AGENDA FOR THE REGULAR MEETING OF THE
BOULDER CITY COUNCIL

Items not on the Agenda are sometimes presented to Council in weekly Information Packets. Those packets can be accessed at www.bouldercolorado.gov/city-council.

1. Call to Order and Roll Call
2. Open Comment
3. Consent Agenda
   A. Consideration of a motion to accept the November 28, 2017 Study Session Summary on the Boulder Public Library Master Plan project update
   B. Introduction, first reading and consideration of a motion to order published by title only Ordinance 8233 amending the Boulder Revised Code and annexation Ordinance 5932 to authorize development of 2180 Violet Avenue in the RM-2 zoning district with 19 dwelling units, consistent with the proposed amendment to the annexation agreement for 2180 Violet Ave
   C. Introduction, first reading and motion to publish by title only Ordinance 8234 updating the city’s code provisions regulating short-term rentals, by amending Chapter 10-1, “Definitions,” and Chapter 10-3, “Rental Licensing,” and setting forth related details
4. Call-Up Check-In
   A. Call-Up: 2180 Violet Avenue, 2100 Violet Avenue and 2145 Upland Site Review
5. Public Hearings
   A. Second reading and consideration of a motion to adopt
Ordinances 8224, 8225, 8226, 8227, 8228, 8229, 8230 designating five properties at 1406-08 Pine St., 1414 Pine St., 2118 14th St., 2124 14th St. and 2132 14th St., and portions of two properties at 1424 Pine St. and 1443 Spruce St. each as individual landmarks under the city’s Historic Preservation Ordinance.

B. Second reading and consideration of a motion to adopt Emergency Ordinance 8231, as an amendment to Title 9, “Land Use Code,” B.R.C. 1981, granting authority to the City Manager to approve a day shelter and overnight shelter use at 2691 30th street, to modify density and parking standards as they apply to the use, and setting forth details in relation thereto

6. Matters from the City Manager
   A. Discussion of Major Planning and Housing Work Plan Items (including Information on Subcommunity and Area Planning, Regulatory Changes to Address Enhanced Community Benefits, and Commercial Linkage Fees) 90 min
   B. Establishment of a Working Group for analysis of and recommendations to the city council concerning changes to the city of Boulder Charter and Code provisions addressing Campaign Finance, Initiative, Referendum and other Election rules and addressing other Election matters 20 min

Updated on January 2, 2018 at 4:59 p.m.

7. Matters from the City Attorney
   A. Discussion of Potential Climate Change Litigation 30 min

8. Matters from Mayor and Members of Council
   A. Call-Up Item: Site review to develop the three properties at 2180 Violet Ave., 2100 Violet Ave., and 2145 Upland Ave. Proposal for the construction of 19 residential units in five buildings at 2180 Violet Ave. The multi-family development would be 100 percent permanently affordable for-sale residences built by Flatirons Habitat for Humanity. In addition, proposal to subdivide the property at 2100 Violet Ave. into 6 lots for single-family development and 2145 Upland Ave. into 3 lots for single-family development 5 min

9. Comment on Motions Made Under Matters
10. Decisions on Motions
11. Debrief
12. Adjournment

4 hours, 15 minutes
This meeting can be viewed at www.bouldercolorado.gov/city-council. Meetings are aired live on Municipal Channel 8 and the city's website and are re-cablecast at 6 p.m. Wednesdays and 11 a.m. Fridays in the two weeks following a regular council meeting.

Boulder 8 TV (Comcast channels 8 and 880) is now providing closed captioning for all live meetings that are aired on the channels. The closed captioning service operates in the same manner as similar services offered by broadcast channels, allowing viewers to turn the closed captioning on or off with the television remote control. Closed captioning also is available on the live HD stream on BoulderChannel8.com. To activate the captioning service for the live stream, the "CC" button (which is located at the bottom of the video player) will be illuminated and available whenever the channel is providing captioning services.

The council chambers is equipped with a T-Coil assisted listening loop and portable assisted listening devices. Individuals with hearing or speech loss may contact us using Relay Colorado at 711 or 1-800-659-3656.

Anyone requiring special packet preparation such as Braille, large print, or tape recorded versions may contact the City Clerk's Office at 303-441-4222, 8 a.m. - 5 p.m. Monday through Friday. Please request special packet preparation no later than 48 hours prior to the meeting.

If you need Spanish interpretation or other language-related assistance for this meeting, please call (303) 441-1905 at least three business days prior to the meeting. Si usted necesita interpretacion o cualquier otra ayuda con relacion al idioma para esta junta, por favor comuniquese al (303) 441-1905 por lo menos 3 negocios dias antes de la junta.

Send electronic presentations to email address: CityClerkStaff@bouldercolorado.gov no later than 2 p.m. the day of the meeting.
AGENDA TITLE
Motion to accept the November 28, 2017 Study Session Summary on the Boulder Public Library Master Plan Project Update

PRIMARY STAFF CONTACT
Jennifer Phares, Deputy Library Director

REQUESTED ACTION OR MOTION LANGUAGE
Motion to accept the November 28, 2017 Study Session Summary on the Boulder Public Library Master Plan Project Update

BRIEF HISTORY OF ITEM
City Council accepted the Advance Study Session Summary on Dec. 5, 2017.

ATTACHMENTS:
  - Description
  - Memo and Attachment
AGENDA TITLE: Consideration of a motion to accept the November 28, 2017 Study Session summary on the Boulder Public Library Master Plan project update.

PRESENTERS
Jane S. Brautigam, City Manager
David Farnan, Library and Arts Director
Jennifer Phares, Deputy Library Director

SUMMARY
This agenda item provides a summary of the November 28, 2017 Study Session on the Boulder Public Library Master Plan project update.

The purpose of the study session was to update City Council on the status of the Boulder Public Library (BPL) Master Plan update, and to present options for funding the goals and ensuring long-term financial sustainability of the library system. Staff provided information including a brief overview of the library system, major accomplishments since the 2007 Boulder Public Library Master Plan, highlights from input received from the community, a brief overview of significant projects planned for the next five years and estimated ongoing costs associated with each, and an outline of options for funding these projects and ensuring financial sustainability for years to come.

STAFF RECOMMENDATION

Suggested Motion Language:
Staff recommends council consideration of this summary and action in the form of the following motion:

Motion to accept the November 28, 2017 Study Session summary on the Boulder Public Library Master Plan project update.

