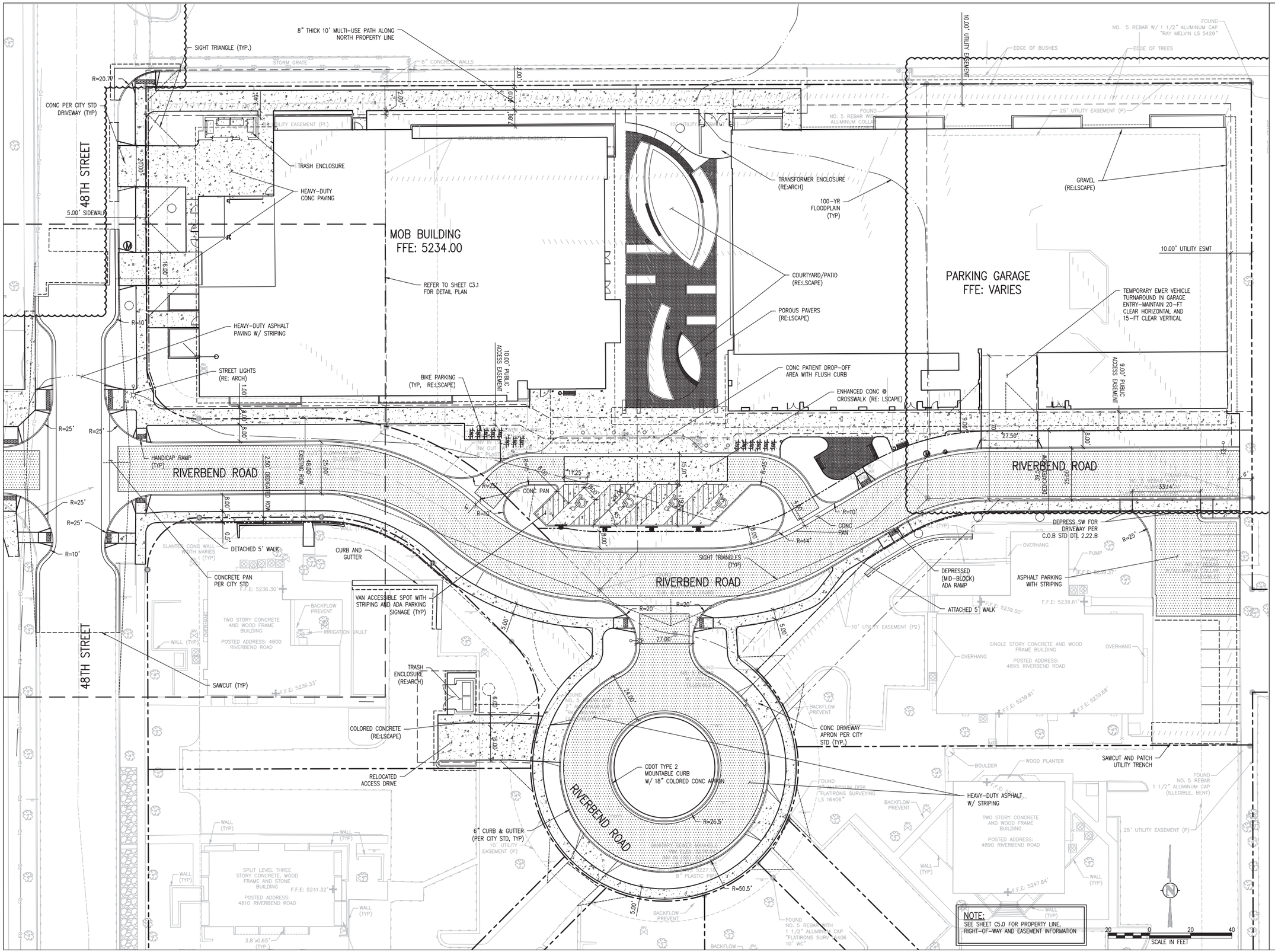

PROJECT NUMBER
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SITE REVIEW

LUR2016-00038-40

SHEET TITLE
HORIZONTAL CONTROL PLAN

SHEET NUMBER
C3.0

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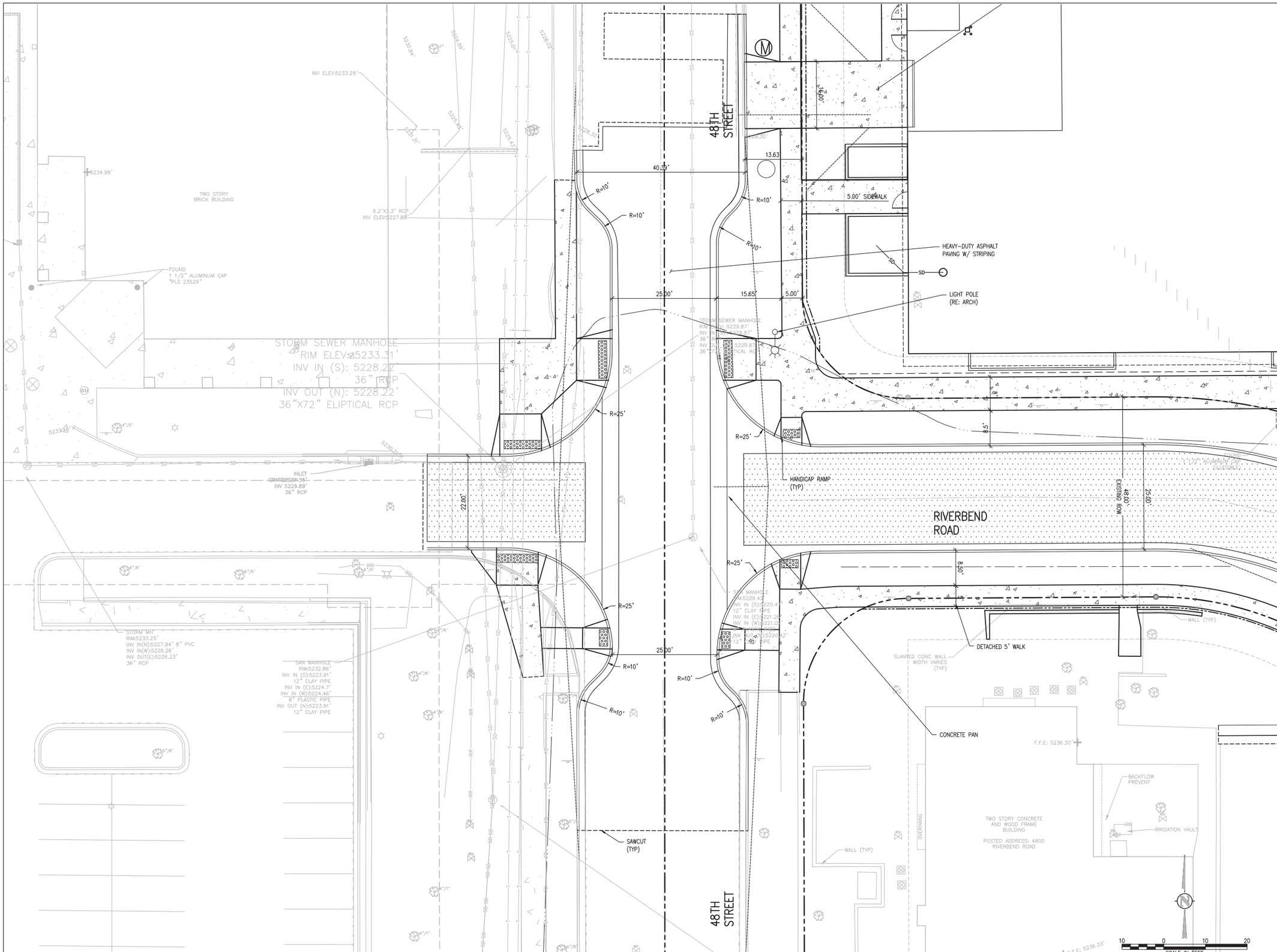

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BOULDER COMMUNITY HEALTH RIVERBEND MEDICAL PAVILION AND PARKING GARAGE

SITE REVIEW

LUR2016-00038-40

SHEET TITLE
ENLARGED 48TH STREET INTERSECTION PLAN

SHEET NUMBER
C3.1

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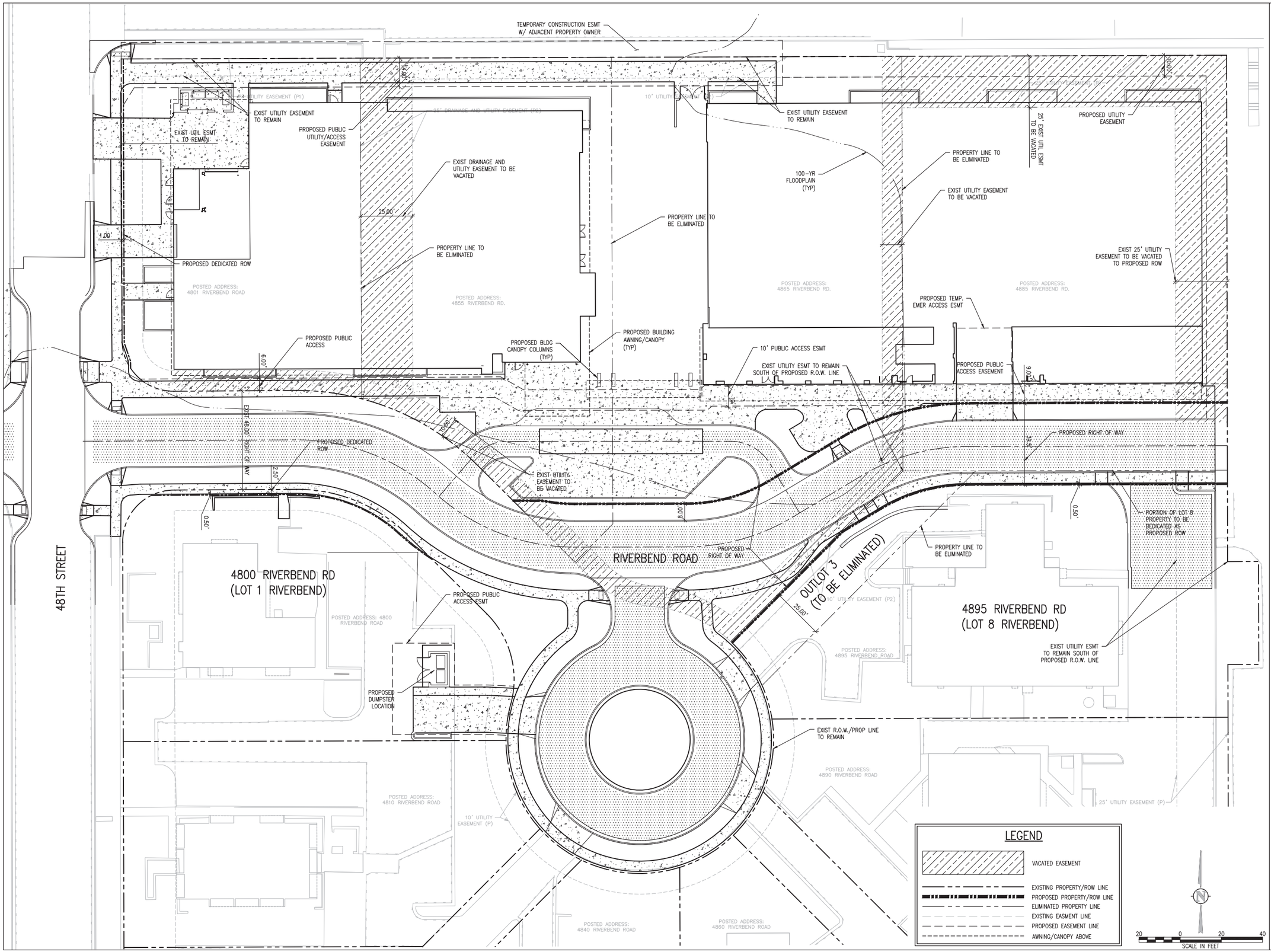

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SITE REVIEW

LUR2016-00038-40

SHEET TITLE
EASEMENT AND RIGHT-OF-WAY PLAN

SHEET NUMBER
C5.0

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FOX TUTTLE HERNANDEZ
TRANSPORTATION GROUP

MEMORANDUM

To: City of Boulder Development Review

From: Bill Fox, PE and Cassie Slade, PE

Date: September 1, 2016

Project: Boulder Community Hospital Medical Pavilion and Parking Garage

Subject: Transportation Demand Management Plan (Revised August 2016)

Boulder Community Health (BCH) is committed to ongoing efforts to increase the employee and physician use of alternative modes of transportation to and from the campus as well as improving the parking management for the foothills campus. Over the next few years, the existing programs will be evaluated and additional efforts and incentives will be considered to reduce the number of employees who drive individually to work each day. These efforts will be facilitated through the BCH Sustainability Coordinator and are consistent with the other health and wellness activities.

BCH is proposing to replace four existing buildings with one larger building and a parking garage to accommodate existing and new services in the Riverbend Medical Center. The project site is located in Boulder, CO just north of Arapahoe Avenue and east of Foothills Parkway. In accordance with the City of Boulder site review process, a Transportation Demand Management (TDM) Plan is required which outlines strategies to mitigate traffic impacts created by the proposed expansion and implementable measures for promoting alternate modes of travel.

The new BCH building will be located on the north edge of Riverbend, adjacent to Ball Aerospace. BCH proposes to construct one building with approximately 70,300 gross square feet (sq. ft.) and one parking structure that will provide 406 parking spaces (250 stalls to serve the Medical Center and 160 are overflow for the BCH campus). There will also be four van accessible parking spaces within the drop-off area for a total of 410 spaces. The parking structure includes 4,829 sq. ft. of accessory/retail space. The project is located in an urban, mixed-use environment and will take advantage of nearby pedestrian, bicycle, and

P.O. BOX 19768, BOULDER, COLORADO 80308-2768
PHONE: 303.652.3571 | WWW.FTHTRANSGROUP.COM

transit connections. Currently, there is a multi-use path on the north side of Arapahoe Avenue that services bicyclists and pedestrians. This path leads to other city and regional bike/ped facilities. Regional and local bus routes can be accessed on Arapahoe Avenue within close proximity to the project site. Arapahoe Avenue serves as major transit corridor with the JUMP and Flatiron Flyer #6 routes served directly adjacent to the site. The JUMP connects Boulder to Lafayette, while the new Flatiron Flyer #6 connects to downtown Denver. There are bus stops in both directions adjacent to the hospital.

The following text discusses specific TDM measures proposed within the context of site planning and programming for the expansion that are in addition to the strategies already implemented:

Management and Parking Strategies:

- *Sustainability Coordinator*: Continue to provide a coordinator that manages the transportation needs, barriers, incentives, programs, etc. This staff member will provide employees with important travel information including transit maps and schedules, bicycle maps, local and regional marketing campaigns, and information on the commute benefits provided to employees. They will assist in coordinating alternative modes for employees.

- *Parking:* 206 standard, 180 compact, 14 regular accessible, 5 electric vehicle, 1 electric vehicle accessible parking spaces (406 total) are proposed inside the parking garage. There will also be four van handicap parking spaces within the drop-off area (1 will have an electric vehicle charge station). There is a total of 410 parking spaces provided on-site. The code requires 250 total parking spaces (ratio of 1 per 300 square feet) section 9-9-6 (b)(3), B.R.C. 1981 and the development proposes to increase the provided parking by 160 spaces within the parking garage to accommodate some of the parking demand on the Foothills Campus of BCH.

    - Some parking spaces will be designated for carpools and vanpools within the parking garage.

    - There will be seven spaces designated as charging stations for electric vehicles (5 standard, 1 handicap, and 1 van handicap).

    - The purpose of the additional spaces is to provide a “shared” parking environment for the various uses for the entire medical campus.

Facilities and Design:

- *Bicycle Parking:* The entire site plan provides for a total of 68 bicycle parking spaces. Pursuant to section 9-9-6 (g)(1), B.R.C. 1981, bicycle parking requires 1 per 1,500 square feet of hospital use (P Zoning). The BCH Medical Pavilion and Parking Garage project proposes to provide more than the required number of bicycle parking spaces (50 required). There will be 40 long-term and 28 short-term bike parking spaces. The long-term parking will be located in the parking garage on the first level near the west staircase for security and easy access to the central courtyard. The short-term bike parking will be located near the main entrance, near the staff entry on the north side of the building, and near the west retail frontage by the drop-off area.

- *Bicycle Access*: Bicycle access to the site is provided for by an off-street multi-use path along the north side of Arapahoe Avenue. Bicyclists can reach the new building via 48th Street. There is also a direct path connection to the Boulder Creek Path from the north end of 48th Street.

- *Bicycle Amenities*: In addition to the range of bicycle parking spaces described above and shown on the site plan there will be a collective bike tool/repair spaces and storage for bike trailers provided near the long-term bike parking area.

- *On-Site Amenities*: Showers and changing facilities will be provided for employees.

- *B-Cycle*: Encourage bike share with the B-Cycle station that exists adjacent to the hospital.

Incentives Strategies:

The applicant will provide the following incentive strategies to reduce single-occupant vehicles:

- *Employee EcoPasses*: RTD EcoPasses will be provided for the employees. BCH was the first employer to provide EcoPasses for their employees free of charge. Employees continue to experience barriers in using RTD services to accommodate their work and life schedule. BCH will facilitate “commuter consultations” to identify and reduce these barriers.

- *eGo Carshare*: The project will consider providing one parking space that will be reserved for an eGo Carshare vehicle.

- *Employee Carpools*: The project proposes to enhance the virtual “bulletin board” for employees to identify other employees from their home locations that have similar work schedules. There will be parking spaces designated for carpools.

- *Guaranteed Ride Home Program:* This currently exists and the Sustainability Coordinator will increase the awareness of the program amongst all staff to ensure all employees can travel from the medical center when they do not have a vehicle to use.

Marketing Strategies:

- *Walk and Bike Month* takes place in June and is organized by GO Boulder and Community Cycles, a local non-profit that promotes a culture of cycling in Boulder. The applicant will actively encourage employees to register and participate in Bike to Work Day (June) or Winter Bike to Work Day (January).

- *Orientation packets*: Applicant will provide GO Boulder Orientation Packets to employers that will include bus/bike maps and other information on transportation projects.

- *TDM Plan evaluation*: Applicant will facilitate the distribution of GO Boulder-provided periodic surveys of employee travel behavior to evaluate the TDM Plan. The survey is designed to collect anonymous travel information and takes less than 10 minutes to complete.

Other Strategies:

BCH is committed to improving the mode share amongst the employees, patients, and visitors. The staff plan to:

- Review policies to reduce barriers for the employees by allowing choices for alternative modes of transportation to the campus:
    - Flexible work schedules
    - Telecommuting options
    - Other incentives identified from employees
- Identify opportunities for accessing the campus from satellite parking areas and popular transit stops.
- Evaluate the needs of the Non-BCH employees on campus and how they might integrate into the BCH programs and plans.

- Continue to partner with community resources and neighbors to reduce barriers for commuters and provide additional means of access to the campus from a regional perspective. These partners include, but are not limited to:
    - Boulder Transit Connections (BCH is a founding member)
    - Via Mobility Services (patients)
    - Go Boulder
    - RTD
    - Ball Aerospace
    - City of Boulder
    - Boulder County
- Remove snow quickly from sidewalks and roadways to maximize access by transit users, bicyclists, and pedestrians.

/CRS

FOX TUTTLE HERNANDEZ
TRANSPORTATION GROUP

MEMORANDUM

To: City of Boulder Development Review

From: Bill Fox, PE and Cassie Slade, PE

Date: September 1, 2016

Project: Boulder Community Hospital Medical Pavilion and Parking Garage

Subject: **Existing Parking Utilization at BCH Campus and Proposed Management of New Parking at the BCH Campus and Medical Pavilion**

The proposed new 70,000 sq. ft. BCH Medical Pavilion is planned to include a 406 space parking garage, and four additional spaces near the main building entrance (total of 410 parking spaces). It is our understanding that 250 of these spaces are to serve the parking needs of the new medical facility, and the remaining 160 spaces are proposed to serve as additional parking for the existing BCH campus on the west side of 48th Street. This additional parking is being proposed in response to the fact that the parking utilization on the BCH campus is high during peak times, and complaints are frequently heard about the lack of available parking. At a recent City of Boulder Planning Board meeting the request was made to provide information about the current utilization of parking on the BCH campus to help justify the need for additional parking at the new Medical Pavilion. As a result, a parking utilization study at the existing BCH campus was completed in March of this year.

Currently the BCH campus on the west side of 48th Street has approximately 440,000 sq. ft. of floor area and 1,169 parking spaces in a variety of surface lots and parking structures. There are also 45 to 50 available on-street spaces along 48th Street that appear to be utilized by hospital employees or visitors. The parking utilization of these spaces was monitored hourly on Tuesday, March 29th from 6:00 AM until 8:00 PM to determine the existing demand for parking on the BCH campus. The results of this study are detailed on the attached parking utilization table. Key observations include:

- The existing campus has a parking supply rate of approximately 2.7 spaces per 1,000 sq. ft. of floor area. Institute of Transportation Engineers (ITE) parking supply data indicates that suburban hospitals typically provide parking at 3.0 spaces per 1,000 sq. ft. and urban hospitals typically provide parking at 4.5 spaces per 1,000 sq. ft.