ATTACHMENTS
A. Nov. 28 Study Session Summary – Boulder Public Library Master Plan project update
Nov. 28, 2017 Study Session Summary
Boulder Public Library Master Plan project update

PRESENT
City Council: Suzanne Jones, Mayor; Aaron Brockett, Mayor Pro Tem; Cindy Carlisle, Jill Adler Grano, Lisa Morzel, Mirabai Kuk Nagle, Sam Weaver, Bob Yates, Mary Young

Library Commission: Joni Teter, Joel Koenig, Tim O’Shea, Juana Gomez

Staff members: City Manager Jane S. Brautigam, City Attorney Tom Carr, Library and Arts Director David Farnan, Deputy Director Jennifer Phares, and Communication Specialist Jennifer Bray

OVERVIEW
The purpose of the study session was to update City Council on the status of the Boulder Public Library (BPL) Master Plan update and to present options for funding the goals and ensuring long-term financial sustainability of the library system. Staff provided the following information for council’s consideration:

- Brief overview of what the library is and does.
- Major accomplishments since the 2007 Boulder Public Library Master Plan.
- Highlights from input received from the community.
- Brief overview of significant projects planned for the next five years and estimated ongoing costs associated with each.
- Outline of options for funding these projects and ensuring financial sustainability for years to come.

City Council questions and comments
Below are council’s feedback and questions. Staff responses are shown in italics following the council comments and questions.

Financial sustainability options
Why are no other Colorado libraries using a regional library authority, and are there libraries in other states that use this option? Concerns expressed about losing municipal authority over Boulder’s public libraries, why would a city let their facilities go? What would Boulder do with our assets?

Under the various options for running BPL in a different funding scenario, governance issues would need to be worked out. In both a Regional Authority and a District, City Council would appoint the board of the library. What goals would be achieved by going with one of these options? Additional information is needed about BPL cardholders by area and zip code, perhaps a heat map would be helpful. Also, would like to see more information about the Ft. Collins experience in recent years. Does the table of BPL cardholders indicate active cardholders?

Yes, the table presented shows mainly active cardholders. Roughly 18% of the cardholders listed are not active users and currently have outstanding fines and fees prohibiting them from using the library. In addition, Boulder Public Library honors cards within the Flatirons Library Consortium (FLC). So, a person with a Louisville or Broomfield library card may use BPL.
without getting a BPL card, and would then not show up in this table at all. Goals that would be achieved with increased funding would be: redressing current budget constraints, adding funds for operating a new North Boulder Library Branch, opening library services in Gunbarrel, outreach to underserved communities, and serving growth in east and southeast Boulder.

Looking at the BPL cardholder table, to what extent do we collaborate with other local libraries, and how would that be affected by the formation of a district/regional authority? The FLC is our main collaboration with other area public libraries. The FLC is an independent 501(c)3. It is the second largest consortium of public libraries in the state and a model for regional collaboration. Through the FLC, Boulder library patrons have access to more materials and next day delivery from libraries in the region. Regional collaboration has also significantly increased our leverage for contract negotiations. Furthermore, Boulder and other regional libraries share policies where applicable and financial resources through joint contracts for services with FLC. No other FLC library has expressed interest in joining BPL in an authority or district.

What options are there for having people who live outside the city limits contribute more equitably for library services? Changing the governance, and therefore funding, is going to be complicated and we should talk about potentially charging people who do not live inside the Boulder city limits for library use. Something to consider is that people who do not live in the city limits probably still shop in Boulder and contribute to sales taxes for city/library services. Property taxes could also be considered for people living outside city limits for library services, and if we did so, we would need to determine what the correct mill rate would be.

Adding property tax for people living outside of city limits would require a vote. How much would adding those mill levies help BPL achieve its goals? Gunbarrel is a challenging issue as half of the community is in the city and half in the county. This needs further research and detailed mapping and analysis of overall assessed property values.

How could city Development Excise Taxes (DET) help us provide library services in Gunbarrel? DET fund expenditures are restricted to capital expansion only. They could be used for startup costs for opening a Gunbarrel library including purchasing an initial collection of books and materials. However, the ongoing operational costs cannot use DET funds. We do not have firm estimates of costs for ongoing operating costs to run a storefront library in Gunbarrel, but based on NoBo Corner Library, we can estimate that it would cost roughly $300,000 to $400,000 annually for staff, materials, equipment, upkeep, and utilities. Facilities and Asset Management (FAM) estimates a cost of $18/sq. ft. to operate a new library.

Few people would want to increase their property taxes. And we do not currently have willing partners for a district or authority. What about a library tax – seems people might be interested in taxing themselves for the library? What would that be and how much would it raise? That would depend upon which kind of tax you mean: property or dedicated sales/use tax. Boulder currently has nearly the highest sales/use tax among cities in Colorado. There are also other city priorities for potential increases in sales/use taxes (affordable housing, broadband, human services, etc.). There is currently a charter limit on property tax millage rates the city can collect. We would have to investigate this further. It is also good to remember that sales tax revenue is currently flat.
Would it be possible to reduce the sales/use tax that currently funds the library, and the .33 property mill, and then form a district/authority to make up that difference by adding those taxes to fund the district/authority?

Yes. But this is a decision for City Council and would require more research.

Do you feel there is a preference between an authority or district? Sales taxes can be regressive and have an unfair burden on those with lower incomes. Expressing some preference for property tax idea.

Staff are just getting started with this analysis and have not defined a preference. We need to do more research. What we do know is that half of the public libraries in the State of Colorado are district libraries. With few exceptions district library funding rates per capita and per user are significantly higher than municipal libraries. What we are putting before Council in this study session are the community goals which at minimum will require at least a 10% increase in overall funding. All options for how to fund this increase are on the table, including district, regional authority and increased funding from the city. The regional authority is biggest unknown because it has not been done before in Colorado. (Council expressed interest in receiving follow up information from the Ft. Collins district formation.)

Would you prefer to take the Regional Library Authority off the table for now?

Yes. That would simplify our options and focus our research.

City Council initial feedback for staff and Library Commission:
Agreement that we need to find more sustainable funding to reach the BPL goals, libraries are too important especially in today’s climate. Would like to find a way to get at the equity issue, possibly by looking at a district.