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- The parking utilization peaks between 10:00 AM and Noon, with a peak occupancy of 90%. During these peak hours the surface lots at the hospital are 90% to 100% full and most of the parking spaces that do exist are in the large parking structure, which to any unfamiliar visitor or patient may be difficult to find.

- Studies have shown that parking occupancies higher than 85% are perceived to be full by visitors or non-employees who are looking for a place to park.

- Parking utilization remains high (greater than 80%) from 9:00 AM through 4:00 PM.

- The BCH campus has a peak parking demand rate of 2.5 spaces per 1,000 sq. ft. of floor area. The ITE national database indicates that suburban hospitals typically demand parking at 2.5 spaces per 1,000 sq. ft., while more urban hospitals typically demand parking at 3.7 spaces per 1,000 sq. ft.

- In this context, the BCH campus has a parking supply rate that is less than the national average, while it has a parking demand rate that is equal to the national average for suburban hospitals. This helps explain the current concerns about available parking at the BCH campus.

- Given the variety of parking lots and garages on the campus and the dispersed layout of the parking supply, it is likely that at peak times the BCH parking appears full to even employees that are familiar with the campus.

In this context, the new parking garage at the Medical Pavilion could provide additional parking supply for the existing BCH campus. If employees of the existing campus park in the new parking garage at the Pavilion it will free up spaces on the existing campus for visitors and patients. For example, if 10% of the current parking demand (approx. 110 parked vehicles) were to be shifted to the new structure, then the peak parking demand at the existing campus could be maintained at approximately 80%, and unfamiliar visitors or patients would have an easier time finding a place to park at the BCH campus.

If the entire overflow capacity of 160 spaces in the new Medical Pavilion garage are considered as additional supply for the existing campus, then the BCH campus would provide parking at the lower end of the range for hospitals in the national ITE database ((1,169 + 160)/440 = 3.0 spaces per 1,000 sq. ft. of floor area).

If these 160 spaces in the new parking structure are to provide additional parking supply and thereby increase the availability of parking for staff, patients and visitors on the existing BCH campus, then BCH management will need to institute steps to require some of the staff and

employees of the existing campus to park in the new structure. These steps are outlined below in a response to this issue provided by BCH:

> *Applicant Response: The parking ratio for the new medical pavilion at Riverbend results in 250 required stalls. We are providing an additional 160 stalls for a site total of 410. In the Riverbend garage there will be individual signs placed at each parking stall to reserve the first 130 stalls as 'Patient Parking Only'. The remainder of the required stalls (120) will be signed to reserve for 'Riverbend Medical Pavilion Parking Only'. The uppermost 156 garage spaces will be left unsigned and available for Foothills hospital staff with required hang-tag id provided in the vehicles.*
>
> *The additional 160 parking spaces at Riverbend is enough to alleviate the parking challenges currently being experienced on the Foothills campus, as demonstrated by the memorandum ('Existing Parking Utilization at BCH Campus') included at the end of the TIS report submitted with the original Site Review application* (and updated above). *Since the Riverbend garage will support Foothills staff, this will alleviate the parking demands currently being experienced on the Foothills campus and will be able to dedicate more parking, closer to the end destination, for Foothills patients. The Foothills parking garage will now be reserved patient parking only, with limited stalls reserved for critical staff (i.e. on-call physicians), and the uppermost level to support the free valet program. All employees will be assigned to a parking area (i.e. Riverbend garage, west lot) and be required to display appropriate hang-tags in their vehicles. Security guards will continue to monitor the Foothills campus and garage for any violators.*
>
> *BCH is committed to ongoing efforts to increase their employee and physician use of alternative modes of transportation to and from the campus as well as improving parking management for the campus. These current methods and additional measures were included on page 4 of the 'Written Statement' submitted with the original Site Review application.*

It can be seen that BCH is committed to providing and managing the necessary parking on the BCH campus.

I hope this information is helpful

/BF

Case #: LUR2016-00038, 00039 & 00040

Project Name: BCH Riverbend

Date Sept. 26, 2016

CRITERIA FOR REVIEW

BVCP Land Use Map Change

The Land Use Map is not intended to be a zoning map. It is intended to provide policy direction and definition for future land uses in the Boulder Valley. Thus, a change to the land use designations may be considered at any time if it is related to a proposed change in zoning or proposed annexation and meets all of the following criteria:

(a) The proposed change is consistent with the policies and overall intent of the comprehensive plan.

The proposal to change the BVCP Land Use Map designation is consistent with the intent of the comprehensive plan to promote the physical health and well-being of residents of the Boulder Valley. The BVCP strives to "*maintain a high quality of life for all of its residents*" by "*providing facilities and services, among are human service programs and a focus on promoting cultural, social and economic equity*." More specifically, the following policies on economic and social sustainability are relevant:

BVCP Policy 1.03 Principles of Economic Sustainability The city and county will strive to develop and maintain a healthy, adaptable economy that is vital to the community's quality of life and high level of services and amenities by:

a) Promoting a diverse economy that supports the needs of all community members;
b) Promoting a qualified and diversified work force that meets employers' needs and supports a range of jobs; and
c) Providing for and investing in a quality of life, unique amenities, and infrastructure that attracts, sustains, and retains businesses and entrepreneurs.

BVCP Policy 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.

The Public Land Use Designation is described as follows:

> *Public/Semi-Public land use designations encompass a wide range of public and private nonprofit uses that provide a community service. This category includes municipal and public utility services such as the municipal airport, water reservoirs, and water and wastewater treatment plants. Public/Semi-Public also includes: educational facilities, including public and private schools and the university; government offices such as city and county buildings, libraries, and the jail; government laboratories; and nonprofit facilities such as cemeteries, churches, hospitals, retirement complexes and may include other uses as allowed by zoning.*

The requested Public land use designation would allow for the expansion of the Boulder Community Health facility consistent with the following BVCP policies:

BVCP Policy 2.17 Variety of Activity Centers
BVCP Policy 8.01 Provide for a Broad Spectrum of Human Needs

BVCP Policy 8.07 Physical Heath
BVCP Policy 8.10 Support for Community Facilities

(b) The proposed change would not have significant cross-jurisdictional impacts that may affect residents, properties or facilities outside the city.

The proposed change is meant to facilitate the expansion of health services in a single location for the Boulder Valley. The change would allow for more efficient provision of services and enhance access to services for residents of the area. There would be no significant cross-jurisdictional impacts to residents, properties or facilities outside the city.

(c) The proposed change would not materially affect the land use and growth projections that were the basis of the comprehensive plan.

The proposed land use designation change is necessary to facilitate a new hospital facility on the site and will not materially affect the land use and growth projections that were the basis of the comprehensive plan.

(d) The proposed change does not materially affect the adequacy or availability of urban facilities and services to the immediate area or to the overall service area of the City of Boulder.

The proposed land use designation change is necessary to facilitate a new hospital facility on the site and will not materially affect the adequacy or availability of urban facilities and services to the immediate area or to the overall service area of the City of Boulder. Infrastructural upgrades necessary to serve the redevelopment will be evaluated and required as part of the Site Review process.

(e) The proposed change would not materially affect the adopted Capital Improvements Program of the City of Boulder.

The proposed land use designation change is necessary to facilitate a new hospital facility on the site and will not materially affect the adopted Capital Improvements Program of the City of Boulder.

(f) The proposed change would not affect the Area II/Area III boundaries in the comprehensive plan.

The proposed change is within Area I and would have no impact on the Area II/Area III boundaries in the comprehensive plan.

Rezoning

Criteria: The city's zoning is the result of a detailed and comprehensive appraisal of the city's present and future land use allocation needs. In order to establish and maintain sound, stable and desirable development within the city, rezoning of land is to be discouraged and allowed only under the limited circumstances herein described. Therefore, the city council shall grant a rezoning application only if the proposed rezoning is consistent with the policies and goals of the Boulder Valley Comprehensive Plan, and, for an application not incidental to a general revision of the zoning map, meets one of the following criteria:

The proposal to change the BVCP Land Use Map designation is consistent with the intent of the comprehensive plan to promote the physical health and well-being of residents of the Boulder Valley. The BVCP strives to "*maintain a high quality of life for all of its residents*" by "*providing facilities and services, among are human service programs and a focus on promoting cultural, social and economic equity*." More specifically, the following policies on

economic and social sustainability are relevant:

BVCP Policy 1.03 Principles of Economic Sustainability *The city and county will strive to develop and maintain a healthy, adaptable economy that is vital to the community's quality of life and high level of services and amenities by:*

a) Promoting a diverse economy that supports the needs of all community members;
b) Promoting a qualified and diversified work force that meets employers' needs and supports a range of jobs; and
c) Providing for and investing in a quality of life, unique amenities, and infrastructure that attracts, sustains, and retains businesses and entrepreneurs.

BVCP Policy 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.

The Public Land Use Designation is described as follows:

Public/Semi-Public land use designations encompass a wide range of public and private nonprofit uses that provide a community service. This category includes municipal and public utility services such as the municipal airport, water reservoirs, and water and wastewater treatment plants. Public/Semi-Public also includes: educational facilities, including public and private schools and the university; government offices such as city and county buildings, libraries, and the jail; government laboratories; and nonprofit facilities such as cemeteries, churches, hospitals, retirement complexes and may include other uses as allowed by zoning.

The requested Public land use designation would allow for the expansion of the Boulder Community Health facility consistent with the following BVCP policies:

BVCP Policy 2.17 Variety of Activity Centers
BVCP Policy 8.01 Provide for a Broad Spectrum of Human Needs
BVCP Policy 8.07 Physical Heath
BVCP Policy 8.10 Support for Community Facilities

(1) The applicant demonstrates by clear and convincing evidence that the proposed rezoning is necessary to come into compliance with the Boulder Valley Comprehensive Plan map;

Based on the staff recommendation to amend land use map designation to advance BVCP policies and goals and consistent with the criteria the BVCP included in the analysis above, and assuming the land use map is amended to reflect this analysis, the rezoning becomes necessary to come into compliance with the Boulder Valley Comprehensive Plan map. The Public land use map designation and P zoning would therefore match.

(2) The existing zoning of the land was the result of a clerical error;

(3) The existing zoning of the land was based on a mistake of fact;

(4) The existing zoning of the land failed to take into account the constraints on development created by the natural characteristics of the land, including, but not limited to, steep slopes, floodplain, unstable soils and inadequate drainage;

(5) The land or its surrounding environs has changed or is changing to such a degree that it is in the public interest to encourage a redevelopment of the area or to recognize the changed character of the area; or

(6) The proposed rezoning is necessary in order to provide land for a community need that was not anticipated at the time of adoption of the Boulder Valley Comprehensive Plan.

Site Review

Staff's analysis of the compliance with these criteria will be completed upon submission of additional materials and modifications and at the time of staff recommendation to Planning Board.

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.

The proposal requires a BVCP land use map change to apply Public land use. This is necessary to permit a hospital use on properties that are located proximate to the Boulder Community Health facility at 48th and Arapahoe. Consistent with the analysis for the BVCP Land Use Map change, the proposal to develop the properties with a new medical/hospital facility would be consistent with the intent of the BVCP, Community Well Being policies as well as the policies below more specifically related to land development:

- BVCP Policy 2.03 Compact Development Pattern
- BVCP Policy 2.21 Commitment to a Walkable and Accessible City
- BVCP Policy 2.21 Mixed Use
- BVCP Policy 2.36 Design Excellence for Public Projects
- BVCP Policy 4.04 Energy-Efficient Land Use
- BVCP Policy 6.12 Neighborhood Street 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

(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. The site is not under a residential land use designation and will contain no residential uses.

(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.

The project will not be rendered infeasible as a result of meeting these criteria.

(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:

(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 site plan includes a courtyard between the medical building and parking garage that is well landscaped and with seating walls that will encourage use. Quality landscaping is found within the space as well as around a seating area and along pathways through the site. The spaces will be functional and include a mix of sun and shade.

(ii) Private open space is provided for each detached residential unit;

Not applicable to a non-residential project.

(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;

The site, including four properties, is already developed with four buildings and contains no nature features necessitating preservation.

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

Open space on the site is greater than 30 percent on the site which exceeds the required 20 percent based on the building heights. The site is well landscaped and complements and surrounds the buildings providing relief to the density on the site and from surrounding development.

(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 size and location of the proposed open space is appropriate to a medical use. Active recreational uses would not be expected for the use of the property.

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

The property does not contain any existing sensitive environmental features or natural areas. The site is associated with the Boulder Community Health

Foothills Hospital site, which includes substantial preserved areas of 17 acres in the floodplain areas of Boulder Creek.

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

The proposed pathways on the site would connect to the city's existing sidewalk system and will be convenient access to nearby multi-use paths as well as the Boulder Creek Path.

(B) Open Space in Mixed Use Developments (Developments That Contain a Mix of Residential and Nonresidential Uses):

(i) The open space provides for a balance of private and shared areas for the residential uses and common open space that is available for use by both the residential and nonresidential uses that will meet the needs of the anticipated residents, occupants, tenants and visitors of the property; and

(ii) The open space provides active areas and passive areas that will meet the needs of the anticipated residents, occupants, tenants and visitors of the property and are compatible with the surrounding area or an adopted plan for the area.

Not applicable. There is no residential component to the project.

(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;

Planting areas fill the majority of areas around the buildings and along circulation ways create an attractive environment and a contrast to other hard scape areas on the site.

(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;

The four properties are already developed and therefore, there would be no impact to existing natural environment.

(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 proposal includes a significant amount of plantings that exceed the city landscaping requirements and with a variety that contributes to visual interest of the site.

(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.

As stated above, areas along the streetscape would be landscaped in excess of city requirements and will contribute to the development of an attractive site plan.

(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;

The reconfigured Riverbend Road will relatively narrow and include curves and a round-a-bout that would not be conducive to high speeds.

(ii) Potential conflicts with vehicles are minimized;

Potential conflicts with vehicles would be minimized by slowing the speeds of vehicles with the design and placing vehicle entries to the interior of the site so that visitors can follow wayfinding signs to parking and drop-off areas. The curbs and entry points have been designed to avoid vehicle conflict points.

(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, pedestrian ways and trails;

Although there is not a transportation connections plan applicable the area, Riverbend Road has been designed to enable a future connection to the Ball Aerospace property on the east side should that property redevelop and connect in the future. This would make a street connection to Commerce Street to the east possible. Further, sidewalks and walkways are provided throughout the site provided safe and convenient access to the medical pavilion and parking garage as well as to the other Riverbend properties. A new wider sidewalk and burb out of 48th Street on the west side of the site would enable a safer pedestrian connection to the Boulder Community Health facility to the west. Pedestrian crossings are limited to key points on the site and are designed for the safety and convenience of pedestrians.

(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 site design includes wide pathways and conveniently located bike racks to encourage biking. Sidewalks provide enhanced pedestrian access to the medical use as well as the other Riverbend properties.

(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 been required to prepare a Transportation Demand Management (TDM) plan which includes but is not limited to carpool parking, EV charging stations, a bike repair station and EcoPasses for all employees.

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

Sidewalks and pathways on the site connect to existing sidewalks which enable access to a multi-use path along Arapahoe Avenue to the south and the Boulder Creek Path to the north via an existing bridge.

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

The circulation on the site is minimum necessary to provide access to the new medical pavilion and parking and the existing Riverbend offices.

(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.

(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;

Most parking will be within the proposed parking structure. Once visitors are parked they will just need to traverse the proposed courtyard space before entering the medical building. This design separates the pedestrian flow from vehicular movements outside of the garage.

(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;

Surface parking is limited to four spaces within the remaining 400+ parking spaces provided within a six level parking structure. The parking needs of the project would be efficient met with this structure.

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

Impacts to adjacent properties would be minimal as the site is surrounded by the industrial facilities of Ball Aerospace. No impacts from parking or lighting are anticipated.

(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.

Landscaping is provided around the four surface parking spaces and would provide appropriate shade and screening of parking.

(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 character of the area is eclectic and contains a variety of building forms, heights and uses ranging from multi-family residential, transitional business, strip commercial to light industrial and medical uses. The proposed buildings would not be unlike the scale and design of buildings present in the area and particularly near to the site on the Boulder Community Health Foothill's Hospital and the Ball Aerospace campus. The general design of the buildings borrow from the designs and materiality of the existing hospital and medical buildings to the west and are oriented in an east-west orientation much like most of the buildings on the north side of the Arapahoe Avenue. Therefore, it can be concluded that the height, mass, scale, orientation, architecture and configuration of the proposed buildings will be compatible with the existing character of the area.

(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;

The buildings are proposed to be a maximum of 55 feet. This height would match that of several nearby structures including the Ball Aerospace buildings immediately to north and the existing hospital complex to the south. Another Ball Aerospace building to the east exceeds the 55-foot height limit and is considered nonconforming because it predates the current height limit. Therefore, the eight of the proposed buildings is in general proportion to the heights of existing buildings in the immediate area.

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

The proposed buildings will not block any prominent views from adjacent properties. The buildings are proposed just to the south of a large window less Ball Aerospace facility where satellites are constructed. Shadows would be minimized and would fall into the mostly alley-like utilitarian area between the subject property and the Ball Aerospace site discussed above.

(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 area is eclectic and contains a variety of building forms, heights and uses ranging from multi-family residential, transitional business, strip commercial to light industrial and medical uses. The proposed buildings would not be unlike the scale and design of buildings present in the area and particularly near to the site on the Boulder Community Health Foothill's Hospital and the Ball Aerospace campus. The general design of the buildings borrow from the designs and materiality of the existing hospital and include similar building materials and color pallet as the Boulder Community Health Foothills hospital with its use of brick, copper and metal components. The proposed buildings will be compatible with the nearby buildings.

(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;

The proposed medical building has a high level of window glazing on all levels promoting a positive pedestrian experience. The proposed parking structure, also will have a storefront system for the accessory retail that will be conducive to the pedestrian experience. Further, to mitigate the concrete structural appearance of the garage, custom perforated metal screens would be applied to the structure and etched with patters to enhance visual interest.

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

As a hospital, the use is a critical public facility, the expansion of which will better provide for the needs of the community in a highly accessible location.

(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;

Not applicable to a non-residential project.

(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;

Not applicable to a non-residential project.

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

A lighting plan will be required at time of Technical Documents to determine compliance with section 9-9-16, B.R.C. 1981.

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

The proposed project is upon an already developed site and will not adversely impact any natural systems.

(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;

The project includes solar panels on the roof of the medical building and parking structure and EV charging stations within the parking garage. An efficient heating and cooling system intended to preserve energy is intended to be implemented as part of the project.

(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;

The buildings will be constructed with brick, concrete, metal and wood and will appear substantial and evoke a sense of permanence akin to the quality seen in the Boulder Community Health Foothills facility.

(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 two buildings would not contain subterranean space and cut and fill would be limited to necessary contouring for the building footprints, open spaces and construction of a new roadway.

(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

The property is found within Area I and not in the urbanizing areas between Area II and III.

(xv) In the urbanizing areas located on the major streets shown on the map in Appendix A to 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.

See (xiv) above.

(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 nature of the circulation and placement of open space south of the buildings will keep areas free from development and thus, would not create any long term impacts such as shading from other buildings.

(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 buildings are sited on the north side of the Riverbend Office Park PUD and will not be impacted by the lower scaled buildings to the south.

(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.

Both buildings have flat roofs that are conducive to solar installations.

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

The buildings are proposed at 55-feet and will not be impacted by adjacent landscaping.

(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:

(i) The light pole is required for nighttime recreation activities which are compatible with the surrounding neighborhood, light or traffic signal pole is required for safety or the electrical utility pole is required to serve the needs of the City; and

(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.

Not applicable to this project.

(I) Land Use Intensity Modifications:

(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 twenty-five percent in the BR-1 district through a reduction of the lot area requirement.

(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:

a. Open Space Needs Met: The needs of the project's occupants and visitors for high quality and functional useable open space can be met adequately;

b. Character of Project and Area: The open space reduction does not adversely affect the character of the development or the character of the surrounding area; and

c. Open Space and Lot Area Reductions: The specific percentage reduction in open space or lot area requested by the applicant is justified by any one or combination of the following site design features not to exceed the maximum reduction set forth above:

1. Close proximity to a public mall or park for which the development is specially assessed or to which the project contributes funding of capital improvements beyond that required by the parks and recreation component of the development excise tax set forth in chapter 3-8, "Development Excise Tax," B.R.C. 1981: maximum one hundred percent reduction in all Downtown (DT) districts and ten percent in the BR-1 district;

2. Architectural treatment that results in reducing the apparent bulk and mass of the structure or structures and site planning which increases the openness of the site: maximum five percent reduction;

3. A common park, recreation or playground area functionally useable and accessible by the development's occupants for active recreational purposes and sized for the number of inhabitants of the development, maximum five percent reduction; or developed facilities within the project designed to meet the active recreational needs of the occupants: maximum five percent reduction;

4. Permanent dedication of the development to use by a unique residential population whose needs for conventional open space are reduced: maximum five percent reduction;

5. The reduction in open space is part of a development with a mix of residential and nonresidential uses within a BR-2 zoning district that, due to the ratio of residential to nonresidential uses and because of the size, type and mix of dwelling units, the need for open space is reduced: maximum fifteen percent reduction; and

6. The reduction in open space is part of a development with a mix of residential and nonresidential uses within a BR-2 zoning district that provides high quality urban design elements that will meet the needs of anticipated residents, occupants, tenants and visitors of the property or will accommodate public gatherings, important activities or events in the life of the community and its people, that may include, without limitation, recreational or cultural amenities, intimate spaces that foster social interaction, street furniture, landscaping and hard surface treatments for the open space: maximum twenty-five percent reduction.

Not applicable to this project.

(J) Additional Criteria for Floor Area Ratio Increase for Buildings in the BR-1 District:

(i) Process: For buildings in the BR-1 district, the floor area ratio ("FAR") permitted under Table 8-2, Section 9-8-2, "Floor Area Ratio Requirements," B.R.C. 1981, may be increased by the city manager under the criteria set forth in this subparagraph.

(ii) Maximum FAR Increase: The maximum FAR increase allowed for buildings thirty-five feet and over in height in the BR-1 district shall be from 2:1 to 4:1.

(iii) Criteria for the BR-1 District: The FAR may be increased in the BR-1 district to the extent allowed in subparagraph (h)(2)(J)(ii) of this section if the approving agency finds that the following criteria are met:

a. Site and building design provide open space exceeding the required useable open space by at least ten percent: an increase in FAR not to exceed 0.25:1.

b. Site and building design provide private outdoor space for each office unit equal to at least ten percent of the lot area for buildings twenty-five feet and under and at least twenty percent of the lot area for buildings above twenty-five feet: an increase in FAR not to exceed 0.25:1.

c. Site and building design provide a street front facade and an alley facade at a pedestrian scale, including, without limitation, features such as awnings and windows, well-defined building entrances and other building details: an increase in FAR not to exceed 0.25:1.

d. For a building containing residential and nonresidential uses in which neither use comprises less than twenty-five percent of the total square footage: an increase in FAR not to exceed 1:1.

e. The unused portion of the allowed FAR of historic buildings designated as landmarks under chapter 9-11, "Historic Preservation," B.R.C. 1981, may be transferred to other sites in the same zoning district. However, the increase in FAR of a proposed building to which FAR is transferred under this subparagraph may not exceed an increase of 0.5:1.

f. For a building which provides one full level of parking below grade, an increase in FAR not to exceed 0.5:1 may be granted.

Not applicable to this project.

(K) Additional Criteria for Parking Reductions: The off-street parking requirements of Section 9-9-6, "Parking Standards," B.R.C. 1981, may be modified as follows:

(i) Process: The city manager may grant a parking reduction not to exceed fifty percent of the required parking. The planning board or city council may grant a reduction exceeding fifty percent.

(ii) Criteria: Upon submission of documentation by the applicant of how the project meets the following criteria, the approving agency may approve proposed modifications to the parking requirements of Section 9-9-6, "Parking Standards," B.R.C. 1981 (see tables 9-1, 9-2, 9-3 and 9-4), if it finds that:

a. For residential uses, the probable number of motor vehicles to be owned by occupants of and visitors to dwellings in the project will be adequately accommodated;

b. The parking needs of any nonresidential uses will be adequately accommodated through on-street parking or off-street parking;

c. A mix of residential with either office or retail uses is proposed, and the parking needs of all uses will be accommodated through shared parking;

d. If joint use of common parking areas is proposed, varying time periods of use will accommodate proposed parking needs; and

e. If the number of off-street parking spaces is reduced because of the nature of the occupancy, the applicant provides assurances that the nature of the occupancy will not change.

Not applicable to this project.

(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:

(i) The lots are held in common ownership;

(ii) The separate lot is in the same zoning district and located within three hundred feet of the lot that it serves; and

(iii) The property used for off-site parking under this subparagraph continues under common ownership or control.

Not applicable to this project.

<u>Use Review</u>

Criteria for Review: No use review application will be approved unless the approving agency finds all of the following:

(1) Consistency with Zoning and Nonconformity: The use is consistent with the purpose of the zoning district as set forth in section 9-5-2, "Zoning Districts," B.R.C. 1981, except in the case of a nonconforming use;

The proposed use of parking as a principal use is a use permitted with use review approval within the P, Public, zone district and is a use that is necessary to serve the Foothill Community Hospital.

(2) Rationale: The use either:

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

The use will reduce adverse impacts to the surrounding uses and neighborhood by relieving some of the constrained parking conditions of the adjacent hospital by providing additional parking for hospital employees on the site and thereby reducing adverse impacts on parking in the area.

(B) Provides a compatible transition between higher intensity and lower intensity uses;

(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 nonresidential mixed uses in appropriate locations and group living arrangements for special populations; or

(D) Is an existing legal nonconforming use or a change thereto that is permitted under subsection (f) 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 parking garage is consistent with the scale and size of the parking garage on the adjacent Foothill Hospital site and is designed to be as attractive as possible with interesting metallic screens and brick to match the proposed medical building and hospital. It is adjacent to other structures of greater scale and thus will be compatible with existing development.

(4) Infrastructure: As compared to development permitted under section 9-6-1, "Schedule of Permitted Land Uses," B.R.C. 1981, in the zone, or as compared to the existing level of impact of a nonconforming 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;

No adverse impacts to infrastructure would occur as a result of the parking use.

(5) Character of Area: The use will not change the predominant character of the surrounding area or the character established by adopted design guidelines or plans for the area; and

The parking garage is designed with brick and metallic screens that are similar to that used within the Boulder Community Health campus immediately to the west. It will appear consistent with the predominant character of the surrounding area as a result.

(6) Conversion of Dwelling Units to Nonresidential Uses: There shall be a presumption against approving the conversion of dwelling units in the residential zoning districts to nonresidential uses that are allowed pursuant to a use review, or through the change of one nonconforming use to another nonconforming 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 daycare center, park, religious assembly, social service use, benevolent organization use, art or craft studio space, museum or an educational use.

Not applicable.

CITY OF BOULDER
Planning and Development Services

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CITY OF BOULDER
LAND USE REVIEW RESULTS AND COMMENTS

DATE OF COMMENTS:	**June 24, 2016**
CASE MANAGER:	**Karl Guiler**
PROJECT NAME:	**Boulder Community Health – Riverbend Medical Center and Parking Garage**
LOCATION:	**4801, 4855, 4865, and 4885 Riverbend Road (directly east of existing Boulder Community Health Foothills campus)**
COORDINATES:	**N03W01**
REVIEW TYPES:	**BVCP Land Use Map Change, Rezoning, Site Review and Use Review**
REVIEW NUMBER:	**LUR2016-00038 (BVCP Land Use Map Change), LUR2016-00039 (Rezoning) and LUR2016-00040 (Site and Use Review)**
APPLICANT:	**Darryl Brown for Boulder Community Health**

DESCRIPTION:

1) BOULDER VALLEY COMPREHENSIVE PLAN (BVCP) LAND USE MAP CHANGE: Proposal to change the underlying BVCP Land Use Designation on the Riverbend Road site from Transitional Business to Public as a part of the requests below (Case No. LUR2016-00038);

2) REZONING: In conjunction with the requested land use map change discussed above, a rezoning from BT-2 (Business Transitional – 2) to P (Public) is requested (Case No. LUR2016-00038);

3) SITE REVIEW: Request to amend the Riverbend Office Park Planned Unit Development (PUD) to build a new 75,030 sq. ft., 3-story medical center to include inpatient behavioral health, inpatient rehabilitation and neurology facilities as part of the Boulder Community Health functions at the corner of Arapahoe Ave. and 48th Street. The proposal also includes a new, 5-story parking structure containing 409 parking spaces with first floor accessory uses including office and hospital-oriented retail. The proposal would require a height modification to permit the medical and parking garage buildings at 55-feet where 35-feet is the by-right limit (the request for a height modification will require City Council action on an amendment to the oridnance specifying areas where height modificaitons may be requested), and

4) USE REVIEW: Request for automobile parking lots, garages or car pool lots as a principal use.

REQUESTED MODIFICATIONS FROM THE LAND USE REGULATIONS:

- 9-7-1- Minimum side yard landscaped setback from a street to permit a building at 10 feet and parking spaces at 3 feet where 12.5 feet is required.
- 9-7-1- Minimum rear yard setback to permit the parking structure at 13 feet where 25 feet is required.
- 9-7-1- Maximum permitted height to permit 55 feet where 35 feet is the by-right limit (requires City Council approval).
- 9-7-1- Maximum number of stories to permit 6 garage parking levels where 3 is the limit.

I. REVIEW FINDINGS

Overall, staff finds the general design direction and approach to the site consistent with most of the Site Review criteria and also finds the proposed location of the hospital facility on the site consistent with Boulder Valley Comprehensive Plan (BVCP) policies and the associated criteria necessary to allow the BVCP land use map change to Public, including the related rezoning criteria.

As stated within the comments found within Section II of this document, the proposed building height, configuration and massing of the proposed buildings has been found consistent with surrounding buildings and the character of the area. The expansion of the hospital uses in the subject location is logical and staff appreciates the attention of Boulder Community Health to more effectively accommodate parking for the medical uses in the area through the subject project.

Please note that modifications to the building and the site would be necessary to fully meet the Site Review criteria. Detailed comments with suggested changes to meet the criteria are provided in Section II below. Staff finds that while the Planning Board requested a more organized design and a greater level of simplicity at the Concept Plan stage, it appears that the design, while more organized, has been somewhat over simplified and appears to not be of the same level of quality as previously presented. Staff has provided suggestions for improvements to better meet the code criteria. With respect to site design, there are some challenges with accommodating the new roadway and meeting requirements for turning movements, vehicle turnarounds and tree/utility locations etc. as well as avoiding vehicle and pedestrian conflicts that will also need to be addressed.

Staff has also requested additional information on the following topics to assist with the review:

- Building materials and quality
- Location of proposed lot lines
- Accessory retail uses
- Potential impact to adjacent property with respect to parking and circulation
- General parking information for the subject site to better understand how it will address some of the parking challenges of the adjacent Foothills hospital.

Please review and address all comments in this document and submit seven (7) revised review sets and written responses to the comments to the Project Specialists within 60 days. If submittal is not possible in that time frame, please inform the Case Manager of the reason for delay. If the applicant demonstrates that there is a good faith reason for the delay and that work is continuing on addressing the comments, the City Manager may extend the review time. If no review sets are received in this time and the applicant does not contact the Case Manager, the project will be considered withdrawn.

Questions regarding process and zoning related items should be forwarded to the Case Manager (Karl Guiler, 303-441-4236). Otherwise, specific questions about reviewer comments should be forwarded to the specific reviewer identified in each section. As there are a number of complex issues to balance on this site, staff is happy to set up a meeting with the applicant and reviewers to discuss solutions.

II. CITY REQUIREMENTS

Access/Circulation, David Thompson, 303-441-4417

1. Pursuant to City's Design and Construction Standards (DCS) please provide staff with a letter for any roadway design variances being requested in conjunction with the Boulder Community Health project. The format and information to be contained in the variance letter can be found in section 1.05 of the DCS. The variance letter should be submitted as soon as possible given the potential impacts of any requested variance on the site design.

2. At time of re-submittal, please include a vertical profile consistent with the design standards for a local road found in the DCS for Riverbend Road between 48th Street and the site's eastern property line. The vertical profile must include the location where the garage, cul-de-sac, driveway and porte-cochere intersect the road.

3. Please provide staff with a typical cross-section for the east / west multi-use path in order to evaluate the impacts of the proposed guardrail with respect to the clear zone of the multi-use path and the need to provide additional width along this corridor.

4. Given the complexities of the right-of-way/easements to be vacated and dedication in conjunction with this project, please revise the site plans to include a separate sheet showing the right-of-way/easements to be vacated and dedicated. The sheet must include the layouts of the roadway, sidewalk, parking lots building footprints and any door swings in order to verify the width of the right-of-way to be dedicated / vacated and to ensure compliance with the Boulder Revised Code and City's Design and Construction Standards. Please note pursuant to section 9-9-8 of the BRC structures and door swings are not permitted to open / encroach within the city owned right-of-way or easements.

5. Staff appreciates the street lighting being proposed in conjunction with the project; however, the number of street lights being shown within the right-of-way exceeds the number required by section 2.12 of the DCS. Please revise the site plans to show street lights at the following locations: (1) the northeast quadrant of the 48th Street and Riverbend Road intersection adjacent to the crosswalk; (2) at the intersection of Riverbend Road and the cul-de-sac and (3) at the terminus of the Riverbend Road at the east end of the site.

6. Please provide staff with documentation to support the design of the proposed porte-cochere / drop-off area as shown on the site plans. Staff is concerned the width of the porte-cochere combined with the length of the drop-off area may not be sufficient to address the demand or prevent vehicles from queuing out onto Riverbend Road. Staff is also concerned about vehicles using the accessible spaces not being able to safely back-out of the parking spaces without impacting the traffic flow of the porte-cochere and causing vehicles to queue onto Riverbend Road. The Applicant should consider removing some of the accessible spaces in the porte-cochere and relocating them to the parking garage.

7. If the accessible spaces are proposed to remain as part of the porte-cochere, please revise the site plans to indicate the parking angle for the accessible parking and include the dimensions of the parking stalls and access aisle consistent with Table 9-5 in order to allow staff to verify compliance with the Boulder Revised Code and the Accessibility Guidelines.

8. Please revise the site plan to show a detached sidewalk on the southside of Riverbend Road being extended as far east as feasible and provide a long reverse curve for the sidewalk where it goes from being detached to attached. Also, please revise the plans to show a continuous eight-foot wide sidewalk on the north side of Riverbend Road through the site.

9. Staff does not concur with the design shown for the terminus of Riverbend Road at the east end of the site. The Riverbend Road cross-section must be extended eastward and constructed to approximately the site's east property line and allow a modest width to accommodate a street light and landscaping. A driveway ramp curb-cut pursuant to section 2.04(I)(1) of the DCS must be shown as the access point for the off-street parking lot of 4895 Riverbend Road. The site design must also show how the emergency vehicle and passenger vehicles turnaround will be accommodated.

10. Additional information must be shown on the site plans before staff concurs with the layout of the proposed cul-de-sac. Please revise the site plans to provide the turning paths through the cul-de-sac for the anticipated design vehicles. Staff wishes to ensure the width of the access points are adequate as well as the radius of the cul-de-sac and pavement width to accommodate the design vehicle without damaging the concrete curb-and-gutter or landscaping. Additionally, please replace the redundant north / south sidewalk with a single sidewalk.

11. Pursuant to Section 2.04(J) of the DCS which states curb-cuts shall be the minimum necessary to serve the use, staff does not concur with the width of the curb-cuts being proposed along 48th Street for the ambulance and loading zone without documentation to support the requested widths.

12. Please revise the Traffic Impact Study to include a parking management plan for the Boulder Community Hospital Complex which includes strategies that will be implemented by BCH to manage the employee and patient parking between the various buildings.

13. In support of section 9-2-14(h)(2)(D) of the B.R.C. 1981 please revise the site plans to construct curb extensions on 48th Street south of Riverbend Road in order to slow vehicles prior to approaching the intersection and crosswalk. Also, please revise the site plans to show a new or the existing curb-ramp in the southeast quadrant of the 48th Street / Riverbend intersection.

14. In support of the project's TDM Plan, please revise the site plans to expand the concrete pad for the short-term bike parking at the west end of the site to accommodate bikes with trailers.

15. Pursuant to section 9-9-6(g)(3) of the BRC regarding the location of short-term bicycle parking, please relocate the two inverted "u" racks from the north end of the site to an area within fifty feet of the building's entrance off Riverbend Road.

16. Pursuant to the project's TDM Plan, please label on the site plans for the Medical Pavilion Complex the location and number of showers and lockers being provided for employees.

Building Design Karl Guiler, Case Manager, 303-441-4236

1. Specify the material and attachment method for the hanging elements along the façades of the garage.

2. Submit a color and materials board that includes all of the material components including the parking structure hanging elements and type of stucco proposed.

3. Indicate if walls will have a different cap material and if so, include details and label on the elevations accordingly.

4. Provide the following additional materials for the city to assess the quality of the design:

    - Enlarged sections and details for any in plane material transitions that will occur on the building (e.g., copper to brick etc.) will occur on the facades of the building;
    - Sections of walls through the corner entry elements;
    - Typical windows details through all materials (e.g., copper, brick, stucco etc.) to show window framing details including but not limited to recess measurements of windows to create reveals and wall thickness;
    - Dimensions and attachment details for canopies;
    - Provide more detail (i.e., wall tags) regarding materiality when corners are turned (e.g., materials around the elevator shaft adjacent to the courtyard);

5. Staff finds that the general architecture, height and forms of the buildings are consistent with the building design criteria of sections 9-2-14(h)(2)(B)(i) and (ii), which are respectively as follows, "*The building height, mass, scale, orientation, architecture and configuration are compatible with the existing character of the area or the character*" and "*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*."

    At the Concept Plan stage, a unique and attractive design was submitted that continued some of the basic elements of the Boulder Community Health Foothills Hospital while also creating a unique identity unto itself. While staff appreciates the general architectural direction of the project and masonry elements that have been added to the design to better ground the building, the new designs appear somewhat less inspired and less distinct from the existing buildings to the west. Staff finds that this may be due to the Planning Board direction of requesting a simpler design that is more organized. While staff can understand the basis of the board comments, staff finds that the design may be over simplified and thus, is not to the standard of quality expected of the Site Review criteria below:

    Section 9-2-14(h)(2)(B)(iv), B.R.C. 1981- "*If the character of the area is identifiable, the project is made compatible by the appropriate use of color, materials, landscaping, signs and lighting*", and

    Section 9-2-14(h)(2)(B)(v), B.R.C. 1981- "*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.*"

    While the basic design remains is similar, the proposed design integrates less copper, brick (north side of medical building), and includes a less welcome interface at the pedestrian level, particularly at the corner of 48th Street and along both side of the courtyard. The Concept Plan version of the building showed emphasis at the corner of 48th Street and at the entry by the courtyard, whereas the new design effectively pulls away from the 48th Street corner. Both corners of the building have been deemphasized giving the building a less warm appearance. The Concept Plan also focused on creating attractive four-sided architecture, whereas the new design largely ignores the north elevations by replacing the brick with stucco and removing the screen elements from that side. Staff does not request that revisions contradict Planning Board's request for more origination and simplicity, but staff does propose the following design suggestions to meet the criteria above in full and to create a design more in the vein of the Concept Plan albeit less intricate:

- Retain the masonry elements at grade, but add more emphasis to the 48th and Riverbend corner by not recessing the building and by adding more fenestration like the Concept Plan design;
- Consider moving active uses either from the parking garage ground floor or from within the medical building (e.g., cafeteria?) to the 48th and Riverbend corner to create a more welcoming entry to the site and connection to the hospital;
- Revise the south façade to include more copper elements and windows to create a rhythm similar to the Concept Plan design that created more of a sense of vertical continuity between all three levels. The current design has noticeably less fenestration than the Concept Plan design (e.g., 9 rows of single paned windows versus 6 on the current design);

- The appearance of a garage door, utility doors and minimal fenestration on the medical pavilion ground floor west elevation does not lend to an attractive, pedestrian friendly façade – particularly in a very visible location. Revise the west elevation of the medical building to have a more pedestrian friendly facade along 48th Street by replacing blank walls and utility doors with more glazing and glass doors and a more attractive porte cochere type design;
- Consider windows or other treatments to the medical building's east façade that mitigates the impact of the blank walls around the elevator shaft in that location.
- Add more substantially brick to the north elevation of the medical pavilion;
- The proposed canopies added a great deal of visual interest at the Concept Plan stage with their modified angles and wood materiality beneath. It is not clear on the new submittal if this design quality will be included. Please include more detail on the design of the canopies and consider revising the pedestrian connector canopy between the medical and parking buildings that is more integrated as a unifying design element rather than a typical free floating element;
- The graphic screens on the parking garage at the Concept Plan stage appeared more seemless and screened much of the underlying concrete structural elements on all sides. Further, a "green wall" was proposed on the garage north wall, which is now absent. Much of the features of the garage were enclosed by these elements and fenestration making the negative attributes of the appearance much less apparent. The new design is wrapped to a lesser extent making the garage design less appealing and pedestrian friendly. Staff finds that in order to meet the criteria above, the design should be revised to include more enclosing elements, including more graphic screens extending to the top of the ground level and filling in the gaps between each screen covering up all levels as done at the Concept Plan stage. The unenclosed exterior stairwells also appear tacked on and should be revised to have a more integrated design with the building.

6. Because of the proposed 55-foot height and other appurtenances maximizing the allowable 25 percent coverage for appurtenances, it may be difficult to achieve the solar goals proposed to meet section 9-2-14(h)(2)(F)(xi), B.R.C. 1981 relative minimizing and mitigating energy use. Staff finds that additional measures may be necessary to meet this criterion. Staff is happy to meet and discuss this issue further.