Extremely impressed with what staff has done with flat funding resources. Supportive of the service expansion plans, and looking forward to the north Boulder branch, and some kind of library service for Gunbarrel. Agree it’s worth exploring the idea of a district. A lot of outreach would need to be done. Wary of continuing to increase sales taxes, property taxes are less regressive. If decision becomes to form a district, preference would be to look at reducing the property tax mill rates within the city accordingly.

Some agreement around the idea of increasing property taxes possibly being difficult or infeasible, and it could also be difficult for the city to lower property taxes to offset growing into a district. However, staff should continue to explore the options, including annexation. Example is that Gunbarrel desires library services, and parks, and not all of Gunbarrel is in the city limits. Boulder is a wonderful place, and people seem to want to come here from wherever they are. Can we help collaborate to create this kind of destination library among the other communities regionally?

Belief that Gunbarrel residents will fight against annexation.

Some agreement expressed with the memo that libraries are a basic responsibility/function of our society, not an option, and are fundamental to our existence and culture. Concern about increasing taxes. What can we do for this long-term sustainability funding plan by looking at the city budget? Reluctance expressed about losing control over BPL facilities/this wonderful community resource.
Several kudos were expressed to David Farnan, library staff, Library Commission, and the Boulder Library Foundation for everything that has been accomplished. The funding equity conversation must be had with Gunbarrel for fairness.

Some agreement about reluctance to ask people coming to the library to pay fee for services if they live outside the city limits. Not in favor of user fees, believe that is against the philosophy of libraries.

Appreciation expressed for the Tree Debris to Opportunity program with unhoused community members to learn woodworking skills. Funding scenarios all seem challenging (taxes, annexation). Not supportive of the library authority idea. District option agreeable if it would not significantly increase the overall tax burden on existing Boulder residents.

Encouragement expressed to see Boulder explore what a library district would look like. Increasing property taxes is not appealing, but to achieve these goals and for sustainable library funding, it will take a substantial amount of money. It is not clear that Boulder residents object to the millage rate. Rather the overall assessed value of property means a higher dollar amount of taxes. Most ideal option is to find that funding in existing city budget somewhere.

General question asked: If we are “growing the pie” for the library budget, what are we willing to trade off if we are not willing/able to increase taxes? Need clear answers. Assume there are no new dollars coming in. How much is needed for the library Master Plan, and on what will it be spent? Council can then compare this information with all the other community priorities and funding requests for other services/departments. Request to see the funding for the library over the past several years, and be able to determine if the library has not been funded as a high priority to the same degree as other city departments.

Would like more detailed information to make a clear recommendation. Prefer to find additional funding in existing city budget, to explore a district, and to explore annexation possibilities.

North Boulder Library Branch is exciting – more than books, WiFi/computer access – extending out into the community. Projecting service into Boulder Meadows would be huge. Agreement about looking at library funding through the past years, and in the city budget for any additional funding options. Believes that the library has not been enough of a priority for funding in the past.

As council approaches its two-year workplan, library staff and commission ask that sustainable library funding be a work item.

Suggestion to explore collaboration or districting possibilities with the mountain towns. Request for staff to work with Boulder County and Boulder Valley School District about what appropriate boundaries might be for a potential district.

**NEXT STEPS**
City Council’s feedback from the Nov. 28, 2017 study session is being incorporated into the Library Master Plan update. Staff will return to City Council for the Library Master Plan update consideration in the second quarter of 2018.
AGENDA TITLE
Introduction, first reading and consideration of a motion to order published by title only Ordinance 8233 amending the Boulder Revised Code and annexation Ordinance 5932 to authorize development of 2180 Violet Avenue in the RM-2 zoning district with 19 dwelling units, consistent with the proposed amendment to the annexation agreement for 2180 Violet Ave

PRIMARY STAFF CONTACT
Sloane Walbert, Planner II

REQUESTED ACTION OR MOTION LANGUAGE
Introduction, first reading and consideration of a motion to order published by title only Ordinance 8233 amending the Boulder Revised Code and annexation Ordinance 5932 to authorize development of 2180 Violet Avenue in the RM-2 zoning district with 19 dwelling units, consistent with the proposed amendment to the annexation agreement for 2180 Violet Ave

ATTACHMENTS:
- Description
- Memo and Attachments
AGENDA TITLE: Introduction, first reading and consideration of a motion to order published by title only Ordinance 8233 amending the Boulder Revised Code and annexation Ordinance 5932 to authorize development of 2180 Violet Avenue in the RM-2 zoning district with 19 dwelling units, consistent with the proposed amendment to the annexation agreement for 2180 Violet Avenue.

At time of second reading, the City Council will also consider proposed amendments to the annexation agreements for the properties at 2100 Violet Avenue, 2180 Violet Avenue, 1917 Upland Avenue, and 2145 Upland Avenue to allow for permanently affordable housing requirements of these properties to be met at 2180 Violet Avenue, a reduced width of the Vine Avenue right-of-way consistent with the updated North Boulder Subcommunity Plan, and for construction of 19 permanently affordable dwelling units at 2180 Violet Avenue, where otherwise only 15 units would be allowed.

Owner: Habitat for Humanity of Boulder Valley, Inc.
Applicant: Flatirons Habitat for Humanity

PRESENTER/S
Jane S. Brautigam, City Manager
Jim Robertson, Director of Planning, Housing & Sustainability
Charles Ferro, Development Review Manager
Sloane Walbert, Planner II

EXECUTIVE SUMMARY
The City Council is asked to consider an ordinance to authorize modifications to the Boulder Revised Code and the ordinance annexing the property into the city (Ordinance No. 5932), consistent with the proposed amendments to the annexation agreement for the property, in particular to allow for an increase in allowable density at 2180 Violet Avenue.
The proposed ordinance can be found in Attachment A. A legislative action is required to allow for an increase in density to 19 units, where 15 units are allowed per the intensity standards in the Residential – Medium 2 (RM-2) district. The proposed density on the property is consistent with that of the Boulder Valley Comprehensive Plan (BVCP) Designation of Medium Residential, but exceeds the density allowed under the zoning designation. The ordinance would amend the original annexation ordinance for the property to expressly authorize modifications and variations to the Boulder Revised Code (B.R.C.) that are provided for in the annexation agreement or amendments thereto.

On Dec. 7, 2017, the Planning Board voted 7-0 to recommend to City Council approval of an ordinance amending the B.R.C. and annexation Ordinance No. 5932 to authorize development of 2180 Violet Avenue in the RM-2 zoning district with 19 dwelling units, consistent with the proposed amendment to the annexation agreement for 2180 Violet Avenue.

On Jan. 4, 2018, City Council is asked to introduce on first reading the attached ordinance. A public hearing and Council discussion of the ordinance is scheduled for Feb. 6, 2018, together with the annexation agreement amendments described below. Refer to Attachment A for the draft ordinance. The staff memorandum to Planning Board and other related background materials are available here.

![Figure 1: Properties Included in Larger Development Proposal](image-url)

The request for an ordinance to modify the land use code and the annexation ordinance is one component of a proposal that includes the following:

1. **Ordinance to Increase Density.** As described above, a legislative action is required to allow for an increase in allowable density at 2180 Violet Avenue.
2. **Annexation Agreement Amendments.** The proposal includes a request to amend the three existing annexation agreements for the properties at 2100 Violet Avenue, 2180 Violet Avenue, 1917 Upland Avenue, and 2145 Upland Avenue as follows. Refer to the vicinity map in Figure 1 for the locations of the properties. The annexation request will be described in a separate memo for consideration at a public hearing on Feb. 6, 2018.

   a. Allow all affordable housing requirements on the four properties to be provided on the property at 2180 Violet Avenue. The goal of the proposal is to provide housing with a deeper level of affordability that remains permanently affordable over time, as opposed to the requirements found in the annexation agreement.

   b. Amend the requirements pertaining to the dedication of right-of-way and the construction of Vine Avenue south of the property at 2100 Violet Avenue to allow for smaller cross-section of a modified access street, consistent with the smaller Vine Avenue cross-section approved in the amended North Boulder Subcommunity Plan.

   c. Allow for increased density on the property at 2180 Violet Avenue for the construction of 19 residential units, where 15 are allowed under Residential – Medium 2 (RM-2) zoning. The goal of this request is to increase in density to 19 units, where 15 units are allowed per the intensity standards, if so authorized by the subject ordinance described above.

3. **Site Review.** Proposal to develop the three properties at 2180 Violet Avenue, 2100 Violet Avenue, and 2145 Upland Avenue as follows:

   a. **2180 Violet Ave.** Construction of 19 residential units in five buildings. The development would be 100 percent permanently affordable for-sale residences built by Flatirons Habitat for Humanity. Seventeen of the units are proposed to be two-story, three-bedroom townhouses and two units would be one-story, one-bedroom accessible residences. Thirty parking spaces are proposed.

   b. **2100 Violet Ave.** Subdivision of the property into six lots for single-family development. Design guidelines, approved through the site review, are proposed to guide the design of the homes.

   c. **2145 Upland Ave.** Subdivision of the property into three lots for single-family development. Design guidelines, approved through the site review, are proposed to guide the design of the homes.

City staff recommended approval, and the Planning Board voted 7-0 at a public hearing on Dec. 7, 2017 to approve the Site Review application. **City Council may call up the site review for a period of 30 days after the Planning Board decision and is described in a separate informational packet memo for consideration on Jan. 4, 2018.** The site review approval is contingent upon obtaining the necessary City Council approvals for the annexation agreement amendments and ordinance. Refer to the call-up memo for the proposed plans and design guidelines.
The draft minutes from the Dec. 7, 2017 Planning Board hearing are included as **Attachment B**. The staff memorandum to Planning Board and other related background materials are available [here](#).

**STAFF RECOMMENDATION**

**Suggested Motion Language:**

Staff recommends approval of the first reading of the attached ordinance. The recommended motion for first reading of the attached ordinance is as follows:

> Motion to introduce on first reading and order published by title only, Ordinance 8233 amending the Boulder Revised Code and annexation Ordinance No. 5932 to authorize development of 2180 Violet Avenue in the RM-2 zoning district with 19 dwelling units consistent with the proposed amendment to the annexation agreement for 2180 Violet Avenue.

**COMMUNITY SUSTAINABILITY ASSESSMENTS AND IMPACTS**

- Economic – This project will provide 19 permanently affordable units of workforce housing to support competitive and quality businesses. In addition, higher density housing puts less demand on public services and infrastructure. The more widely distributed people are, the greater the resources required to provide their services.

- Environmental – None identified.

- Social – If developed as proposed, the development will add 19 units of permanently affordable for-sale housing to the city’s inventory, which will provide housing for diverse community members. The site will feature homeownership opportunities for households earning no more than the United States Department of Housing and Urban Development (HUD) low income limit, with qualifying household incomes set at the HUD low income limit plus ten percent.

**BOARD AND COMMISSION FEEDBACK**

As indicated above, on Dec. 7, 2017, the Planning Board reviewed the requested ordinance, as well as the associated site review and annexation agreement amendments (meeting packet available [here](#)). After a discussion regarding parking lot design for the multi-family development and appropriate controls on the size of the single-family homes. The board expressed support for the increase in density and the proposed plans for the development of 2180 Violet Avenue. Ultimately, the board recommended approval to the City Council on a 7-0 vote. The motion is below:

> On a motion by **L. Payton**, seconded by **H. Zuckerman**, the Planning Board voted 7-0 to recommend to City Council on an ordinance amending the Boulder Revised Code and annexation Ordinance No. 5932 to authorize development of 2180 Violet Ave. in the RM-2 zoning district with 19 dwelling units consistent with the proposed amendment to the annexation agreement for 2180 Violet Ave.
PUBLIC FEEDBACK
The 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, B.R.C. 1981 have been met. The notice described the larger development proposal, with the three application types.

Public comments received regarding the project can be found in Attachment J of the Planning Board memorandum. At the public hearing on Dec. 7, 2017 three members of the public addressed the Board. Refer to Attachment B for a summary of public comment made at the hearing.

BACKGROUND
Existing Site/Area Context
The 1.4-acre property is located at the intersection of Violet Avenue and 22nd Street in the Crestview East neighborhood. Refer to Figure 1. The site is part of the Crestview East neighborhood, which is roughly defined as those properties located north of Tamarack Avenue, south of Violet Avenue, east of 19th Street and west of 22nd Street. Crestview East includes a variety of single-family homes in a more rural setting than other parts of Boulder. Medium density land use and zoning exists along Violet Avenue. The lot across 22nd Avenue to the east is another Habitat for Humanity development with small lot single-family development. There is a prevalence of developments built with cul-de-sacs and the existence of Boulder County enclaves in the immediate vicinity. The Boulder Meadows mobile home park is on the north side of Violet Avenue, across from the site.