Drainage, Scott Kuhna, 303-441-4071

1. The Design Procedure Form: Rain Garden (RG) calulcations in the Appendix of the *Riverbend Medical Center Preliminary Drainage Report (Report)* show an area of 1.4 acres being treated with Water Quality Caputure Volume (WQCV) facilities. Page 1 of the *Report* states "the project site is approximately 3.8 acres". Projects that disturb more than 1 acre of land are required to provide WQCV for the entire disturbed area. Revise accordingly.

2. Page 6 of the *Report* states "There are no known public or private irrigation ditches on the site. Therefore, no impacts to irrigation facilities are proposed with this development". The Dry Creek No. 2 Ditch runs along the west side of 48th Street and is the outfall for runoff from this project prior to discharge to Boulder Creek. The applicant is responsible for obtaining approvals for any modifications or discharges to irrigation ditches or laterals from the impacted ditch company. Revise the *Report* accordingly.

Engineering, Scott Kuhna, 303-441-4071

The plans show a proposed trash enclosure in the public right-of-way of the cul-de-sac for Riverbend Road, which cannot be permitted. Revise accordingly.

Flood Control, Jessica Stevens, 303-441-3121

1. The property is impacted by the 100-year floodplain of Boulder Creek. A floodplain development permit will be required for all development within the 100-year floodplain. The floodplain development permit shall contain certified drawings demonstrating:

a. Any person constructing a new nonresidential structure shall floodproof in a manner requiring no human intervention or elevate the lowest floor, including the basement, to or above the flood protection elevation.
b. The proposed buildings will have structural components capable of resisting projected hydrostatic and hydrodynamic loads and the effects of buoyancy, and be constructed with materials resistant to flood damage.
c. Any proposed structures or obstructions in the floodplain, including trash enclosures and raised planters, will be properly anchored to prevent flotation, collapse, or lateral movement and be capable of resisting hydrostatic and hydrodynamic loads.
d. The buildings will be constructed with electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities that are designed and located (by elevating or floodproofing) so as to prevent water from entering or accumulating within the components during conditions of flooding.
e. No owner or operator of a critical facility within the floodplain shall fail to develop and have approved an emergency management plan prior to issuance of any floodplain development permit.

2. The proposed floodproofing/elevation measures must be reviewed through the Site Review process.

3. In accordance with section 9-3-3(a)(7) of the BRC, no person shall store a hazardous substance at or below the flood protection elevation for the area of the floodplain in. The underground fuel storage for the generator must be relocated outside of the floodplain.

Fees Karl Guiler, Case Manager, 303-441-4236
Please note that 2016 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.

Land Uses Karl Guiler, Case Manager, 303-441-4236

1. Staff finds that the proposal to change the Boulder Valley Comprehensive Plan (BVCP) land use designation on site meets the criteria within the BVCP. Staff responses to the applicable criteria are provided in Section V below.

2. The application indicates that surplus parking will be provided within the parking structure to account for limited parking on the Boulder Community Health Foothills Hospital site. Because some parking would serve another site, the surplus parking qualifies as "Automobile parking lots, garages or car pool lots as a principal use". Staff will consider this as part of the already submitted Use Review application. Staff has requested additional information in the 'zoning' section below related to the parking.

3. Little information about the use of the "retail" spaces has been provided with the application. Please note that most retail uses are prohibited in the Public zone. Therefore, the spaces would need to qualify as accessory sales per the definition below or other permitted uses in the P zone. Please submit more detailed information about the intended use of the spaces within the parking garage first floor.

   Accessory sales means incidental retail sales in a nonresidential zone where retail sales are not otherwise permitted. Sales not exceeding fifteen percent (twenty-five percent in an IS zone) of the gross floor area are permitted if the products sold are directly related to the principal use. Examples, art work sold at an artist's studio, convenience goods in a hotel or motel, health care products sold by a healing arts practitioner, or a factory outlet store selling products manufactured on the site.

   Please submit responses to the Use Review criteria of Section 9-2-15(e), B.R.C. 1981 related to this use for evaluation.

Landscaping Elizabeth Lokocz, 303-441-3138
Staff appreciates the high level of detail provided in the initial submittal. Please respond to the following comments at the next submittal. Contact staff with any questions or concerns.

1. Delete the proposed weed barrier fabric from the plans (keynote 3.5) based on the relatively small planting beds and extremely poor soils in this area of the city.

2. While turf is not a primary landscape cover, its' use in the right of way planting strips might be better substituted with a more drought tolerant ground cover such as sedums, ice plant, phlox. Ajuga, etc. Limiting turf helps to meet the xeric and water conservation standards of section 9-9-12(d) B.R.C. 1981.

3. The western portion of the Riverbend has numerous tree/utility conflicts. Work with the civil engineer to evaluate alternative storm sewer alignments that do not prevent street trees. The existing sanitary sewer is also in conflict.

Dimension the separation on the utility plan and evaluate how to achieve all requirements. See utility comments for additional information. Alternatives may include relocation of existing utilities.

4. The proposed traffic circle also has conflicts with tree/utility separation and one tree on the southwest side is less than three feet from the edge of pavement. Adjust the trees to the extent possible before reducing the overall number.
5. Adjust the proposed light over the surface parking spaces to provide a minimum ten foot separation from proposed trees.
6. Note that the below grade garage does not contribute to required landscaping (see the summary chart on sheet L1.0).
7. Provide a sample of the parking garage screen. Is the tree graphic illustrated achieved through perforations, or is it an additional coating? Please be aware that vinyl or peel and stick materials have relatively short life spans in Colorado due to UV exposure and are not likely to be supported as a material option.
8. The material keynotes have extensive details furniture and material selections. Create an addition an additional sheet with cutsheets, details, etc. to help illustrate the outdoor space. It might also be necessary to provide a materials board.
9. The proposed eight foot screen wall on the north end of the courtyard is not included in any elevations or perspectives. Clarify if it is necessary and adjust the planter shape and tree selections to better respond to the vertical obstruction of the wall. The current layout has relatively small planter beds bisected by the wall footer and trees within 30 inches of the wall. Also note the height limit for walls per section 9-9-15(c) B.R.C. 1981. Wall height may be modified through the Site Review process, but must specifically be listed as a requested modification on the application materials. Provide additional information on the aluminum panels described in Material Keynote 4.5.
10. The rain gardens have been successfully integrated in similar building contexts; however, the planting palette included on sheet L2.3 includes primarily full sun perennials and the majority of the rain gardens are part sun or full shade. Evaluate a wider range of plant options to accommodate the exposure. Fully detailed planting design is not needed until Technical Document if changes are anticipated, but the plant palette would be very helpful to develop now. Detail 5 on the same sheet also calls out 3" of mineral mulch while the material keynotes call out cobble. Please coordinate. Three inches is probably not necessary. The minimum amount of mulch necessary to help control moisture loss and weeds should be specified.
11. Please update the Summary Chart of sheet L1.0 to reflect actual street frontage and required and provided quantities for street trees.

    Note that the space north of the service curb cut on 48th appears to accommodate a street tree, but another tree is directly over a water service.

    There are four existing ash in the right of way north of Riverbend. These trees are not large enough to treat for Emerald Ash Borer and should be marked for removal and replacement. Mitigation is not due for removal, but the project will be responsible for removal per all federal and local requirements and replacement with large maturing street trees. Please note only a city licensed arborist may do tree removal to help mange proper wood disposal.
12. Complete all tree quantities in the Plant Legend to assist in verifying proposed tree counts and any diversity questions. A few tree labels are missing (or hard to find?); see the Japanese tree lilac in the courtyard and the single Kentucky coffeetree off the southeast corner of the parking structure.

    Swamp white oak is a great tree, but there are too many of them on Riverbend. Add an additional non-oak species. Catalpa would be a good addition.

    The traffic circle may have sight triangle conflicts with the proposed serviceberry. If utilities allow, additional larch would be a great option.

    The proposed Hoopsii spruce may conflict with sight triangles which don't appear to be on the plans. Add sight triangles per section 9-9-7 B.R.C. 1981 and any general transportation standards and adjust the locations of the trees as needed. They are a nice addition to the overall plant selection, but may need to be incorporated into other locations.
13. Please note additional plant selection comments may be provided in the next submittal.

Legal Documents

1. The Applicant will be required to sign a Development Agreement, if approved. <u>When staff requests</u>, the Applicant shall provide the following:

    a) an updated title commitment current within 30 days; and
    b) Proof of authorization to bind on behalf of the owners.

Neighborhood Comments Karl Guiler, Case Manager, 303-441-4236
Staff received a call from a doctor at 4895 Riverbend who is concerned about the construction impacts to the site and tie increase in traffic that will congest the site. The commenter requested that the connection with the Ball Aerospace property be done as part of this project to provide additional access points for the site. Staff has forwarded this comment to the applicant's attention.

Plan Documents Karl Guiler, Case Manager, 303-441-4236

1. The proposed property lines appear to be inconsistent between the different plans. Please revise and make sure existing and proposed lot lines and areas to be dedicated are accurate and consistent between the different plan sets.

2. Please use a more common scale size (e.g., 1"=10", 1"=20' etc.) for the site development plan and floor plans.

3. Correct the spelling of 'ambulance' on Sheet SR1.

4. Dimension the minimum 24 feet of back out in the aisle drives within the parking structure.

5. Revise Sheet L1.0 to remove the 1"=20', which is incorrect.

6. It appears that the pedestrian doorway into the parking garage on the plan (Sheet L2.2) does not match the location shown on the site plans. Please clarify.

Signage Caeli Hill, 303-441-4161
Please note that all proposed signs require separate review and permit approval. Signs will not be reviewed as a part of Site Review or Technical Document review unless a specific modification is requested and specifically called out on the plans. Section 9-9-21(k), B.R.C. 1981 allows for the standards dealing with sign setbacks from property lines, spacing between projecting and freestanding signs and sign lettering and graphic symbol height to 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. The Applicant may also wish to create a uniform sign program to ensure continued uniformity in the future, in which case the standards found in section 9-9-21(k)(3) would apply. While it is preferable to remove all signs from the Site Review and Technical Document plan sets to avoid any potential future confusion, ghosting the images into the set with a notation that it is under a separate permit is acceptable. Please note that illustration of a sign on the plan set does not grant a modification. Please refer to section 9-9-21 B.R.C. 1981 for all sign related requirements.

Site Design Karl Guiler, Case Manager, 303-441-4236

1. The plans are somewhat unclear as the how the proposed right-of-way will interact with the parking and circulation of 4895 Riverbend. Will paved areas north of the 4895 Riverbend be removed? Will circulation continue around the east part of the site onto 4890 Riverbend? What impact to existing parking will occur? Please update all site and engineering plans to clarify. If circulation does not continue, please note that a turnaround space would be required per Section 9-9-6(d)(3)(B), B.R.C. 1981.

2. Site Review criterion 9-2-14(h)(2)(D)(iii), B.R.C. 1981 requires that "*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*." In the interest of meeting city goals of creating neighborhood street connectivity and break up large blocks the proposal to extend Riverbend Road to the east property line with Ball Aerospace moves appropriately towards meeting this intent. The ability to make this connection at this time would greatly achieve these aims. Please show the connection built up to the property line and work with Ball Aerospace on achieving this. Please also see 'Access/Circulation' comments for Design and Construction Standard (DCS) requirements for rights-of-way.

   Also consistent with the criterion above, staff supports to the curb *bulb outs at the crosswalk over 48th Street to provide an enhanced pedestrian connection between the subject site and the Boulder Community Health Foothills hospital. Please provide a blow up diagram of this crosswalk and show how the pedestrian walk ways will appropriately align (e.g., how will the propose*d path connection align with the colonnaded walkway on the hospital site?). Modifications to the hospital property though a minor modification may be necessary to have the most efficient design for pedestrian passage.

3. Staff is concerned that the "multi-use path" may be confusing to site users because it ultimately terminates in the location of an electrical transformer. The application makes note that the path will not connect to the eastern

property due to grade. Will this connection continue onto the Ball Aerospace property in the future? If so, please add a note or graphic indication that the path is intended to continue further east.

4. In order to also meet Site Review criterion 9-2-14(h)(2)(D)(iii), B.R.C. 1981 that requires "*safe and convenient connections"* please revise the sidewalk connections from the southern Riverbend sites to the medical facility to be more convenient and direct as suggested by the 'Access/Circulation' comments above.

5. To "*avoid potential conflict between vehicles*" pursuant to Section 9-2-14(h)(2)(D)(ii), B.R.C. 1981, please consider locating the four accessible stalls in the garage so that automobiles do not need to back out into traffic flow and that patrons will not need to cross a drive to access the facility. This would also be consistent with Section 9-2-14(h)(2)(E)(i), B.R.C. 1981, which states, "*the project incorporates into the design of parking areas measures to provide safety, convenience and separation of pedestrian movements from vehicular movements*."

6. To also "*avoid potential conflict between vehicles*" pursuant to Section 9-2-14(h)(2)(D)(ii), B.R.C. 1981 and consistent with the goals of creating attractive streetscapes, the proposed trash enclosure on the south side of the cul-de-sac shall be relocated to a location that is not visually prominent and where there is no potential for trash trucks conflicting with other vehicles or pedestrians.

7. Staff finds that another site alternation would be necessary to fully meet section 9-2-14(h)(2)(i), B.R.C. 1981 discussed above. To fully meet the intent of that section, staff finds that a relocation of the parking structure entry to align with the circulation access to parking on the south lot (4895 Riverbend) may be more functional and efficient than the proposed location to remove a vehicle/pedestrian conflict point and also consolidate the ground floor wrap uses.

8. In general, staff finds the central garden courtyard space consistent with the Site Review criteria; however, to fully meet Section 9-2-14(h)(2)(A)(i), B.R.C. 1981, which states, "*Useable open space is arranged to be accessible and functional and incorporates quality landscaping*…", staff is requesting that further attention be considered for the pedestrian circulation through the space as well as the building designs that frame the space (see 'Building Design' comments). At present, the parking garage opening into the space visually directs patrons toward a raised landscape area rather than the building entry. This configuration is somewhat awkward and should be revised to achieve a more intuitive connection. Also, staff is concerned about the usability of the space with the abundance of blank building walls framing the space and impact that the open garage could have the space in as far as vehicle noise is concerned. Please consider changes to the buildings and the space that would enhance its usability, including but not limited to relocation of more active uses framing the space. In addition, it appears that the space will also be used for therapeutic uses where such spaces may benefit from being more insulated from public spaces or the noises from the parking garage.

9. Please provide a detailed elevation of the proposed screening wall on the north side of the courtyard space and show how it will appropriately screen the transformer.

10. A bench location is shown immediate in front of a doorway to the medical building. Consider moving the bench to the bike parking location to meet the criterion relevant to items 5 and 6 above.

11. To demonstrate that the third floor courtyard will be a accessible and function space, please show the wall treatments surrounding the space and consider a water feature or other elements that would make the space inviting.

Utilities, Scott Kuhna, 303-441-4071
Trees need to be located at least 10 feet away from existing or future utilities. The following utility lines (or trees) were identified as not meeting separation requirements.

- Proposed street trees (3) on south side of Riverbend – Existing wastewater main
- Proposed street tree on south side of Riverbend – Proposed storm sewer lateral and existing water main
- Proposed street trees (2) on south side of Riverbend – Existing water main
- Proposed pine trees (3) on south side of Riverbend – Existing water main and existing wastewater main
- Proposed street tree northwest of cul-de-sac – Existing wastewater main
- Proposed street tree west of cul-de-sac – Existing water service line
- Proposed street trees (2) south of cul-de-sac – Existing (separate) water service lines
- Proposed ornamental trees (7) in middle of cul-de-sac - Existing water main and existing wastewater main
- Proposed street tree south of Parking Garage – Proposed storm sewer line and inlet
- Proposed street tree south of MOB Building – Proposed storm sewer line and inlet

- Proposed street trees (2) on south side of Riverbend – Existing water service for 4895 Riverbend
- Proposed street tree on north side of Riverbend – Proposed wasetwater service for Parking Garage
- Proposed tree west of MOB Building – Proposed fire service line
- Proposed trees (2) between the two buildings – Proposed privated storm sewer

Zoning Karl Guiler, Case Manager, 303-441-4236

1. The survey or any plat for the project site shall indicate the total size of the development site. The site size shall be consistent between all plan sets.

2. A preliminary plat is required to show the lots to be combined and the new rights-of-way through the site. Staff strongly recommends that the plat be submitted at this time during the Site Review stage.

3. Add topographic contours to the site development plan. This is necessary to confirm the low point elevations from each building's tallest side.

4. The proposal includes a request for a height modification for both the medical hospital building and parking garage. Please note that this would require an amendment to an adopted city ordinance specifying where height modifications will be considered. The appendix to the ordinance that shows the areas where height modifications would need to be amended to except the subject site. This will require City Council action and can be simultaneous to the consideration of the BVCP Land Use Map change and rezoning.

5. On Sheet SR4-4, include a calculation of the roof area that includes appurtenances (including screen enclosures) to demonstrate that the 25 percent maximum is not exceeded. Please note that at 55 feet solar arrays would also be limited to the 25 percent maximum. Further, include section of the appurtenances indicating their height from the roof and demonstrate that the appurtenances cannot be accommodated at a lesser height to lower their visual impact. See Section 9-7-7, "Building Height, Appurtenance," B.R.C. 1981 for specific standards.

6. Per the city's definition of front, rear and side setback in chapter 9-16 of the land use code, the front setback would be measured from 48th Street. This would make the setback along the new Riverbend Road a street side yard. An interior side yard would be shared with the Ball Aerospace property to the north and a rear setback would be applied to the site's eastern property line. Please revise these dimensions on the site development plan. Based on this, staff has identified the following required setback modifications:

    - 9-7-1- Minimum side yard landscaped setback from a street to permit a building at 10 feet and parking spaces at 3 feet where 12.5 feet is required.
    - 9-7-1- Minimum rear yard setback to permit the parking structure at 13 feet where 25 feet is required.

7. Staff calculations for total floor area are close to those within the plan set, although please check the following items to see if the numbers are accurate per the city's definition of "floor area" in chapter 9-16:

    - Is the storage area included in the calculations for the garage, including the calculations for total parking?
    - Why is the uppermost level of the garage significantly less in square footage than the other levels?
    - Have the stairwell openings and upper floor garden in the medical building been exempted from the floor area total?
    - Are the trash enclosure/service areas included in the building footprint totals?

8. The compact parking stalls are acceptable, but please note that per code the dimensions of the stalls are a minimum of 7.75 feet by 15 feet in the vent that additional space is needed.

9. Staff's count of the parking spaces is generally consistent with the numbers in the plan set. However, please clearly designate on the parking structure plans areas by the stair wells that will not be parking spaces as it is currently not clear.

10. The plans appear to show roughly 150 parking spaces in excess of the parking requirements. Staff is aware that there have been challenges with accommodating parking on the Boulder Community Health Foothills Hospital site and that the proposed garage is meant to alleviate some of the parking issues. Pursuant to Section 9-9-6(d)(6), B.R.C. 1981 prepare a parking study that includes the Boulder Community Health Foothills Hospital site in the study area and demonstrates that parking will between the sites will be appropriate accommodated. This study may be done in conjunction with the required traffic study.

11. Please indicate whether overflow spaces provided in the parking garage will be restricted to employees or open to

all visitors.

12. The cantilevered portion of the building over the service areas shall not be exempted from the building footprint calculation. Please revise.

13. The drop off access lane between the buildings and accessible parking spaces on the site cannot count as useable open space per section 9-9-11, B.R.C. 1981. Please remove these areas and revise the open space calculation accordingly.

14. Approval of any Site Review will require an amendment to the existing Riverbend Office Park Planned Unit Development (PUD). At present, there are no references to this. In order to amend the four subject properties from the stipulations of the original PUD, it would be necessary to show that the remaining Riverbend properties and demonstrate how they will continue to be compliant with zoning and its original and subsequent approvals with respect to parking, open space etc. This is especially relevant as the proposal will likely impact parking and open space conditions on the other lots. Please include site plan sheet specific to the remaining properties of the Riverbend Office Park with relevant zoning data demonstrating basic compliance with PUD and underlying BT-2 (Business Transitional – 2) zoning.

15. Staff finds that the rezoning criteria can be met to rezone the property P (Public). See Section V below.

III. INFORMATIONAL COMMENTS

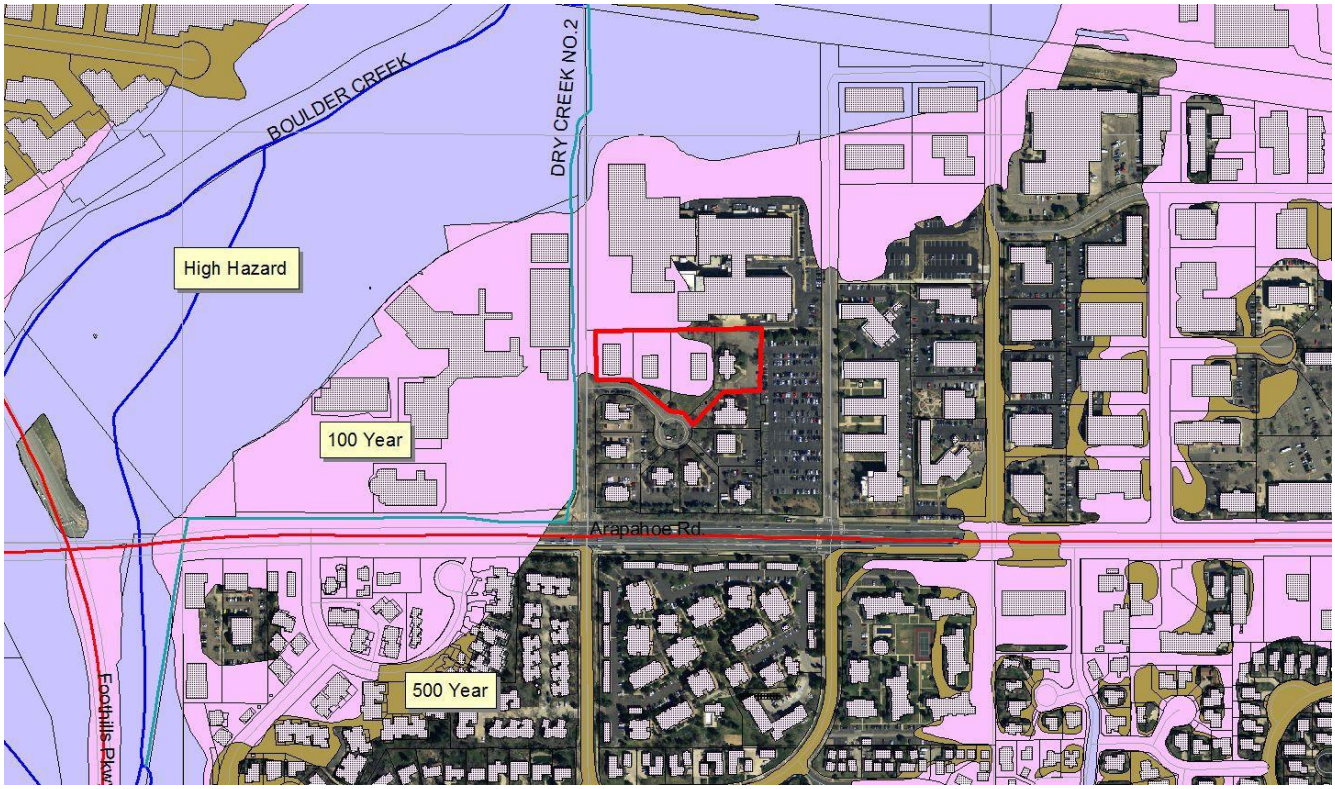
Addressing Caeli Hill, 303-441-4161
At the time of redevelopment of the land south of the proposed site between River Bend Road and Arapahoe Road, and east of 48th Street, the street name of the circular drive should be changed from River Bend Road to River Bend Circle to comply with the City's addressing policy.

Area Characteristics and Zoning History Karl Guiler, Case Manager, 303-441-4236
The site is currently the location of the Riverbend Office Park, which was originally annexed and approved as a Planned Unit Development (PUD) with an initial zoning designation of Industrial – Developing ("IG" under current code standards). The original approval also included a Special Review (now called Use Review) approval for the office uses.

Over the years, several additional Use Reviews were approved for additional office uses on specific sites within the PUD, and several other office uses were established or converted without the benefit of City review. In 2000, the Riverbend Office Park was rezoned from Industrial to Transitional Business in acknowledgment of the fact that the proliferation of office uses within the development, many of which were nonconforming or prohibited, had resulted in the development no longer being consistent with the Industrial zoning designation. Currently, the 12 existing one and two-story buildings within the Riverbend Office Park contain a mix of medical/dental, professional and technical offices and personal service uses, all of which are allowed uses in the BT-2 zone district.

A variety of BVCP land use designations surround the site and reflect the diversity of land uses in the area. Most land east and north of the site are designated light industrial, whereas uses south of Arapahoe are predominantly designated medium to high density residential with low density residential neighborhoods further from Arapahoe. As mentioned above, the project site is located immediately to the east of the existing BCH Foothills campus at the corner of Arapahoe and Foothills, which has a BVCP land use designation of Public. The lands southwest of Foothills and Arapahoe owned by the University of Colorado have a Public land use designation as well.

The project site has a number of unique characteristics that will need to be taken into consideration. As shown in the figure below**,** the site is impacted by the 100-year floodplain and as such any new development will require a floodplain development permit. In addition, because the proposed facility is considered a critical facility per section 9-16, B.R.C. 1981, an Emergency Management Plan would be required.



It is also worth noting that the Federal Emergency Management Agency (FEMA) is considering the adoption of updated floodplain maps for Boulder Creek. These maps were previously adopted by the Boulder City Council on Sept. 18, 2012, but have not yet been incorporated into FEMA's Flood Insurance Rate Maps. FEMA held an Open House meeting to present the proposed mapping on Wednesday, Sept. 16, 2015.

The new floodplain mapping was adopted by City Council on Sept. 18, 2012 and is currently regulatory. FEMA began reviewing the mapping on Oct. 30, 2012. Final project documentation was submitted to FEMA in September 2013. In November 2013, FEMA indicated that they accepted the results of the study and will be adopting the new mapping through the Physical Map Revision process, which is a multi-year process. The process was delayed due to the September 2013 flooding. FEMA released Preliminary Flood Insurance Rate Maps (FIRMs) on July 23, 2015. These maps are available on FEMA's website: http://msc.fema.gov/portal

The new FIRMs are anticipated to become effective in December 2016, although this schedule is subject to change. Please see the link to the FEMA fact sheet for more information. The existing floodplain mapping and the revised floodplain mapping are both regulatory until FEMA adopts the new mapping. For additional information please visit: https://bouldercolorado.gov/flood/boulder-creek-floodplain-mapping-update.

The properties are also immediate adjacent to the existing Boulder Community Health facility, which now contains the principal hospital for Boulder. The property was annexed in 2001 and application LUR2001-00009 was approved to permit construction of the hospital in phases with deferred parking. Five phases and up to 420,000 square feet of floor area was permitted through Site Review #LUR2001-00009.

Application LUR2004-00012 entailed a change to the annexation agreement (i.e., removal of doctor offices from critical medical services definition) and application LUR2005-00049 permitted an adjustment to the phasing (designations) and floor area to permit the new cancer center along Arapahoe. Total floor area to the site was reduced from 420,000 square feet to 418,000 square feet (see Condition No. 4 of the approval). The 2001 approval permitted the Site Review to be valid for a period of 10 years. Staff extended this validity for six months into 2012.

Site Review application #LUR2011-00043 was approved by Planning Board on Dec. 1, 2011 to expand the existing 308,255 square foot hospital by over 100,000 square feet of new floor area (totaling up to 440,000 square feet) within new three-story wings and upper floors on the existing hospital building. A height modification was also approved to build the new additions up to 52 feet (similar to existing height). Use Review application #LUR2011-00061 was also approved to permit the heliport. A rezoning was also approved to properly align the zoning with the underlying BVCP land use map designations of Public and Open Space.

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 (DCS).

2. Discharge of groundwater to the public storm sewer system may be necessary to accommodate construction and operation of the proposed development. City and/or State permits will be required for this discharge. The applicant is advised to contact the City of Boulder Storm Water Quality Office at 303-413-7350 regarding permit requirements. All applicable permits must be in place prior to building permit application. Additionally, special design considerations for the properties to handle groundwater discharge as part of the development may be necessary.

3. All inlet grates in proposed streets, alleys, parking lot travel lanes, bike paths, or sidewalks shall utilize a safety grate approved for bicycle traffic.

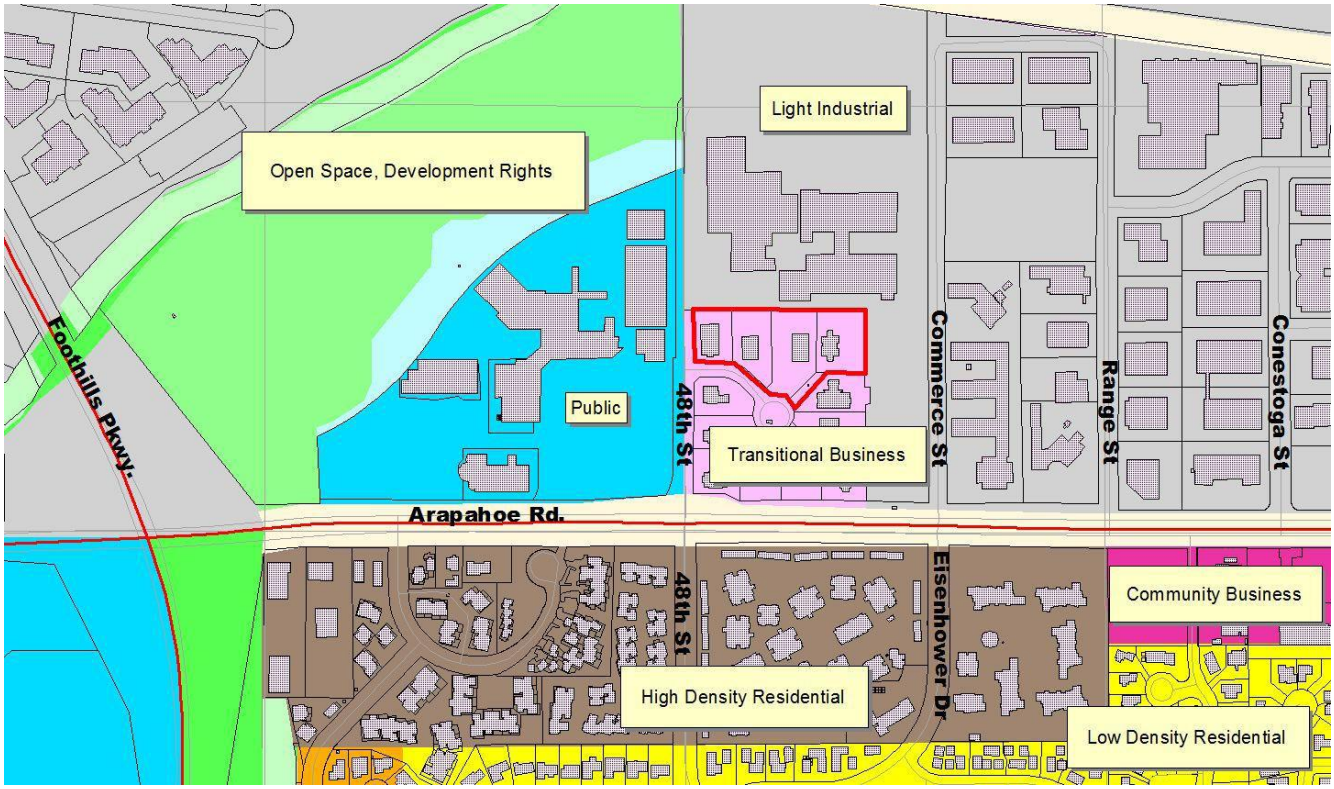
4. A construction stormwater discharge permit is required from the State of Colorado for projects disturbing greater than 1-acre. The applicant is advised to contact the Colorado Department of Public Health and Environment.

Groundwater, Scott Kuhna, 303-441-4071

Groundwater is a concern in many areas of the city of Boulder. Please be advised that if it is encountered at this site, an underdrain/dewatering system may be required to reduce groundwater infiltration, and information pertaining to the quality of the groundwater encountered on the site will be required to determine if treatment is necessary prior to discharge from the site. City and/or State permits are required for the discharge of any groundwater to the public storm sewer system.

Land Uses Karl Guiler, Case Manager, 303-441-4236

The existing Boulder Valley Comprehensive Plan (BVCP) land use designation on the site is Transitional Business. The BVCP describes Transitional Business as follows "*The Transitional Business designation is shown along certain major streets. These are areas usually zoned for less intensive business uses than in the General Business areas, and they often provide a transition to residential areas.*" The application includes a request for Public land use, which is described as follows, "*Public/Semi-Public land use designations encompass a wide range of public and private nonprofit uses that provide a community service. This category includes municipal and public utility services such as the municipal airport, water reservoirs, and water and wastewater treatment plants. Public/Semi-Public also includes: educational facilities, including public and private schools and the university; government offices such as city and county buildings, libraries, and the jail; government laboratories; and nonprofit facilities such as cemeteries, churches, hospitals, retirement complexes and may include other uses as allowed by zoning*."



Landscaping
Due to the recent identification of Emerald Ash Borer (EAB) in the city, there is a mandatory state and federal quarantine that restricts the movement of all ash products and all hardwood firewood. The quarantine area includes all of Boulder County; it also includes the two landfills in Erie, a wood containment area in Meeker Park and the Republic Landfill on Highway 93 south of Boulder to facilitate the movement of ash and flood debris. ONLY a city of Boulder licensed Certified Arborist may prune or remove trees to ensure proper wood disposal. A list of licensed Certified Arborists is available on the city's website at https://bouldercolorado.gov/plan-develop/tree-contractor-license. For more information on EAB, please visit www.EABColorado.com.

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.

Review Process Karl Guiler, Case Manager, 303-441-4236
Per section 9-2-14(b)(1), B.R.C. 1981, Site Review is required for projects located in the BT-2 zone district that are over 2 acres in size or include over 30,000 square feet of floor area. Therefore, development of the 2.55-acre site with a 75,030 sq. ft. building requires Site Review. The land use map change and rezoning of the property, as described above, also requires Planning Board and City Council action.

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). All existing and proposed "dry" utilities (Xcel, Comcast, Century Link, etc.) will also need to be included on the plans.

3. Maintenance of sand/oil interceptors and all private wastewater and storm sewer lines and structures shall remain the responsibility of the owner.

4. 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.

5. 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 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 existing water and/or wastewater services are required to be abandoned and upsized, all new service taps to existing mains shall be made by city crews at the developer's expense. The water service must be excavated and turned off at the corporation stop, per city standards. The sewer service must be excavated and capped at the property line, per city standards.

d. Since the buildings will be sprinklered, the approved fire line plans must accompany the fire sprinkler service line connection permit application.

6. 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.

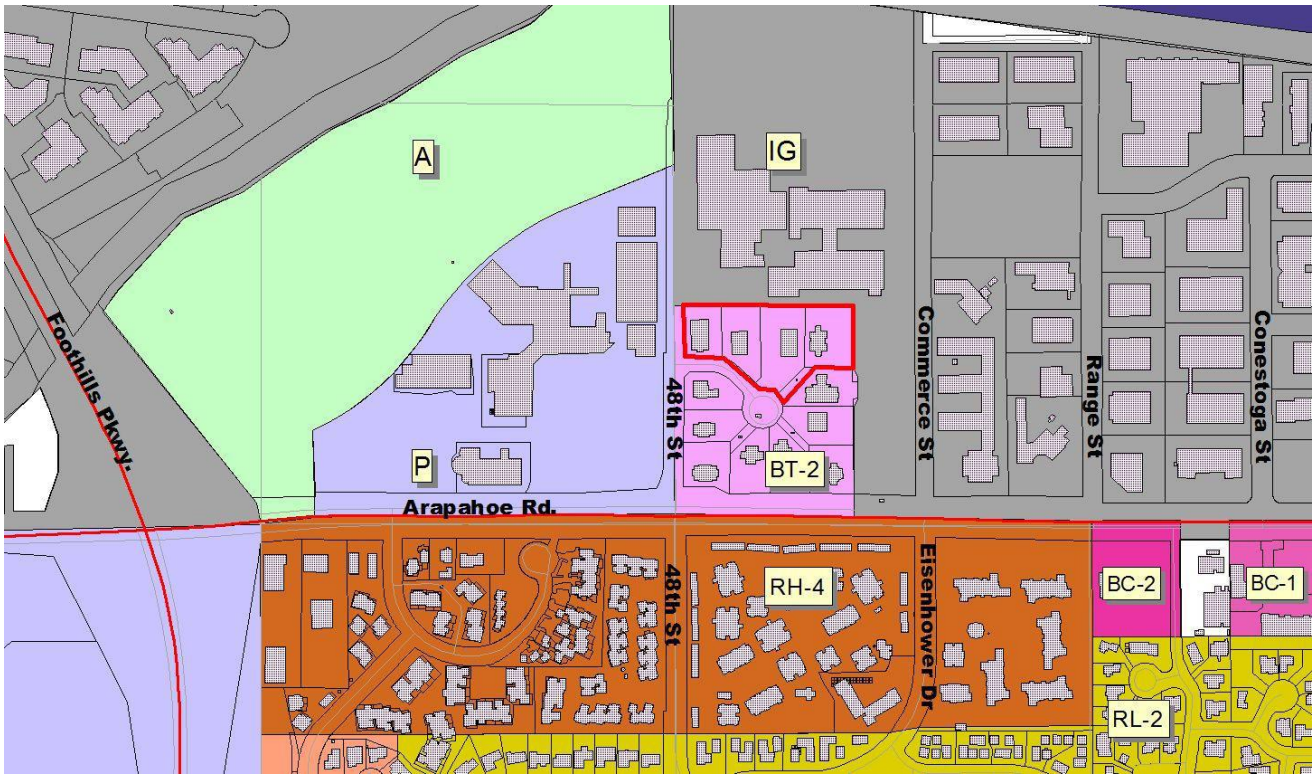
7. The applicant is notified that, though the city allows Xcel and Qwest to install their utilities in the public right-of-way, they generally require them to be located in easements on private property.

8. Floor drains internal to covered parking structures, that collect drainage from rain and ice drippings from parked cars or water used to wash-down internal floors, shall be connected to the wastewater service using appropriate grease and sediment traps.

9. Trees proposed to be planted shall be located at least 10 feet away from existing or future utility mains and services.

Zoning Karl Guiler, Case Manager, 303-441-4236

The project site is zoned BT-2 (Business-Transitional 2), defined in the land use code as: "*Transitional business areas which generally buffer a residential area from a major street and are primarily used for commercial and complementary residential uses, including, without limitation, temporary lodging and office uses"* (section 9-5-2(c)(2)(E)). The proposal includes a request to rezone to P (Public) zoning. P zoning is defined in the land use code as: "*Public areas in which public and semi-public facilities and uses are located, including without limitation, governmental and educational uses*."



IV. NEXT STEPS

1. Review and address the comments contained within this document.

2. If desired, contact the case manager on setting up a meeting to discuss the comments with case reviewers.

3. Submit eight (8) copies of revised review sets, requested additional information, and a letter response to the comments to the Project Specialists to continue review.

V. CITY CODE CRITERIA CHECKLIST

<u>BVCP Land Use Map Change</u>
The Land Use Map is not intended to be a zoning map. It is intended to provide policy direction and definition for future land uses in the Boulder Valley. Thus, a change to the land use designations may be considered at any time if it is related to a proposed change in zoning or proposed annexation and meets all of the following criteria:

(a) The proposed change is consistent with the policies and overall intent of the comprehensive plan.

The proposal to change the BVCP Land Use Map designation is consistent with the intent of the comprehensive plan to promote the physical health and well-being of residents of the Boulder Valley. The BVCP strives to "*maintain a high quality of life for all of its residents*" by "*providing facilities and services, among are human service programs and a focus on promoting cultural, social and economic equity*." More specifically, the following policies on economic and social sustainability are relevant:

BVCP Policy 1.03 Principles of Economic Sustainability The city and county will strive to develop and maintain a healthy, adaptable economy that is vital to the community's quality of life and high level of services and amenities by:

a) Promoting a diverse economy that supports the needs of all community members;
b) Promoting a qualified and diversified work force that meets employers' needs and supports a range of jobs; and
c) Providing for and investing in a quality of life, unique amenities, and infrastructure that attracts, sustains, and retains businesses and entrepreneurs.

BVCP Policy 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.

The Public Land Use Designation is described as follows:

Public/Semi-Public land use designations encompass a wide range of public and private nonprofit uses that provide a community service. This category includes municipal and public utility services such as the municipal airport, water reservoirs, and water and wastewater treatment plants. Public/Semi-Public also includes: educational facilities, including public and private schools and the university; government offices such as city and county buildings, libraries, and the jail; government laboratories; and nonprofit facilities such as cemeteries, churches, hospitals, retirement complexes and may include other uses as allowed by zoning.

The requested Public land use designation would allow for the expansion of the Boulder Community Health facility consistent with the following BVCP policies:

BVCP Policy 2.17 Variety of Activity Centers
BVCP Policy 8.01 Provide for a Broad Spectrum of Human Needs
BVCP Policy 8.07 Physical Heath
BVCP Policy 8.10 Support for Community Facilities

(b) The proposed change would not have significant cross-jurisdictional impacts that may affect residents, properties or facilities outside the city.

The proposed change is meant to facilitate the expansion of health services in a single location for the Boulder Valley. The change would allow for more efficient provision of services and enhance access to services for residents of the area. There would be no significant cross-jurisdictional impacts to residents, properties or facilities outside the city.

(c) The proposed change would not materially affect the land use and growth projections that were the basis of the comprehensive plan.

The proposed land use designation change is necessary to facilitate a new hospital facility on the site and will not materially affect the land use and growth projections that were the basis of the comprehensive plan.

(d) The proposed change does not materially affect the adequacy or availability of urban facilities and services to the immediate area or to the overall service area of the City of Boulder.

The proposed land use designation change is necessary to facilitate a new hospital facility on the site and will not materially affect the adequacy or availability of urban facilities and services to the immediate area or to the overall service area of the City of Boulder. Infrastructural upgrades necessary to serve the redevelopment will be evaluated and required as part of the Site Review process.