![Figure 2: Vicinity Map](image)

The site is designated as Medium Density Residential in the comprehensive plan, with an anticipated density of six to fourteen dwelling units per acre. The land use designations were changed in the late 1990s to be consistent with the North Boulder Subcommunity.
Plan (NBSP), which established a cascading density from Violet Avenue (Medium Density Residential) towards Tamarack Avenue to the south (Low Density Residential).

Consistent with the land use designation, the subject property is zoned Residential - Medium 2 (RM-2) zoning, described as: “Medium density residential areas which have a mix of densities from low density to high density and where complementary uses may be permitted” (section 9-5-2(c), B.R.C. 1981).

The properties at 2180 Violet Avenue, 2145 Upland Avenue and 1917 Upland Avenue were annexed into the city in 1997 and are subject to the requirements of annexation agreements. The properties were annexed prior to the larger Crestview East annexation in 2009, which was a complex multi-year process that involved the annexation of 14 properties in the area.

Further background information can be found in the Planning Board memo.

Previous Reviews:
On Dec. 1, 2015, the City Council adopted an ordinance (Ordinance No. 8095) to amend subsection 9-12-2(b), B.R.C. 1981, which prohibits the sale of any parcel of land that has not been subdivided in accordance with the city’s subdivision regulations. The ordinance allowed the property owner at the time (2145 Upland LLC) to sell a portion of the 2180 Violet Avenue property to Habitat for Humanity of Boulder Valley, Inc. before Jan. 1, 2016. Habitat for Humanity needed to own the property by that time in order to be eligible for Community Development Block Grant Disaster Recovery (CDBG-DR) grants for the planned low-income housing development on the property. At the time, the then property owner and Habitat for Humanity stated that the ultimate goal was to amend the annexation agreements that affect the subject properties to transfer all of the affordable housing provisions required by the respective annexation agreements. Staff supported the ordinance because facilitating a proposal that would allow the exploration of a development plan that would result in a minimum of 15 permanently affordable units would represent a much greater permanent housing benefit than what was required in 1997 agreements. The assumption was that community benefit would be fully explored in the context of subsequent review processes.

Subsequently, the Planning Board considered a Concept Plan Review in September 2016 for the development of a multi-family development at 2180 Violet Avenue. The Concept Plan Review was not called up by the Council for review and comment. The staff memo, minutes, and audio from the Sep. 1, 2016 meeting can be found here.

PROJECT DESCRIPTION
Habitat for Humanity intends to construct a one hundred percent permanently affordable residential development with 19 multi-family units on the property at 2180 Violet Avenue, with each unit meeting or exceeding the current permanently affordable housing standards of Chapter 9-13, “Inclusionary Housing,” B.R.C. 1981. All units would be for-sale units. The total unit mix is proposed to be 17 two-story three-bedroom units and two one-story one-bedroom accessible units.
The larger proposal includes amendments to the annexation agreements for the four subject properties to allow the affordable housing requirements of all the properties to be met at 2180 Violet Avenue and to allow an increase in density at 2180 Violet Avenue for a total of 19 dwelling units. Permanently affordable deed restricting covenants would be secured for the property to ensure the affordability of the units.

The proposed plans for development be found in Attachment E of the memorandum to Planning Board.

ANALYSIS
When Ordinance No. 8095 was processed in December 2015 to allow for the sale of the property to Habitat for Humanity, the city indicated that additional density could be considered by the Planning Board and City Council as part of the evaluation of community benefit achieved through the annexation amendments. In addition, Planning Board indicated support for increased occupancy when they considered the Concept Plan Review in September 2016. Habitat for Humanity states that the proposed increase in density would allow them to maximize the amount of permanently affordable housing on the site and allow for a diversity of unit sizes, so that they can serve a diversity of ages and households.

Staff finds that the request for an increase in density, and associated ordinance, is consistent with the goals and intent of the BVCP and the goals and policies expressed in the NBSP. Based on the analysis below, staff supports the proposed increase in occupancy to 19 units, a 4-unit increase over what is permitted in the land use code. Staff supports the additional density given that there are enhanced opportunities for permanently affordable housing on the site and an amount of permanently affordable units that exceeds that possible under the previous annexation agreements.

BVCP Land Use Designation:
The intensity of development in RM-2 zoning is determined by a minimum of 3,500 square feet of lot area per dwelling unit and a maximum of 12.4 dwelling units per acre. Following the dedication of right-of-way for the alley the property will be 1.23 acres (53,758 square feet) and is permitted 15 units by-right.

Staff finds that the development proposal is consistent with the goals and intent of the BVCP. The property at 2180 Violet Avenue is designated as Medium Density Residential under the BVCP Land Use Map. On page 112 of the BVCP, the Medium Density Residential land use is described as follows:

<table>
<thead>
<tr>
<th>Medium Density Residential (MR)</th>
<th>Characteristics and Locations: MR is characterized by a variety of housing types. Medium-density areas are generally situated near neighborhood and community shopping areas or along some of the major arterials of the city. Uses: Consists of a variety of housing types ranging from single-family detached to attached residential units such as townhomes, multiplexes and some small lot detached units (e.g., patio homes), not necessarily all on one site. BVCP Density/Intensity: 6 to 14 dwelling units per acre</th>
</tr>
</thead>
</table>
The proposed multi-family development at 2180 Violet Avenue is 13.38 du/acre (gross density), which is consistent with the anticipated density/intensity for the land use designation. In addition, the proposal is consistent with the anticipated locations and uses for MR land use areas. The site is located along an arterial street and would provide townhome residential units.

**BVCP Housing Policies:**
The proposal supports a number of BVCP policies. In support of housing policies, the proposal contributes to providing a diverse mix of housing types for a full-range of households as well as balancing the housing supply with the employment base. The project supports opportunities for a variety of housing types for low- and moderate-income households. A major focus of the 2015 comprehensive plan update was Boulder’s increasing housing affordability challenge, particularly for middle income households as well as for low and moderate incomes. Additional density on this site supports the city’s affordable housing goals and the provision of additional affordable housing in appropriate locations.

Staff’s analysis regarding consistency with BVCP policies on housing is summarized in the table below.

<table>
<thead>
<tr>
<th>BVCP Policy</th>
<th>Excerpt from BVCP</th>
<th>How the Proposal is Consistent with BVCP Policies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Value</td>
<td>“A diversity of housing types and price ranges”</td>
<td>The proposal helps to meet the housing needs of the Boulder Valley population by contributing to a diversity of housing types and price ranges. The proposal is for 19 permanently affordable townhome style units for sale. The townhomes would be 17 three-bedroom units and 2 one-bedroom units. The three-bedroom units are suitable for families and the one-bedroom units will be accessible. There is diversity in the types of private open space provided.</td>
</tr>
<tr>
<td>7.06 Mixture of Housing Types</td>
<td>“The city and county, through their land use regulations and housing policies will encourage the private sector to provide and maintain a mixture of housing types with varied prices, sizes and densities, to meet the housing needs of the full range of the Boulder Valley population.”</td>
<td></td>
</tr>
<tr>
<td>7.09 Housing for a Full Range of Households</td>
<td>“The city and county will encourage preservation and development of housing attractive to current and future households, persons at all stages of life and to a variety of household configurations. This includes singles, couples, families with children and other dependents, extended families, non-traditional households and seniors.”</td>
<td></td>
</tr>
</tbody>
</table>
Several of the affordable housing requirements in the existing annexation agreements for 2180 Violet Avenue, 2145 Upland Avenue, and the 1917 Upland Avenue are inconsistent with current city policies for permanently affordable housing. The existing annexation agreement for 2180 Violet Ave. contains very specific affordable housing requirements for the property, including size-restricted units affordable only to the first purchaser of the unit. This means that subsequent sales of each property would allow the affordability restrictions to be terminated over time. In addition to the required restricted units, the annexation agreement requires the applicant to provide eight permanently affordable units at 2180 Violet Avenue, affordable in perpetuity, to households earning between 60 percent and 120 percent of the area median income (AMI). (Note, the annexation agreement amendments for all the properties in the larger development proposal will be discussed further in the staff memorandum for the Feb. 6 public hearing.)

Habitat for Humanity intends to construct a one hundred percent permanently affordable residential development on the 2180 Violet property with each unit meeting or exceeding current permanently affordable housing standards of Chapter 9-13, “Inclusionary Housing,” B.R.C. 1981. Based on development potential under the current zoning, staff estimates that only 11 units would remain permanently affordable under the existing agreements. Under the proposal, a minimum of 15 units would become permanently affordable. If Planning Board and City Council support the proposed increase in density, 19 units would become permanently affordable. The draft annexation agreement has the permanently affordable units priced to be affordable to households earning no more than the United States Department of Housing and Urban Development (HUD) low income limit, and qualifying household incomes shall be set at the HUD low income limit plus ten percent. The HUD
income limit is recalculated annually. In 2017 the low income limit is 79.3 percent of AMI. Staff finds that the proposal would provide a community benefit that is greater than the housing benefit that would be achieved under the current requirements of the annexation agreements.

**BVCP Policies on Neighborhoods, Design Quality, and Land Use Pattern:**

In addition, the proposal is consistent with policies 2.10 ‘Preservation and Support for Residential Neighborhoods’, 2.15 ‘Compatibility of Adjacent Land Uses’ and 2.33 ‘Sensitive Infill and Redevelopment’ and with the overall land use pattern in the area. The proposal is generally consistent with established neighborhood character. Considering that two of the additional units would be one-story, one-bedroom units, staff finds that the proposal would not adversely affect the character of the development or the character of the surrounding area. In support of policy 2.41 ‘Enhanced Design for All Projects’, the needs of the project’s occupants and visitors for high quality and functional useable open space are met by the proposal. Open space would constitute approximately 49% of site (26,192 square feet). All buildings represent high-quality design with entrances on the street and four-sided design. Lastly, infill development of the site at a higher density supports policy 2.03 ‘Compact Development Pattern.’

Staff’s analysis regarding consistency with BVCP policies on neighborhoods, design quality, and land use pattern is summarized in the table below.