(e) The proposed change would not materially affect the adopted Capital Improvements Program of the City of Boulder.

The proposed land use designation change is necessary to facilitate a new hospital facility on the site and will not materially affect the adopted Capital Improvements Program of the City of Boulder.

(f) The proposed change would not affect the Area II/Area III boundaries in the comprehensive plan.

The proposed change is within Area I and would have no impact on the Area II/Area III boundaries in the comprehensive plan.

Rezoning

Criteria: The city's zoning is the result of a detailed and comprehensive appraisal of the city's present and future land use allocation needs. In order to establish and maintain sound, stable and desirable development within the city, rezoning of land is to be discouraged and allowed only under the limited circumstances herein described. Therefore, the city council shall grant a rezoning application only if the proposed rezoning is consistent with the policies and goals of the Boulder Valley Comprehensive Plan, and, for an application not incidental to a general revision of the zoning map, meets one of the following criteria:

(1) The applicant demonstrates by clear and convincing evidence that the proposed rezoning is necessary to come into compliance with the Boulder Valley Comprehensive Plan map;

Based on the necessity to apply a Public Boulder Valley Comprehensive Plan (BVCP) land use designation on the properties to accommodate the proposed hospital, the Public (P) zoning would be appropriate on the site to be consistent with this change to the BVCP (discussed above) in order to be in compliance with the BVCP map.

(2) The existing zoning of the land was the result of a clerical error;

(3) The existing zoning of the land was based on a mistake of fact;

(4) The existing zoning of the land failed to take into account the constraints on development created by the natural characteristics of the land, including, but not limited to, steep slopes, floodplain, unstable soils and inadequate drainage;

(5) The land or its surrounding environs has changed or is changing to such a degree that it is in the public interest to encourage a redevelopment of the area or to recognize the changed character of the area; or

(6) The proposed rezoning is necessary in order to provide land for a community need that was not anticipated at the time of adoption of the Boulder Valley Comprehensive Plan.

Site Review

Staff's analysis of the compliance with these criteria will be completed upon submission of additional materials and modifications and at the time of staff recommendation to Planning Board.

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.

The proposal requires a BVCP land use map change to apply Public land use. This is necessary to permit a hospital use on properties that are located proximate to the Boulder Community Health facility at 48th and Arapahoe. Consistent with the analysis for the BVCP Land Use Map change, the proposal to develop the properties with a new medical/hospital facility would be consistent with the intent of the BVCP, Community Well Being policies as well as the policies below more specifically related to land development:

- BVCP Policy 2.03 Compact Development Pattern
- BVCP Policy 2.21 Commitment to a Walkable and Accessible City
- BVCP Policy 2.21 Mixed Use
- BVCP Policy 2.36 Design Excellence for Public Projects
- BVCP Policy 4.04 Energy-Efficient Land Use
- BVCP Policy 6.12 Neighborhood Street 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

(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. The site is not under a residential land use designation and will contain no residential uses.

(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.

(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:

(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;

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(ii) Private open space is provided for each detached residential unit;

Not applicable to a non-residential project.

(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;

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

(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 size and location of the proposed open space is appropriate to a medical use. Active recreational uses would not be expected for the use of the property.

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

The property does not contain any existing sensitive environmental features or natural areas. The site is associated with the Boulder Community Health Foothills Hospital site, which includes substantial preserved areas of 17 acres in the floodplain areas of Boulder Creek.

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

The proposed pathways on the site would connect to the city's existing sidewalk system and will be convenient access to nearby multi-use paths as well as the Boulder Creek Path.

(B) Open Space in Mixed Use Developments (Developments That Contain a Mix of Residential and Nonresidential Uses):

(i) The open space provides for a balance of private and shared areas for the residential uses and common open space that is available for use by both the residential and nonresidential uses that will meet the needs of the anticipated residents, occupants, tenants and visitors of the property; and

(ii) The open space provides active areas and passive areas that will meet the needs of the anticipated residents, occupants, tenants and visitors of the property and are compatible with the surrounding area or an adopted plan for the area.

Not applicable. There is no residential component to the project.

(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;

(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;

(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.

(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;

(ii) Potential conflicts with vehicles are minimized;

(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;

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(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;

(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;

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

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

(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.

(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;

(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;

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

(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.

(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 character of the area is eclectic and contains a variety of building forms, heights and uses ranging from multi-family residential, transitional business, strip commercial to light industrial and medical uses. The proposed buildings would not be unlike the scale and design of buildings present in the area and particularly near to the site on the Boulder Community Health Foothill's Hospital and the Ball Aerospace campus. The general design of the buildings borrow from the designs and materiality of the existing hospital and medical buildings to the west and are oriented in an east-west orientation much like most of the buildings on the north side of the Arapahoe Avenue. Therefore, it can be concluded that the height, mass, scale, orientation, architecture and configuration of the proposed buildings will be compatible with the existing character of the area.

(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;

The buildings are proposed to be a maximum of 55 feet. This height would match that of several nearby structures including the Ball Aerospace buildings immediately to north and the existing hospital complex to the south. Another Ball Aerospace building to the east exceeds the 55 foot height limit and is considered nonconforming because it predates the current height limit. Therefore, the height of the proposed buildings is in general proportion to the heights of existing buildings in the immediate area.

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

The proposed buildings will not block any prominent views from adjacent properties. The buildings are proposed just to the south of a large window less Ball Aerospace facility where satellites are constructed. Shadows would be minimized and would fall into the mostly alley-like utilitarian area between the subject property and the Ball Aerospace site discussed above.

(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;

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(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;

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

As a hospital, the use is a critical public facility, the expansion of which will better provide for the needs of the community in a highly accessible location.

(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;

Not applicable to a non-residential project.

(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;

Not applicable to a non-residential project.

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

A lighting plan will be required at time of Technical Documents to determine compliance with section 9-9-16, B.R.C. 1981.

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

The proposed project is upon an already developed site and will not adversely impact any natural systems.

(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;

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(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;

(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 two buildings would not contain subterranean space and cut and fill would be limited to necessary contouring for the building footprints, open spaces and construction of a new roadway.

(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

The property is found within Area I and not in the urbanizing areas between Area II and III.

(xv) In the urbanizing areas located on the major streets shown on the map in Appendix A to 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.

See (xiv) above.

(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.

(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.**

(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.**

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

(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:

(i) The light pole is required for nighttime recreation activities which are compatible with the surrounding neighborhood, light or traffic signal pole is required for safety or the electrical utility pole is required to serve the needs of the City; and

(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.

Not applicable to this project.

(I) Land Use Intensity Modifications:

(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 twenty-five percent in the BR-1 district through a reduction of the lot area requirement.

(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:

a. Open Space Needs Met: The needs of the project's occupants and visitors for high quality and functional useable open space can be met adequately;

b. Character of Project and Area: The open space reduction does not adversely affect the character of the development or the character of the surrounding area; and

c. Open Space and Lot Area Reductions: The specific percentage reduction in open space or lot area requested by the applicant is justified by any one or combination of the following site design features not to exceed the maximum reduction set forth above:

1. Close proximity to a public mall or park for which the development is specially assessed or to which the project contributes funding of capital improvements beyond that required by the parks and recreation component of the development excise tax set forth in chapter 3-8, "Development Excise Tax," B.R.C. 1981: maximum one hundred percent reduction in all Downtown (DT) districts and ten percent in the BR-1 district;

2. Architectural treatment that results in reducing the apparent bulk and mass of the structure or structures and site planning which increases the openness of the site: maximum five percent reduction;

3. A common park, recreation or playground area functionally useable and accessible by the development's occupants for active recreational purposes and sized for the number of inhabitants of the development, maximum five percent reduction; or developed

facilities within the project designed to meet the active recreational needs of the occupants: maximum five percent reduction;

4. Permanent dedication of the development to use by a unique residential population whose needs for conventional open space are reduced: maximum five percent reduction;

5. The reduction in open space is part of a development with a mix of residential and nonresidential uses within a BR-2 zoning district that, due to the ratio of residential to nonresidential uses and because of the size, type and mix of dwelling units, the need for open space is reduced: maximum fifteen percent reduction; and

6. The reduction in open space is part of a development with a mix of residential and nonresidential uses within a BR-2 zoning district that provides high quality urban design elements that will meet the needs of anticipated residents, occupants, tenants and visitors of the property or will accommodate public gatherings, important activities or events in the life of the community and its people, that may include, without limitation, recreational or cultural amenities, intimate spaces that foster social interaction, street furniture, landscaping and hard surface treatments for the open space: maximum twenty-five percent reduction.

Not applicable to this project.

(J) Additional Criteria for Floor Area Ratio Increase for Buildings in the BR-1 District:

(i) Process: For buildings in the BR-1 district, the floor area ratio ("FAR") permitted under Table 8-2, Section 9-8-2, "Floor Area Ratio Requirements," B.R.C. 1981, may be increased by the city manager under the criteria set forth in this subparagraph.

(ii) Maximum FAR Increase: The maximum FAR increase allowed for buildings thirty-five feet and over in height in the BR-1 district shall be from 2:1 to 4:1.

(iii) Criteria for the BR-1 District: The FAR may be increased in the BR-1 district to the extent allowed in subparagraph (h)(2)(J)(ii) of this section if the approving agency finds that the following criteria are met:

a. Site and building design provide open space exceeding the required useable open space by at least ten percent: an increase in FAR not to exceed 0.25:1.

b. Site and building design provide private outdoor space for each office unit equal to at least ten percent of the lot area for buildings twenty-five feet and under and at least twenty percent of the lot area for buildings above twenty-five feet: an increase in FAR not to exceed 0.25:1.

c. Site and building design provide a street front facade and an alley facade at a pedestrian scale, including, without limitation, features such as awnings and windows, well-defined building entrances and other building details: an increase in FAR not to exceed 0.25:1.

d. For a building containing residential and nonresidential uses in which neither use comprises less than twenty-five percent of the total square footage: an increase in FAR not to exceed 1:1.

e. The unused portion of the allowed FAR of historic buildings designated as landmarks under chapter 9-11, "Historic Preservation," B.R.C. 1981, may be transferred to other sites in the same zoning district. However, the increase in FAR of a proposed building to which FAR is transferred under this subparagraph may not exceed an increase of 0.5:1.

f. For a building which provides one full level of parking below grade, an increase in FAR not to exceed 0.5:1 may be granted.

Not applicable to this project.

(K) Additional Criteria for Parking Reductions: The off-street parking requirements of Section 9-9-6, "Parking Standards," B.R.C. 1981, may be modified as follows:

(i) Process: The city manager may grant a parking reduction not to exceed fifty percent of the required parking. The planning board or city council may grant a reduction exceeding fifty percent.

(ii) Criteria: Upon submission of documentation by the applicant of how the project meets the following criteria, the approving agency may approve proposed modifications to the parking requirements of Section 9-9-6, "Parking Standards," B.R.C. 1981 (see tables 9-1, 9-2, 9-3 and 9-4), if it finds that:

a. For residential uses, the probable number of motor vehicles to be owned by occupants of and visitors to dwellings in the project will be adequately accommodated;

b. The parking needs of any nonresidential uses will be adequately accommodated through on-street parking or off-street parking;

c. A mix of residential with either office or retail uses is proposed, and the parking needs of all uses will be accommodated through shared parking;

d. If joint use of common parking areas is proposed, varying time periods of use will accommodate proposed parking needs; and

e. If the number of off-street parking spaces is reduced because of the nature of the occupancy, the applicant provides assurances that the nature of the occupancy will not change.

Not applicable to this project.

(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:

(i) The lots are held in common ownership;

(ii) The separate lot is in the same zoning district and located within three hundred feet of the lot that it serves; and

(iii) The property used for off-site parking under this subparagraph continues under common ownership or control.

<u>Use Review</u>

Criteria for Review: No use review application will be approved unless the approving agency finds all of the following:

(1) Consistency With Zoning and Nonconformity: The use is consistent with the purpose of the zoning district as set forth in section 9-5-2, "Zoning Districts," B.R.C. 1981, except in the case of a nonconforming use;

(2) Rationale: The use either:

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

(B) Provides a compatible transition between higher intensity and lower intensity uses;

(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 nonresidential mixed uses in appropriate locations and group living arrangements for special populations; or

(D) Is an existing legal nonconforming use or a change thereto that is permitted under subsection (f) 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;

(4) Infrastructure: As compared to development permitted under section 9-6-1, "Schedule of Permitted Land Uses," B.R.C. 1981, in the zone, or as compared to the existing level of impact of a nonconforming 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;

(5) Character of Area: The use will not change the predominant character of the surrounding area or the character established by adopted design guidelines or plans for the area; and

(6) Conversion of Dwelling Units to Nonresidential Uses: There shall be a presumption against approving the conversion of dwelling units in the residential zoning districts to nonresidential uses that are allowed pursuant to a use review, or through the change of one nonconforming use to another nonconforming 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 daycare center, park, religious assembly, social service use, benevolent organization use, art or craft studio space, museum or an educational use.

VI. Conditions On Case

To be prepared prior to staff recommendation on the project.

CITY OF BOULDER
Planning and Development Services

1739 Broadway, Third Floor • P.O. Box 791, Boulder, CO 80306-0791
phone 303-441-1880 • fax 303-441-3241 • email plandevelop@bouldercolorado.gov
www.boulderplandevelop.net

CITY OF BOULDER
LAND USE REVIEW RESULTS AND COMMENTS

DATE OF COMMENTS:	**August 19, 2016**
CASE MANAGER:	**Karl Guiler**
PROJECT NAME:	**Boulder Community Health – Riverbend Medical Center and Parking Garage**
LOCATION:	**4801, 4855, 4865, and 4885 Riverbend Road (directly east of existing Boulder Community Health Foothills campus)**
COORDINATES:	**N03W01**
REVIEW TYPES:	**BVCP Land Use Map Change, Rezoning, Site Review and Use Review**
REVIEW NUMBER:	**LUR2016-00038 (BVCP Land Use Map Change), LUR2016-00039 (Rezoning) and LUR2016-00040 (Site and Use Review)**
APPLICANT:	**Darryl Brown for Boulder Community Health**
DESCRIPTION:	**1) BOULDER VALLEY COMPREHENSIVE PLAN (BVCP) LAND USE MAP CHANGE:** Proposal to change the underlying BVCP Land Use Designation on the Riverbend Road site from Transitional Business to Public as a part of the requests below (Case No. LUR2016-00038); **2) REZONING**: In conjunction with the requested land use map change discussed above, a rezoning from BT-2 (Business Transitional – 2) to P (Public) is requested (Case No. LUR2016-00038); **3) SITE REVIEW:** Request to amend the Riverbend Office Park Planned Unit Development (PUD) to build a new 75,030 sq. ft., 3-story medical center to include inpatient behavioral health, inpatient rehabilitation and neurology facilities as part of the Boulder Community Health functions at the corner of Arapahoe Ave. and 48th Street. The proposal also includes a new, 5-story parking structure containing 409 parking spaces with first floor accessory uses including office and hospital-oriented retail. The proposal would require a height modification to permit the medical and parking garage buildings at 55-feet where 35-feet is the by-right limit (the request for a height modification will require City Council action on an amendment to the ordinance specifying areas where height modifications may be requested), and **4) USE REVIEW**: Request for automobile parking lots, garages or car pool lots as a principal use.

REQUESTED MODIFICATIONS FROM THE LAND USE REGULATIONS:

- 9-7-1- Minimum side yard landscaped setback from a street to permit a building at 10 feet and parking spaces at 3 feet where 12.5 feet is required.
- 9-7-1- Minimum rear yard setback to permit the parking structure at 12 feet where 25 feet is required.
- 9-7-1- Minimum side yard landscape setback to permit the existing structure at 4895 Riverbend as 11 feet where 15 feet is required.
- 9-7-1- Maximum permitted height to permit 55 feet where 35 feet is the by-right limit (requires City Council approval).
- 9-7-1- Maximum number of stories to permit 6 garage parking levels where 3 is the limit.
- Parking reduction (5%) to permit 18 spaces where 19 spaces are required at 4895 Riverbend Road.

I. REVIEW FINDINGS

Staff acknowledges the applicant's efforts in balancing the variety of logistical and aesthetic concerns expressed in the previous comments and addressing them effectively on the latest sets. Because of this, staff finds that the revised plans

meet the Site Review criteria of Section 9-2-14(h), B.R.C. 1981 and will recommend approval of the Site Review in addition to the proposed Boulder Valley Comprehensive Plan (BVCP) land use map change and rezoning. At present, Planning Board review is tentatively scheduled for **Oct. 6, 2016** followed by first reading and second readings of the ordinance to rezone and permit the proposed height at City Council.

Prior to advancing to Planning Board there are some inconsistencies and remaining issues that will require revised sets to be submitted to ensure that the item can be heard by the Planning Board on Oct. 6, 2016.

Revised plans that adequately address the comments within this document shall be submitted no later than Sept. 5th at 10am (however, it would be helpful to have revisions in advance of that) to keep the current Planning Board date. If the issues are not satisfactorily resolved, a later Planning Board date may be necessary to enable time for the issues to be resolved. Staff is happy to meet at your earliest convenience to discuss the issues within this document to enable expeditious turnaround of the plan sets. The case manager is available to set up and meet with other reviewers within the next two weeks.

Please review and address all comments in this document and submit five (5) revised review sets and written responses to the comments to the Project Specialists within 60 days.

II. CITY REQUIREMENTS

Access/Circulation David Thompson, 303-441-4417

1. As a follow-up to staff's previous comment, the submitted variance request letter is incomplete because it doesn't include all the non-standard geometric design elements being shown on the civil plans. Specifically, the variance request does not include the non-standard centerline radius being proposed for the horizontal curves nor the non-standard reverse curve tangent being provided at the east end of Riverside Road. The variance letter needs to include all the non-standard design elements being proposed with the project along with an analysis and discussion which demonstrates: (1) the non-standard street geometric design elements will provide adequate horizontal sight distance for vehicles traveling along Riverbend Road; (2) the sight triangle requirements in section 9-9-7 of the Boulder Revised Code can be met where both private drives and public roads intersect with Riverbend Road and (3) that passenger vehicles and single unit trucks can maneuver through the non-standard horizontal alignment of Riverbend Rd without encroaching into the opposite lane and triggering the need to provide wider travel lanes. The revised variance letter should be re-submitted to staff as soon as possible given the potential impacts of the requested variances on the site's design.

2. Please revise the easement and right-of-way plan sheet to show: (1) with width of Riverbend Road, extending one-foot beyond the back of curb, in right-of-way to be owned by the City from 48th Street to the east property line; (2) the landscape strip, detached and attached sidewalks extending one-foot beyond the back of the sidewalk on the south side of Riverbend Road in right-of-way to be owned by the City; (3) the landscape strip on the north side of Riverbend Road, not exceeding eight feet in width, in a public access easement to be dedicated to the City; (4) the eight-foot wide east / west sidewalk on the south side and adjacent to the two buildings within a ten foot wide public access easement to be dedicated to the City with the additional easement width being provided on each side of the sidewalk; (5) the right-of-way to be owned by the City for the cul-de-sac extending to one foot beyond the detached sidewalk where the cul-de-sac intersects with Riverbend Road; (6) an emergency access easement to be dedicated to the City across the properties at 4895 Riverbend, 4890 Riverbend, 4880 Riverbend, and potentially 4860 Riverbend in order to provide a turnaround for emergency vehicles where Riverbend Road ends and pursuant to section 2.10 of the City's Design and Construction Standards (DCS) and (7) show the grading easement to be granted by Ball Aerospace for the construction of the east / west multi-use path.

3. Staff is unable to concur with the results of the auto-turn exhibits submitted for the cul-de-sac because staff is unable to verify the same results using vehicle turning templates. The turning templates used by staff show the proposed width of the curb-cut for the cul-de-sac to be too narrow to comfortably accommodate the turning requirements of a single unit truck without the truck driving over the adjacent curb-and-gutter. This would result in an on-going maintenance issue for the City. The turning templates also show the need to provide a wider travel way in the cul-de-sac and the need to modify the proposed curb cuts in the cul-de-sac again to comfortably accommodate the turning movements of the single unit truck. Please also refer to review comment made by Fire Protection below. Staff would like to meet with the design engineer to resolve this comment.

4. Pursuant to staff's previous comments: (1) please revise the vertical curve profile to include the location where the garage, cul-de-sac, driveway and porte-cochere intersect with Riverbend Road and (2) show the existing curb ramps on 48th Street south of Riverbend Road being replaced with new curb-ramps meeting CDOT standards.

5. On the project data sheet, please revise the bike parking information to replace "per public zone" with "per land use - office, medical and financial uses"

6. On both the civil and landscape plans: (1) please correct the discrepancy between the different plan sheets on the number of short-term bicycle parking spaces to be provided on the site: (2) revise the civil and landscape plan sheets to disperse the eight inverted "u" bicycle racks fronting the medical pavilion building across the entire length of the concrete pad and (3) revise the plan sheets to demonstrate the concrete pad area for the six inverted "u" bicycle racks fronting the garage does not encroach within the 10-foot wide public access easement being dedicated for the sidewalk. Please refer to technical drawing 2.52.B of the DCS for guidance on the dimensions of the concrete pad.