<table>
<thead>
<tr>
<th>BVCP Policy</th>
<th>Excerpt from BVCP</th>
<th>How the Proposal is Consistent with BVCP Policies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Land Use Pattern</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.03 Compact Development Pattern</td>
<td>‘... ensure that development will take place in an orderly fashion...The city prefers redevelopment and infill as compared to development...to prevent urban sprawl and create a compact community.’</td>
<td>The infill of housing on this property supports a compact development pattern.</td>
</tr>
<tr>
<td><strong>Neighborhoods</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.10 Preservation &amp; Support for Residential Neighborhoods</td>
<td>‘...protect and enhance neighborhood character and livability...seek appropriate building scale and compatible character in new development or redevelopment...encourage neighborhood schools and safe routes to school.’</td>
<td>The character of the neighborhood is eclectic with a range of low and medium density residential buildings. The mass and scale of the Habitat development is appropriate given the context. The detailed design guidelines for the single-family development will ensure that buildings will have compatible architecture and forms with the surrounding context. The addition of detached sidewalks, a north-south path connection and internal connections will contribute to safe routes to Crestview Elementary School.</td>
</tr>
<tr>
<td>BVCP Policy</td>
<td>Excerpt from BVCP</td>
<td>How the Proposal is Consistent with BVCP Policies</td>
</tr>
<tr>
<td>-------------</td>
<td>------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>2.24 Commitment to a Walkable and Accessible City</td>
<td>“...promote the development of a walkable and accessible city...provide easy and safe access by foot to places such as neighborhood centers, community facilities, transit stops or centers, and shared public spaces and amenities. (…)”</td>
<td>The proposed site plan gives pedestrian and bicyclists priority over the vehicle. The site design includes connections for use by pedestrians and bicyclists, which connect to the existing multi-model network. The proposal includes the construction of a north-south 6-foot path to connect Vine Avenue to Violet Avenue, a 6-foot detached sidewalk and a 5-foot bike lane along Violet Avenue, and a 5-foot detached sidewalk adjacent to the property on 22nd Street. TDM strategies includes the creation of separate “Alternative Transportation Subsidy Funds”, which can be used for expenses such as B-cycle and car-share memberships, additional bicycle parking racks for the project, and transit passes. The design incorporated landscaping and open space to enhance the pedestrian experience. The proposal represents a realization of connections envisioned in the NBSP and the Crestview East annexations. Vine Street and a mid-block alley will be constructed to the west property lines and 22nd Street will be extended to the south to connect to Vine Street. The alley and Vine Street are planned to extend to the west to 19th Street and construction of such is a condition of annexation for properties that annexed as part of the larger Crestview East annexation in 2009.</td>
</tr>
<tr>
<td>2.25 Improve Mobility Grid &amp; Grid</td>
<td>“The walkability, bikeability and transit access should be improved in parts of the city that need better connectivity and mobility...will occur through both public investment and private development.”</td>
<td></td>
</tr>
<tr>
<td>2.36 Physical Design for People</td>
<td>“...ensure that public and private development and redevelopment be designed in a manner that is sensitive to social, health and psychological needs...provision of coordinated facilities for pedestrians, bicyclists and bus-riders; provision of functional landscaping and open space; and the appropriate scale and massing of buildings related to neighborhood context.</td>
<td></td>
</tr>
<tr>
<td>BVCP Policy</td>
<td>Excerpt from BVCP</td>
<td>How the Proposal is Consistent with BVCP Policies</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>2.41 Enhanced Design for All Projects</td>
<td>“b. The context. Projects should become a coherent part of the neighborhood in which they are placed...”</td>
<td>Buildings are oriented toward the street and the requested setback modifications would contribute to creating a building forward design that enhances the pedestrian experience along Violet Avenue and Vine Avenue. Pedestrian scale architectural features and materials are utilized at the pedestrian level, adding to the pedestrian interest at the street. Each building has four-sided design, facing the street and internal open spaces.</td>
</tr>
<tr>
<td></td>
<td>“c. Relationship to the public realm. Projects should relate positively to public streets, plazas, sidewalks, paths 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...”</td>
<td>A complete network of multi-modal connections will be provided, as described above. The street system has been minimized for the development as much as possible, given the general site layout.</td>
</tr>
<tr>
<td></td>
<td>“e. Transportation connections. Projects should provide a complete network of vehicular, bicycle and pedestrian connections both internal to the project and connecting to adjacent properties, streets and paths, including dedication of public rights-of-way and easements where required.”</td>
<td>The site design allows for open space that is visually continuous. Outdoor spaces will be useful, attractive, and interesting and include both sun and shade.</td>
</tr>
<tr>
<td></td>
<td>“f. Parking. The primary focus of any site should be quality site design. Parking should play a subordinate role to site and building design and not jeopardize open space or other opportunities on the property. Parking should be integrated between or within buildings and be compact and dense...”</td>
<td>The development would have a compact design with buildings with prominent porches and entries oriented directly to streets and open spaces. Given these architectural and site design aspects, the project would relate well to the streetscape and lend strongly to pedestrian interest.</td>
</tr>
<tr>
<td></td>
<td>“i. On-site open spaces. Projects should incorporate well-designed functional open spaces with quality landscaping, access to sunlight and places to sit comfortably. Where public parks or open spaces are not within close proximity, shared open spaces for a variety of activities should also be provided within developments.”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“j. Buildings. Buildings should be designed with a cohesive design that enhances the streetscape and is comfortable to the pedestrian. Buildings should demonstrate approachability and a relationship to the street, with inviting entries that are visible from public rights of way, multiple entrances and four-sided design. Foster appeal of buildings through attractive, well-designed architecture made of high-quality, long-lasting materials and innovative approaches to design.”</td>
<td></td>
</tr>
</tbody>
</table>
Goals and Policies of the NBSP:
In general, the proposed development addresses the goals and policies expressed in the North Boulder Subcommunity Plan (NBSP) for orienting well designed buildings and porches to the street and creating permanently affordable and diverse housing. The proposal is consistent with the overall goal of providing a diversity of housing types, sizes, and prices in the North Boulder Subcommunity as a whole. The design meets the objectives for residential areas, including compatibility with the surrounding context, fronts of buildings and lots that face the street and one another, and a diversity of housing types, sizes, and price ranges. In addition, the proposed development would be consistent with the following development guidelines that apply to all neighborhoods:

- Position houses so that their front doors and front yards face the street.
- Leave front yards open wherever possible. When front yard fences are provided, they should be low and open.
- Design houses so that garage doors do not dominate the front facade. Locate garage doors no less than 20' behind the principal plane of the front of the houses; detached garages are preferred.
- Except in areas recommended for low density rural-type character, position buildings close to the street to create a more pedestrian friendly atmosphere. Rather than a conventional "setback", create a "build-to" line.
- Provide high quality building design with attention to detail. Avoid monotonous building designs: include human scale features such as porches, varied building elevations, and varied sizes and styles.
- In higher density areas where parking lots are needed, design the lots so that they are small and clustered. Locate parking in the back of buildings, not in the front.
- Use alleys wherever possible to provide a "service" side to properties. Reduce curb cuts and sidewalk interruptions on the "public" side of lots.

Further, the proposal for 100 percent permanently affordable uses on the site and the proposal to transfer such uses from other single-family lots is consistent with the principal NBSP Crestview East goals (found on page 12 of the NBSP), which include creating permanently affordable and diverse housing and creating new development in a pattern that supports walkability and good community design.

MATRIX OF OPTIONS
The site review request for the subject properties is contingent upon City Council approval of the annexation agreement amendments and ordinance. In addition, the portion of the annexation agreement amendment relating to increased density at 2180 Violet Avenue is contingent upon City Council approval of the ordinance. If City Council denies the request for an ordinance, the covenant of the annexation amendment related to increased density would be revised.
ATTACHMENTS
A. Draft Ordinance
B. Draft Dec. 1, 2016 Planning Board Minutes
C. Applicant’s Written Statement
ORDINANCE 8233

AN ORDINANCE AMENDING ANNEXATION ORDINANCE NO. 5932 WHICH ANNEXED THE PROPERTIES AT 2100 AND 2180 VIOLET AVENUE, TO AUTHORIZE DEVELOPMENT OF THOSE PROPERTIES WITH VARIATIONS OR MODIFICATIONS TO THE BOULDER REVISED CODE THAT ARE INCLUDED IN THE ASSOCIATED ANNEXATION AGREEMENT OR AMENDMENTS THERETO, INCLUDING MODIFICATIONS TO THE DENSITY STANDARDS IN THE RESIDENTIAL-MEDIUM 2 (RM-2) ZONING DISTRICT, AND SETTING FORTH RELATED DETAILS.