7. Staff appreciates the applicant's revisions to the site plans in order to provide bicycle parking spaces to accommodate bikes with trailers in support of the project's TDM Plan. However, in order to provide the parking space needed for bikes with attached trailers the length of the parking space needs to increase from six-feet as shown in technical drawing 2.52.B of the DCS to ten-feet. On the site plans, please revise the length of three of the proposed bicycle parking spaces from six-feet to ten-feet to order to accommodate bikes with trailers. Also, please demonstrate the ten-foot long bicycle parking spaces do not encroach within the public access easement for the east / west sidewalk.

8. As a follow-up to staff's previous comment, please revise the street lighting being shown on the civil plans to match the street lighting being shown on the landscape plans.

9. Staff appreciates the applicant providing a 14-foot wide public access easement east of the courtyard and adjacent to the property's north boundary line for the future continuation of the east / west multi-use path. That said, staff will only support the 14' wide public access easement dedication if it also includes the construction and continuation of the multi-use path to the east property line as part of this site review.

Building Design Karl Guiler, Case Manager, 303-441-4236

1. Staff finds the fiber cement panel proposed is appropriate. Please specify the exact type of fiber cement panel intended for the building on Sheet SR3-1.

2. Please clarify whether window panes will be light or dark colored. Some information in the sets conflict regarding the color.

Drainage, Scott Kuhna, 303-441-4071

1. The *Riverbend Medical Center Preliminary Drainage Report (Report)* references the Dry Creek No. 2 Ditch as the outfall in several sections of the *Report*. It has been determined that this is no longer the case. Revise accordingly.

2. The plans show a proposed CDS Water Quality Unit in the right-of-way of Riverbend Rd. Sizing of the proposed unit is required at time of Technical Document Review. All maintenance responsibilities for the proposed unit will remain with the property owner, and will be detailed in the Subdivision Agreement.

Flood Control, Jessica Stevens, 303-441-3121

Please include the extents of the 100-year floodplain of Boulder Creek on all site development plans upon resubmittal.

Fees Karl Guiler, Case Manager, 303-441-4236

Please note that 2016 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.

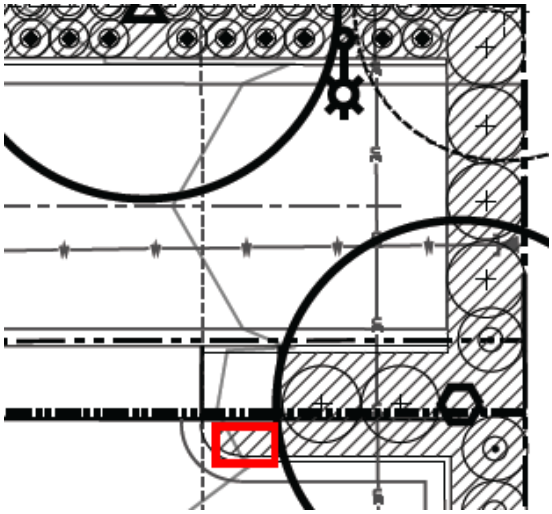
Fire Protection David Lowrey, 303.441.4356

Please note that the Autoturn states Boulder Fire "small" truck. I am unsure what that is. We have only one truck design that is required to be use. I believe it is the only one that JVA should have on file however, this must be verified that what they used meets Boulder Fire specifications.

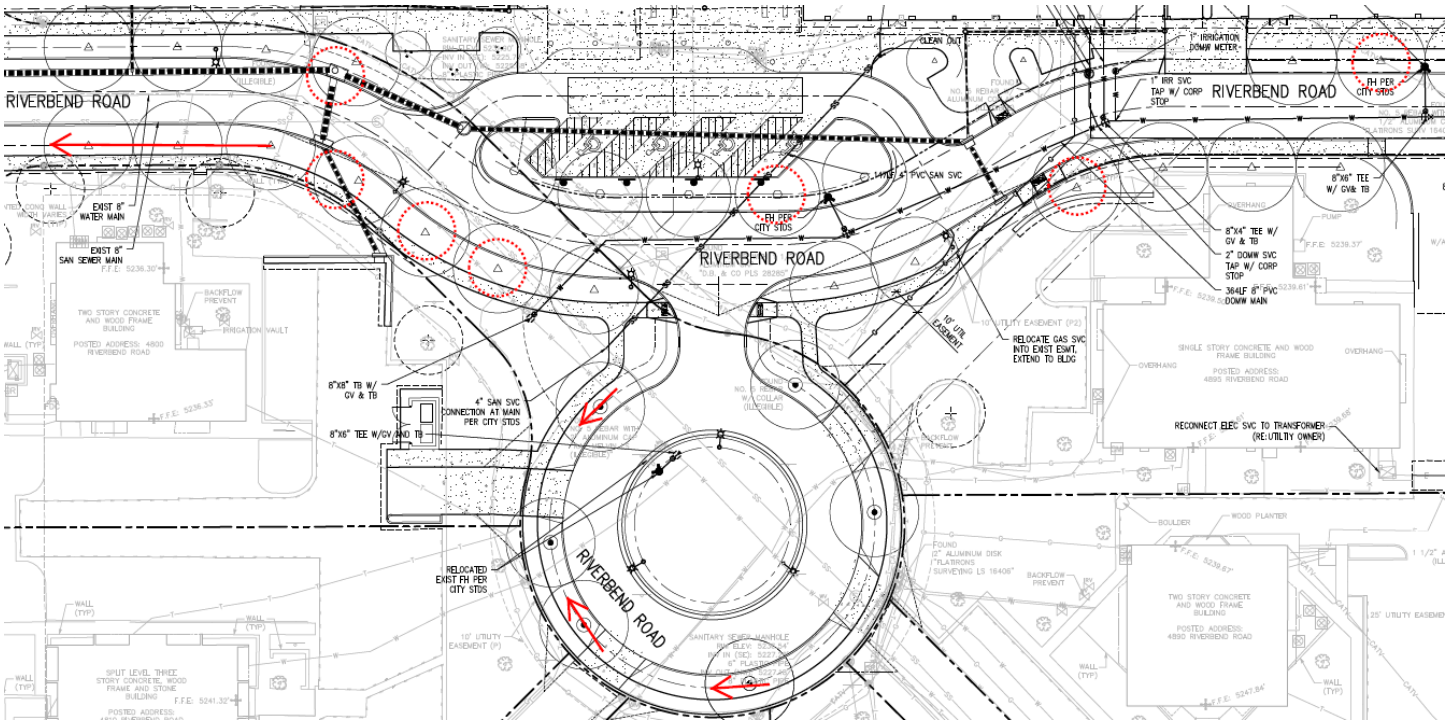
No other issues noted at this time.

Land Uses Karl Guiler, Case Manager, 303-441-4236
Staff agrees with the response related to accessory retail uses in the garage. Please add the narrative to the plans by the spaces so that it is clear what types of uses are anticipated for the spaces.

Landscaping Elizabeth Lokocz, 303-441-3138



1. Clarify the summary table regarding structured parking (which has not landscape requirements) and surface parking. The surface ADA parking and turnaround do not have any landscape requirements as a standalone parking area, but the surface parking along the eastern property lines does. It is unclear if additional screening can be provided. Please include the current condition and proposed improvements in the table. The small landscape area (see the red box in the graphic) adjacent to the ramp seems likely to be a maintenance issue. Consider a pavement treatment.
2. Please use the city approved U-rack detail on sheet L3.0 available from the Design and Construction Standards.
3. Please note that additional species selection comments may be provided at the Technical Document Review.
4. Staff appreciates the efforts to coordinate the street trees and utilities. Please dimension the separation on the utility plan and the landscape plan for any tree that does not meet the required ten feet. Many conflicts still exist. While dry utilities do not have the same requirement, private utility companies will need to accept the separation and planting directly on top of a line may not be feasible or advisable. See the graphic below and adjust the trees or utilities as needed. The graphic below includes trees that need minor adjustments indicated with an arrow and trees that have larger conflicts needing additional resolution with dashed circles.



5. There appears to be an existing wall north of 4895 that is called out for demolition on the demo plan, but appears as remaining on the site and landscape plans. Please clarify. The wall would prevent the proposed street trees.

Legal Documents Julia Chase, City Attorney's Office, Ph. (303) 441-3052
1. The Applicant will be required to sign a Development Agreement, if approved. <u>When staff requests</u>, the Applicant shall provide the following:

a) an updated title commitment current within 30 days; and

b) Proof of authorization to bind on behalf of the owners.

Neighborhood Comments Karl Guiler, Case Manager, 303441-4236
Staff has been contacted by a neighbor employee and resident who have expressed concerns about the project. The concerns relate mostly to traffic congestion in the area and traffic conflicts on Riverbend Road.

Parking Karl Guiler, Case Manager, 303-441-4236

1. City requirements for parking are that any resulting number of a parking calculation be rounded down. Please revise Sheet SR1-1 for the 'existing (BT-2) Riverbend properties' to update the parking required column for 4800 through 4880 Riverbend to have one less parking space for each. Further, revise the totals in the general parking data on Sheet 01 to be 'Required Medical Parking: 234, Required Retail Parking: 16, and Total Required Parking: 250 spaces.'

2. The layout of parking within the garage has been revised since the previous iteration and as a result there does not appear to include the same number of parking spaces as shown on the prior plans. Staff has counted spaces at least 10 spaces less than the amounts in the parking data table. Staff also counted a lower number of compact stalls than represented in the parking data table. Please clarify and revise the parking data tables and parking studies to match the numbers accordingly.

3. It appears from the numbers on Sheet SR1-1 that construction work on the 4895 Riverbend property will result in the reduction of one parking space. This will require a 5% parking reduction for that property as the parking for the individual properties will continue to apply to the individual lots as previously approved for the Riverbend Office Park PUD. Please indicate that parking will not be shared between the properties on SR1-1 related to the previous PUD and submit responses for the parking reduction criteria of Section 9-214(h)(2)(K), B.R.C. 1981. Also, as stated in 'Plan Documents' below, the co-owner of that site will need to consent to the construction work and this parking reduction.

Plan Documents Karl Guiler, Case Manager, 303-441-4236

1. Without a preliminary plat it continues to be confusing the limits of the public right-of-way to be dedicated on the site. Staff finds that the engineering sets should be updated to clarify that a portion of the right-of-way limits by the northeast quadrant of the round-a-bout should be shown to be eliminated as the right-of-way will continue onto the new portions of Riverbend Road. This can be done on Sheet C5.0.

2. Correct the spelling of 'Generally' on Sheet SR1-1 in the 'Existing PUD Approval' section.

3. Please add a section on Sheet SR1-1 related to Uses and that allowed uses are according to the underlying BT-2 requirements and any existing non-conforming uses would be regulated according to Chapter 9-10, "Nonconformance Standards.' Further, a statement shall be added that indicates that expansions and changes are subject to the city Site Review Amendment or Minor Modification processes as applicable. Also, see comments related to parking.

4. Revise the south elevation on Sheet SR2-1 to show the brick wall beyond as shown on SR2-3.

5. Construction work is proposed for the property at 4895 Riverbend in the area identified as Outlot 3 as well as Lot 8. Riverbend Sleep LLC has ½ ownership in Outlot 3 and owns Lot 8. Therefore, Riverbend Sleep LLC will need to consent to work by signing the application, by signing a letter of consent. In addition, Riverbend Sleep LLC will need to sign the Development Agreement.

   Further, as stated in the 'Access/Circulation' comments, an emergency access easement is required through the properties at 4895 Riverbend, 4890 Riverbend, 4880 Riverbend, and potentially 4860 Riverbend. All non-Boulder Community Hospital owners will also need to submit consent to this easement.

6. Title commitments for all properties included in the development must be provided.

Signage: Caeli Hill, 303-441-4161
Please include the "signs by separate permit" note on sheet SR3-2.

Utilities, Scott Kuhna, 303-441-4071
Trees need to be located at least 10 feet away from existing or future utilities. Please see the Landscaping comments regarding tree and utility line conflicts.

Zoning Karl Guiler, Case Manager, 303-441-4236

1. Staff has identified an additional setback modification that would apply to the existing building at 4895 Riverbend. Based on the proposed right-of-way in that area, a side yard landscape setback of 11 feet will need to be approved as a modification since the BT-2 zone requires 15 feet in that location.

2. Please indicate if the metal wall in the courtyard space will be backlit or uplit with lighting. If so, it would be necessary to include a lighting plan demonstrating compliance with the Outdoor Lighting regulations of section 9-9-16, B.R.C. 1981.

3. Section 9-7-7, "Building Height, Appurtenances," states, "No appurtenance may have useable floor area except for mechanical equipment installations; have more than twenty-five percent coverage of the roof area of the building; or be more than sixteen feet in height. For the purposes of this paragraph, coverage means the total area enclosed by the screening and roof area means the outside top covering of a building which is parallel to the ground." The proposed penthouse appears to include useable floor area. Please clarify the use of the space as mechanical spaces and demonstrate that the floor space cannot be met at a lower height and is the minimum necessary for the function of the building pursuant to Section 9-7-7(a)(2)(B), B.R.C. 1981. The proposed screens are also very noticeable on the roof. Consider lowering the height of the screen walls to lower their visibility consistent with the requirements of Section 9-7-7(A)(4)(c) and (d), B.R.C. 1981.

4. There are parapets over the 55-foot height limit for both the medical office building and parking structure. Include a diagram that affirms that they will not exceed 18 inches above the 55-foot height for the medical building and add the 55-foot height limit to the sections on SR3-3. Also, include a measurement on the sections and diagrams that affirms that the flat roof feature on the building is capped at only 18 inches above the 55-foot height limit.

5. Provide roof plan of the parking garage that affirms that the solar arrays, which exceed the 55-foot height limit, do not exceed 25% of the roof area of the garage. These elements and the calculation may be added to Sheet SR5-4.

6. There are several elements that exceed the 55-foot height limit in addition to parapets. These include the aforementioned flat cap roofs of the medical office building and the garage screens on the parking garage. Staff is considering these 'architectural features' consistent with the 'Appurtenance' definition below:

   Appurtenances means:

   (1) Architectural features not used for human occupancy, consisting of spires, belfries, cupolas or dormers, silos, parapet walls, and cornices without windows; and

   (2) Necessary mechanical equipment usually carried above the roof level, including, without limitation, chimneys, ventilators, skylights, antennas, microwave dishes, and solar systems, and excluding wind energy conversion systems.

III. INFORMATIONAL COMMENTS

Access / Circulation David Thompson, 303-441-4417

At time of technical document review, staff will evaluate the need to provide a curb ramp along the east side of 48th Street in order to provide access for bicyclists from the street to the east / west multi-use path.

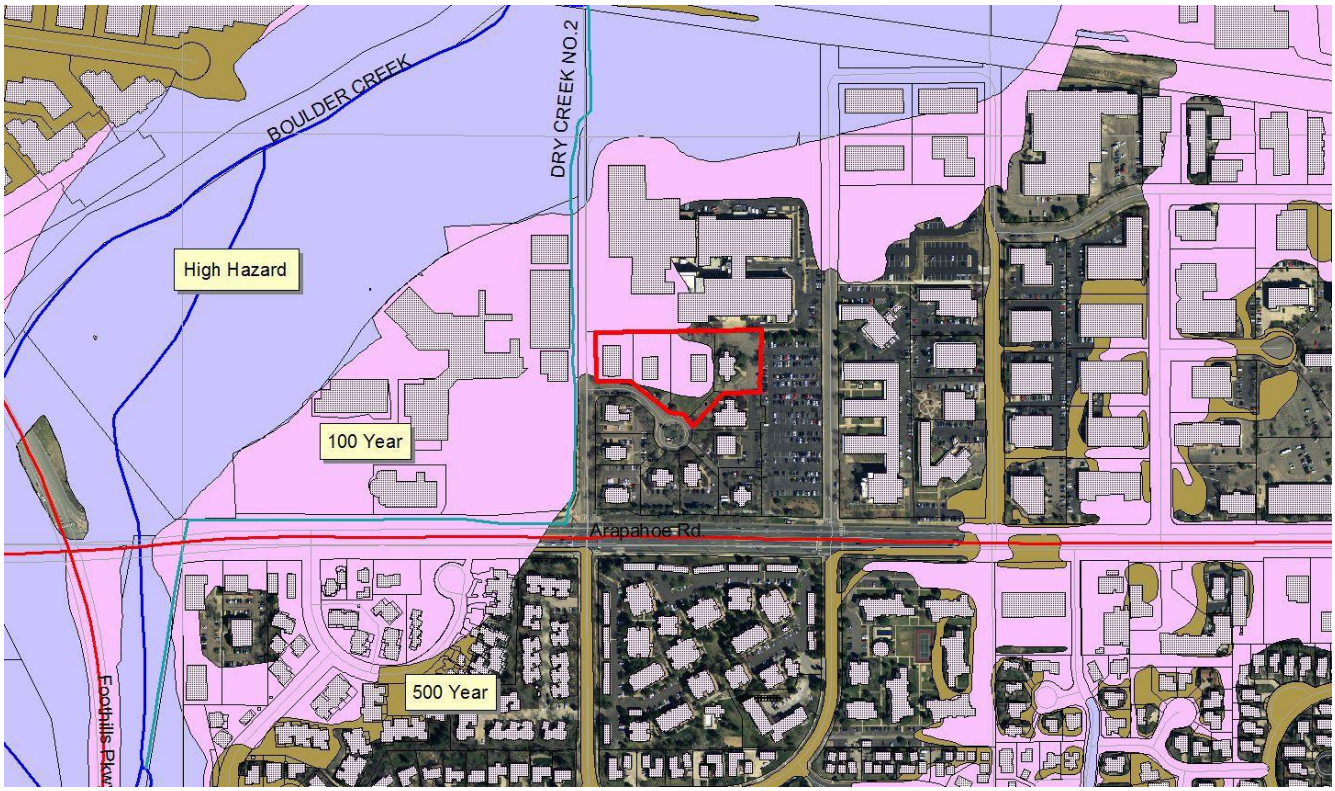
Area Characteristics and Zoning History Karl Guiler, Case Manager, 303-441-4236

The site is currently the location of the Riverbend Office Park, which was originally annexed and approved as a Planned Unit Development (PUD) with an initial zoning designation of Industrial – Developing ("IG" under current code standards). The original approval also included a Special Review (now called Use Review) approval for the office uses.

Over the years, several additional Use Reviews were approved for additional office uses on specific sites within the PUD, and several other office uses were established or converted without the benefit of City review. In 2000, the Riverbend Office Park was rezoned from Industrial to Transitional Business in acknowledgment of the fact that the proliferation of office uses within the development, many of which were nonconforming or prohibited, had resulted in the development no longer being consistent with the Industrial zoning designation. Currently, the 12 existing one and two-story buildings within the Riverbend Office Park contain a mix of medical/dental, professional and technical offices and personal service uses, all of which are allowed uses in the BT-2 zone district.

A variety of BVCP land use designations surround the site and reflect the diversity of land uses in the area. Most land east and north of the site are designated light industrial, whereas uses south of Arapahoe are predominantly designated medium to high density residential with low density residential neighborhoods further from Arapahoe. As mentioned above, the project site is located immediately to the east of the existing BCH Foothills campus at the corner of Arapahoe and Foothills, which has a BVCP land use designation of Public. The lands southwest of Foothills and Arapahoe owned by the University of Colorado have a Public land use designation as well.

The project site has a number of unique characteristics that will need to be taken into consideration. As shown in the figure below**,** the site is impacted by the 100-year floodplain and as such any new development will require a floodplain development permit. In addition, because the proposed facility is considered a critical facility per section 9-16, B.R.C. 1981, an Emergency Management Plan would be required.



It is also worth noting that the Federal Emergency Management Agency (FEMA) is considering the adoption of updated floodplain maps for Boulder Creek. These maps were previously adopted by the Boulder City Council on Sept. 18, 2012, but have not yet been incorporated into FEMA's Flood Insurance Rate Maps. FEMA held an Open House meeting to present the proposed mapping on Wednesday, Sept. 16, 2015.

The new floodplain mapping was adopted by City Council on Sept. 18, 2012 and is currently regulatory. FEMA began reviewing the mapping on Oct. 30, 2012. Final project documentation was submitted to FEMA in September 2013. In November 2013, FEMA indicated that they accepted the results of the study and will be adopting the new mapping through the Physical Map Revision process, which is a multi-year process. The process was delayed due to the September 2013 flooding. FEMA released Preliminary Flood Insurance Rate Maps (FIRMs) on July 23, 2015. These maps are available on FEMA's website: http://msc.fema.gov/portal

The new FIRMs are anticipated to become effective in December 2016, although this schedule is subject to change. Please see the link to the FEMA fact sheet for more information. The existing floodplain mapping and the revised floodplain mapping are both regulatory until FEMA adopts the new mapping. For additional information please visit: https://bouldercolorado.gov/flood/boulder-creek-floodplain-mapping-update.

The properties are also immediate adjacent to the existing Boulder Community Health facility, which now contains the principal hospital for Boulder. The property was annexed in 2001 and application LUR2001-00009 was approved to permit construction of the hospital in phases with deferred parking. Five phases and up to 420,000 square feet of floor area was permitted through Site Review #LUR2001-00009.

Application LUR2004-00012 entailed a change to the annexation agreement (i.e., removal of doctor offices from critical medical services definition) and application LUR2005-00049 permitted an adjustment to the phasing (designations) and floor area to permit the new cancer center along Arapahoe. Total floor area to the site was reduced from 420,000 square feet to 418,000 square feet (see Condition No. 4 of the approval). The 2001 approval permitted the Site Review to be valid for a period of 10 years. Staff extended this validity for six months into 2012.

Site Review application #LUR2011-00043 was approved by Planning Board on Dec. 1, 2011 to expand the existing 308,255 square foot hospital by over 100,000 square feet of new floor area (totaling up to 440,000 square feet) within new three-story wings and upper floors on the existing hospital building. A height modification was also approved to build the new additions up to 52 feet (similar to existing height). Use Review application #LUR2011-00061 was also approved to permit the heliport. A rezoning was also approved to properly align the zoning with the underlying BVCP land use map designations of Public and Open Space.

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 (DCS).

2. Discharge of groundwater to the public storm sewer system may be necessary to accommodate construction and operation of the proposed development. City and/or State permits will be required for this discharge. The applicant is advised to contact the City of Boulder Storm Water Quality Office at 303-413-7350 regarding permit requirements. All applicable permits must be in place prior to building permit application. Additionally, special design considerations for the properties to handle groundwater discharge as part of the development may be necessary.

3. All inlet grates in proposed streets, alleys, parking lot travel lanes, bike paths, or sidewalks shall utilize a safety grate approved for bicycle traffic.

4. A construction stormwater discharge permit is required from the State of Colorado for projects disturbing more than 1-acre of land. The applicant is advised to contact the Colorado Department of Public Health and Environment.

Groundwater, Scott Kuhna, 303-441-4071

Groundwater is a concern in many areas of the city of Boulder. Please be advised that if it is encountered at this site, an underdrain/dewatering system may be required to reduce groundwater infiltration, and information pertaining to the quality of the groundwater encountered on the site will be required to determine if treatment is necessary prior to discharge from the site. City and/or State permits are required for the discharge of any groundwater to the public storm sewer system.

Land Uses Karl Guiler, Case Manager, 303-441-4236

The existing Boulder Valley Comprehensive Plan (BVCP) land use designation on the site is Transitional Business. The BVCP describes Transitional Business as follows "*The Transitional Business designation is shown along certain major streets. These are areas usually zoned for less intensive business uses than in the General Business areas, and they often provide a transition to residential areas.*" The application includes a request for Public land use, which is described as follows, "*Public/Semi-Public land use designations encompass a wide range of public and private nonprofit uses that provide a community service. This category includes municipal and public utility services such as the municipal airport, water reservoirs, and water and wastewater treatment plants. Public/Semi-Public also includes: educational facilities, including public and private schools and the university; government offices such as city and county buildings, libraries, and the jail; government laboratories; and nonprofit facilities such as cemeteries, churches, hospitals, retirement complexes and may include other uses as allowed by zoning*."

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.

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). All existing and proposed "dry" utilities (Xcel, Comcast, Century Link, etc.) will also need to be included on the plans.

3. Maintenance of sand/oil interceptors and all private wastewater and storm sewer lines and structures shall remain the responsibility of the owner.

4. 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.

5. 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 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 existing water and/or wastewater services are required to be abandoned and upsized, all new service taps to existing mains shall be made by city crews at the developer's expense. The water service must be excavated and turned off at the corporation stop, per city standards. The sewer service must be excavated and capped at the property line, per city standards.

   d. Since the buildings will be sprinklered, the approved fire line plans must accompany the fire sprinkler service line connection permit application.

6. 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.

7. The applicant is notified that, though the city allows Xcel and Qwest to install their utilities in the public right-of-way, they generally require them to be located in easements on private property.

8. Floor drains internal to covered parking structures, that collect drainage from rain and ice drippings from parked cars or water used to wash-down internal floors, shall be connected to the wastewater service using appropriate grease and sediment traps.

9. Trees proposed to be planted shall be located at least 10 feet away from existing or future utility mains and services.

Zoning Karl Guiler, Case Manager, 303-441-4236

The project site is zoned BT-2 (Business-Transitional 2), defined in the land use code as: "*Transitional business areas which generally buffer a residential area from a major street and are primarily used for commercial and complementary residential uses, including, without limitation, temporary lodging and office uses"* (section 9-5-2(c)(2)(E)). The proposal includes a request to rezone to P (Public) zoning for the northern properties within Riverbend. P zoning is defined in the land use code as: "*Public areas in which public and semi-public facilities and uses are located, including without limitation,*

governmental and educational uses."

IV. NEXT STEPS

(1) Please review and address all comments in this document and submit five (5) revised review sets and written responses to the comments to the Project Specialists within 60 days.

(2) If necessary, contact the case manager to set up a meeting to occur within the next two weeks.

(3) Planning Board is tentatively scheduled for Oct. 6th but is contingent on the remaining comments within this document being addressed in advance of Sept. 5th.

V. CITY CODE CRITERIA CHECKLIST

BVCP Land Use Map Change

The Land Use Map is not intended to be a zoning map. It is intended to provide policy direction and definition for future land uses in the Boulder Valley. Thus, a change to the land use designations may be considered at any time if it is related to a proposed change in zoning or proposed annexation and meets all of the following criteria:

(a) The proposed change is consistent with the policies and overall intent of the comprehensive plan.

The proposal to change the BVCP Land Use Map designation is consistent with the intent of the comprehensive plan to promote the physical health and well-being of residents of the Boulder Valley. The BVCP strives to "*maintain a high quality of life for all of its residents*" by "*providing facilities and services, among are human service programs and a focus on promoting cultural, social and economic equity*." More specifically, the following policies on economic and social sustainability are relevant:

BVCP Policy 1.03 Principles of Economic Sustainability The city and county will strive to develop and maintain a healthy, adaptable economy that is vital to the community's quality of life and high level of services and amenities by:

a) Promoting a diverse economy that supports the needs of all community members;
b) Promoting a qualified and diversified work force that meets employers' needs and supports a range of jobs; and
c) Providing for and investing in a quality of life, unique amenities, and infrastructure that attracts, sustains, and retains businesses and entrepreneurs.

BVCP Policy 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.

The Public Land Use Designation is described as follows:

Public/Semi-Public land use designations encompass a wide range of public and private nonprofit uses that provide a community service. This category includes municipal and public utility services such as the municipal airport, water reservoirs, and water and wastewater treatment plants. Public/Semi-Public also includes: educational facilities, including public and private schools and the university; government offices such as city and county buildings, libraries, and the jail; government laboratories; and nonprofit facilities such as cemeteries, churches, hospitals, retirement complexes and may include other uses as allowed by zoning.

The requested Public land use designation would allow for the expansion of the Boulder Community Health facility consistent with the following BVCP policies:

BVCP Policy 2.17 Variety of Activity Centers

BVCP Policy 8.01 Provide for a Broad Spectrum of Human Needs
BVCP Policy 8.07 Physical Heath
BVCP Policy 8.10 Support for Community Facilities

(b) The proposed change would not have significant cross-jurisdictional impacts that may affect residents, properties or facilities outside the city.

The proposed change is meant to facilitate the expansion of health services in a single location for the Boulder Valley. The change would allow for more efficient provision of services and enhance access to services for residents of the area. There would be no significant cross-jurisdictional impacts to residents, properties or facilities outside the city.

(c) The proposed change would not materially affect the land use and growth projections that were the basis of the comprehensive plan.

The proposed land use designation change is necessary to facilitate a new hospital facility on the site and will not materially affect the land use and growth projections that were the basis of the comprehensive plan.

(d) The proposed change does not materially affect the adequacy or availability of urban facilities and services to the immediate area or to the overall service area of the City of Boulder.

The proposed land use designation change is necessary to facilitate a new hospital facility on the site and will not materially affect the adequacy or availability of urban facilities and services to the immediate area or to the overall service area of the City of Boulder. Infrastructural upgrades necessary to serve the redevelopment will be evaluated and required as part of the Site Review process.

(e) The proposed change would not materially affect the adopted Capital Improvements Program of the City of Boulder.

The proposed land use designation change is necessary to facilitate a new hospital facility on the site and will not materially affect the adopted Capital Improvements Program of the City of Boulder.

(f) The proposed change would not affect the Area II/Area III boundaries in the comprehensive plan.

The proposed change is within Area I and would have no impact on the Area II/Area III boundaries in the comprehensive plan.

<u>Rezoning</u>
Criteria: The city's zoning is the result of a detailed and comprehensive appraisal of the city's present and future land use allocation needs. In order to establish and maintain sound, stable and desirable development within the city, rezoning of land is to be discouraged and allowed only under the limited circumstances herein described. Therefore, the city council shall grant a rezoning application only if the proposed rezoning is consistent with the policies and goals of the Boulder Valley Comprehensive Plan, and, for an application not incidental to a general revision of the zoning map, meets one of the following criteria:

(1) The applicant demonstrates by clear and convincing evidence that the proposed rezoning is necessary to come into compliance with the Boulder Valley Comprehensive Plan map;

Based on the necessity to apply a Public Boulder Valley Comprehensive Plan (BVCP) land use designation on the properties to accommodate the proposed hospital, the Public (P) zoning would be appropriate on the site to be consistent with this change to the BVCP (discussed above) in order to be in compliance with the BVCP map.

(2) The existing zoning of the land was the result of a clerical error;

(3) The existing zoning of the land was based on a mistake of fact;

(4) The existing zoning of the land failed to take into account the constraints on development created by the natural characteristics of the land, including, but not limited to, steep slopes, floodplain, unstable soils and inadequate drainage;

(5) The land or its surrounding environs has changed or is changing to such a degree that it is in the public interest to encourage a redevelopment of the area or to recognize the changed character of the area; or

(6) The proposed rezoning is necessary in order to provide land for a community need that was not anticipated at the time of adoption of the Boulder Valley Comprehensive Plan.

Site Review

Staff's analysis of the compliance with these criteria will be completed upon submission of additional materials and modifications and at the time of staff recommendation to Planning Board.

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.

The proposal requires a BVCP land use map change to apply Public land use. This is necessary to permit a hospital use on properties that are located proximate to the Boulder Community Health facility at 48th and Arapahoe. Consistent with the analysis for the BVCP Land Use Map change, the proposal to develop the properties with a new medical/hospital facility would be consistent with the intent of the BVCP, Community Well Being policies as well as the policies below more specifically related to land development:

- BVCP Policy 2.03 Compact Development Pattern
- BVCP Policy 2.21 Commitment to a Walkable and Accessible City
- BVCP Policy 2.21 Mixed Use
- BVCP Policy 2.36 Design Excellence for Public Projects
- BVCP Policy 4.04 Energy-Efficient Land Use
- BVCP Policy 6.12 Neighborhood Street 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

(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. The site is not under a residential land use designation and will contain no residential uses.

(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.

(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:

(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;

To be completed in staff memorandum after submission of revised documents.

(ii) Private open space is provided for each detached residential unit;

Not applicable to a non-residential project.

(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;

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

(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 size and location of the proposed open space is appropriate to a medical use. Active recreational uses would not be expected for the use of the property.

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

The property does not contain any existing sensitive environmental features or natural areas. The site is associated with the Boulder Community Health Foothills Hospital site, which includes substantial preserved areas of 17 acres in the floodplain areas of Boulder Creek.

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

The proposed pathways on the site would connect to the city's existing sidewalk system and will be convenient access to nearby multi-use paths as well as the Boulder Creek Path.

(B) Open Space in Mixed Use Developments (Developments That Contain a Mix of Residential and Nonresidential Uses):

(i) The open space provides for a balance of private and shared areas for the residential uses and common open space that is available for use by both the residential and nonresidential uses that will meet the needs of the anticipated residents, occupants, tenants and visitors of the property; and

(ii) The open space provides active areas and passive areas that will meet the needs of the anticipated residents, occupants, tenants and visitors of the property and are compatible with the surrounding area or an adopted plan for the area.

Not applicable. There is no residential component to the project.

(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;

(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;

(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.

(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;

(ii) Potential conflicts with vehicles are minimized;

(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, pedestrian ways and trails;

To be completed in staff memorandum after submission of revised documents.

(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;

(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;

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

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

(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.

(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;

(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;

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

(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.

(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 character of the area is eclectic and contains a variety of building forms, heights and uses ranging from multi-family residential, transitional business, strip commercial to light industrial and medical uses. The proposed buildings would not be unlike the scale and design of buildings present in the area and particularly near to the site on the Boulder Community Health Foothill's Hospital and the Ball Aerospace campus. The general design of the buildings borrow from the designs and materiality of the existing hospital and medical buildings to the west and are oriented in an east-west orientation much like most of the buildings on the north side of the Arapahoe Avenue. Therefore, it can be concluded that the height, mass, scale, orientation, architecture and configuration of the proposed buildings will be compatible with the existing character of the area.

(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;

The buildings are proposed to be a maximum of 55 feet. This height would match that of several nearby structures including the Ball Aerospace buildings immediately to north and the existing hospital complex to the south. Another Ball Aerospace building to the east exceeds the 55 foot height limit and is considered nonconforming because it predates the current height limit. Therefore, the eight of the proposed buildings is in general proportion to the heights of existing buildings in the immediate area.

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

The proposed buildings will not block any prominent views from adjacent properties. The buildings are proposed just to the south of a large window less Ball Aerospace facility where satellites are constructed. Shadows would be minimized and would fall into the mostly alley-like utilitarian area between the subject property and the Ball Aerospace site discussed above.

(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;

To be completed in staff memorandum after submission of revised documents.

(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;

To be completed in staff memorandum after submission of revised documents.

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

As a hospital, the use is a critical public facility, the expansion of which will better provide for the needs of the community in a highly accessible location.

(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;

Not applicable to a non-residential project.

(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;

Not applicable to a non-residential project.

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

A lighting plan will be required at time of Technical Documents to determine compliance with section 9-9-16, B.R.C. 1981.

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

The proposed project is upon an already developed site and will not adversely impact any natural systems.

(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;

To be completed in staff memorandum after submission of revised documents.

(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;

(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 two buildings would not contain subterranean space and cut and fill would be limited to necessary contouring for the building footprints, open spaces and construction of a new roadway.

(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

The property is found within Area I and not in the urbanizing areas between Area II and III.

(xv) In the urbanizing areas located on the major streets shown on the map in Appendix A to 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.

See (xiv) above.

(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.

(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.

(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.**

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

(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:

(i) The light pole is required for nighttime recreation activities which are compatible with the surrounding neighborhood, light or traffic signal pole is required for safety or the electrical utility pole is required to serve the needs of the City; and

(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.

Not applicable to this project.

(I) Land Use Intensity Modifications:

(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 twenty-five percent in the BR-1 district through a reduction of the lot area requirement.

(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:

a. Open Space Needs Met: The needs of the project's occupants and visitors for high quality and functional useable open space can be met adequately;

b. Character of Project and Area: The open space reduction does not adversely affect the character of the development or the character of the surrounding area; and

c. Open Space and Lot Area Reductions: The specific percentage reduction in open space or lot area requested by the applicant is justified by any one or combination of the following site design features not to exceed the maximum reduction set forth above:

1. Close proximity to a public mall or park for which the development is specially assessed or to which the project contributes funding of capital improvements beyond that required by the parks and recreation component of the development excise tax set forth in chapter 3-8, "Development Excise Tax," B.R.C. 1981: maximum one hundred percent reduction in all Downtown (DT) districts and ten percent in the BR-1 district;

2. Architectural treatment that results in reducing the apparent bulk and mass of the structure or structures and site planning which increases the openness of the site: maximum five percent reduction;

3. A common park, recreation or playground area functionally useable and accessible by the development's occupants for active recreational purposes and sized for the number of inhabitants of the development, maximum five percent reduction; or developed facilities within the project designed to meet the active recreational needs of the occupants: maximum five percent reduction;

4. Permanent dedication of the development to use by a unique residential population whose needs for conventional open space are reduced: maximum five percent reduction;

5. The reduction in open space is part of a development with a mix of residential and nonresidential uses within a BR-2 zoning district that, due to the ratio of residential to nonresidential uses and because of the size, type and mix of dwelling units, the need for open space is reduced: maximum fifteen percent reduction; and

6. The reduction in open space is part of a development with a mix of residential and nonresidential uses within a BR-2 zoning district that provides high quality urban design elements that will meet the needs of anticipated residents, occupants, tenants and visitors of the property or will accommodate public gatherings, important activities or events in the life of the community and its people, that may include, without limitation, recreational or cultural amenities, intimate spaces that foster social interaction, street furniture, landscaping and hard surface treatments for the open space: maximum twenty-five percent reduction.

Not applicable to this project.

(J) Additional Criteria for Floor Area Ratio Increase for Buildings in the BR-1 District:

(i) Process: For buildings in the BR-1 district, the floor area ratio ("FAR") permitted under Table 8-2, Section 9-8-2, "Floor Area Ratio Requirements," B.R.C. 1981, may be increased by the city manager under the criteria set forth in this subparagraph.

(ii) Maximum FAR Increase: The maximum FAR increase allowed for buildings thirty-five feet and over in height in the BR-1 district shall be from 2:1 to 4:1.

(iii) Criteria for the BR-1 District: The FAR may be increased in the BR-1 district to the extent allowed in subparagraph (h)(2)(J)(ii) of this section if the approving agency finds that the following criteria are met:

a. Site and building design provide open space exceeding the required useable open space by at least ten percent: an increase in FAR not to exceed 0.25:1.

b. Site and building design provide private outdoor space for each office unit equal to at least ten percent of the lot area for buildings twenty-five feet and under and at least twenty percent of the lot area for buildings above twenty-five feet: an increase in FAR not to exceed 0.25:1.

c. Site and building design provide a street front facade and an alley facade at a pedestrian scale, including, without limitation, features such as awnings and windows, well-defined building entrances and other building details: an increase in FAR not to exceed 0.25:1.

d. For a building containing residential and nonresidential uses in which neither use comprises less than twenty-five percent of the total square footage: an increase in FAR not to exceed 1:1.

e. The unused portion of the allowed FAR of historic buildings designated as landmarks under chapter 9-11, "Historic Preservation," B.R.C. 1981, may be transferred to other sites in the same zoning district. However, the increase in FAR of a proposed building to which FAR is transferred under this subparagraph may not exceed an increase of 0.5:1.

f. For a building which provides one full level of parking below grade, an increase in FAR not to exceed 0.5:1 may be granted.

Not applicable to this project.

(K) Additional Criteria for Parking Reductions: The off-street parking requirements of Section 9-9-6, "Parking Standards," B.R.C. 1981, may be modified as follows:

(i) Process: The city manager may grant a parking reduction not to exceed fifty percent of the required parking. The planning board or city council may grant a reduction exceeding fifty percent.

(ii) Criteria: Upon submission of documentation by the applicant of how the project meets the following criteria, the approving agency may approve proposed modifications to the parking requirements of Section 9-9-6, "Parking Standards," B.R.C. 1981 (see tables 9-1, 9-2, 9-3 and 9-4), if it finds that:

a. For residential uses, the probable number of motor vehicles to be owned by occupants of and visitors to dwellings in the project will be adequately accommodated;

b. The parking needs of any nonresidential uses will be adequately accommodated through on-street parking or off-street parking;

c. A mix of residential with either office or retail uses is proposed, and the parking needs of all uses will be accommodated through shared parking;

d. If joint use of common parking areas is proposed, varying time periods of use will accommodate proposed parking needs; and

e. If the number of off-street parking spaces is reduced because of the nature of the occupancy, the applicant provides assurances that the nature of the occupancy will not change.

Not applicable to this project.

(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:

(i) The lots are held in common ownership;

(ii) The separate lot is in the same zoning district and located within three hundred feet of the lot that it serves; and

(iii) The property used for off-site parking under this subparagraph continues under common ownership or control.

Not applicable to this project.

Use Review

Criteria for Review: No use review application will be approved unless the approving agency finds all of the following:

To be completed in staff memorandum after submission of revised documents.

(1) Consistency with Zoning and Nonconformity: The use is consistent with the purpose of the zoning district as set forth in section 9-5-2, "Zoning Districts," B.R.C. 1981, except in the case of a nonconforming use;

(2) Rationale: The use either:

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

(B) Provides a compatible transition between higher intensity and lower intensity uses;

(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 nonresidential mixed uses in appropriate locations and group living arrangements for special populations; or

(D) Is an existing legal nonconforming use or a change thereto that is permitted under subsection (f) 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;

(4) Infrastructure: As compared to development permitted under section 9-6-1, "Schedule of Permitted Land Uses," B.R.C. 1981, in the zone, or as compared to the existing level of impact of a nonconforming 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;

(5) Character of Area: The use will not change the predominant character of the surrounding area or the character established by adopted design guidelines or plans for the area; and

(6) Conversion of Dwelling Units to Nonresidential Uses: There shall be a presumption against approving the conversion of dwelling units in the residential zoning districts to nonresidential uses that are allowed pursuant to a use review, or through the change of one nonconforming use to another nonconforming 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 daycare center, park, religious assembly, social service use, benevolent organization use, art or craft studio space, museum or an educational use.

VI. Conditions On Case

To be prepared prior to staff recommendation on the project.

VI. Conditions On Case