THE CITY COUNCIL OF THE CITY OF BOULDER, COLORADO FINDS:

A. Habitat for Humanity of Boulder Valley, Inc. (the “Owner”), Colorado nonprofit corporation, is the owner of the parcel which comprises the real property generally known as 2180 Violet Avenue and is more particularly described in Exhibit A (the "Property").

B. The Property was annexed in 1997 pursuant to Ordinance No. 5932 and with an annexation agreement (the “Annexation Agreement”) that was recorded in the records of the Boulder County Clerk and Recorder at Reception No. 1755860 on December 16, 1997.

C. The Owner purchased the Property in 2015 with the intent to build and maintain a 100 percent permanently affordable housing development on the Property.

D. The 100 percent permanently affordable housing development proposed at 2180 Violet Ave. is proposed to satisfy the affordable housing requirements of the annexation agreements (the “Agreements”) associated with the properties at 2180 and 2100 Violet Avenue and 1917 and 2145 Upland Avenue. Each of the Agreements currently requires provision of affordable housing on the respective property; however, the requirements are not consistent with
current City of Boulder policies for permanently affordable housing. The proposed 100 percent permanently affordable housing development on the Property would provide a community benefit greater than the housing benefit that would be achieved under the current requirements of the Agreements.

E. The Owner and owners of 2100 Violet Avenue and 1917 and 2145 Upland Avenue are seeking a modification to the Agreements to authorize this revised housing benefit to be provided only on the Property, and, as part of the request to amend the Agreements, the Owner is seeking a density on the Property consistent with that of the Boulder Valley Comprehensive Plan Designation of Medium Residential, but exceeding the density allowed under its zoning designation of Residential – Medium 2 (“RM-2”).

F. Annexation is a legislative process, and modifications and variations to the Boulder Revised Code are commonly provided for in annexation agreements and authorized in annexation ordinances if such modifications and variations are in the interest of public health, safety, and welfare.

G. Annexation Ordinance No. 5932 did not expressly include such authority.

H. This ordinance is intended to amend Ordinance No. 5932 to expressly authorize modifications and variations to the Boulder Revised Code that are provided for in the Annexation Agreement or amendments thereto.

I. The Planning Board held a public hearing and reviewed this ordinance on December 7, 2017, along with the proposed amendments to the Agreements and a site review application for the Property, and recommended that the City Council adopt this ordinance.
J. Allowing a 100 percent permanently affordable residential development on the Property to be built at a density exceeding the density allowed in the RM-2 zoning district but consistent with the Boulder Valley Comprehensive Plan is in the interest of public health, safety, and welfare and achieves the creation of a considerable number permanently affordable units which is identified in the Boulder Valley Comprehensive Plan as a special benefit intended to be achieved in annexations.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BOULDER, COLORADO, THAT:

Section 1. The City Council approves any variations or modifications to the Boulder Revised Code or other City ordinances that are in the Annexation Agreement or any amendment to the Annexation Agreement (collectively referred to hereafter as “Annexation Agreement”), including the density requirements of the RM-2 zoning district.

Section 2. The City Council authorizes the city manager to implement the terms of the Annexation Agreement.

Section 3. This ordinance amends Ordinance No. 5932 and the Boulder Revised Code in that it now expressly approves any variations and modifications to the Boulder Revised Code or other City ordinances that are in the Annexation Agreement.

Section 4. The City Council finds this ordinance is in the interest of the public health, safety, and general welfare of the residents of the City of Boulder; is consistent with the goals and policies of the Boulder Valley Comprehensive Plan, and covers matters of local concern.
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 4th day of January 2018.

_______________________________
Suzanne Jones
Mayor

Attest:

________________________________
Lynnette Beck
City Clerk

READ ON SECOND READING, ADOPTED AND ORDERED PUBLISHED BY TITLE ONLY this 6th day of February 2018.

_______________________________
Suzanne Jones
Mayor

Attest:

________________________________
Lynnette Beck
City Clerk
EXHIBIT A
LEGAL DESCRIPTION
2180 VIOLET AVE.

REC. NO. 3498553, DATED 02/01/16
A PARCEL OF LAND LOCATED IN THE SOUTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 18, TOWNSHIP 1 NORTH, RANGE 70 WEST OF THE 6TH P.M., DESCRIBED AS:

COMMENCING AT THE NORTHEAST CORNER OF SAID SOUTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 18, AND CONSIDERING THE NORTH LINE OF SAID SOUTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 18 AS MONUMENTED TO BEAR SOUTH 89°53'00" WEST WITH ALL BEARINGS HEREIN RELATIVE THERETO;
THENCE ALONG THE EAST LINE OF SAID SOUTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 18 SOUTH 00°03'02" EAST 30.00 FEET TO THE SOUTH RIGHT-OF-WAY OF VIOLET AVENUE;
THENCE DEPARTING SAID EAST LINE OF THE SOUTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 18 AND ALONG THE SOUTH RIGHT-OF-WAY OF VIOLET AVENUE SOUTH 89°53"00" WEST 24.00 FEET TO THE WEST RIGHT-OF-WAY OF NORTH 22ND STREET, SAID POINT BEING THE POINT OF BEGINNING;

THENCE DEPARTING SAID SOUTH RIGHT-OF-WAY OF VIOLET AVENUE AND ALONG THE SAID WEST RIGHT OF WAY OF NORTH 22ND STREET SOUTH 00°03'02" EAST 152.00 FEET TO THE SOUTH RIGHT-OF-WAY LINE OF VINE ALLEY; THENCE DEPARTING SAID WEST RIGHT-OF-WAY OF NORTH 22ND STREET AND ALONG SAID SOUTH RIGHT-OF-WAY OF VINE ALLEY SOUTH 89°53'00" WEST 407.43 FEET TO THE EAST LINE OF TRACT 3021D;
THENCE DEPARTING SOUTH RIGHT-OF-WAY OF VINE ALLEY AND ALONG THE SAID EAST LINE OF TRACT 3021D NORTH 00°04'27" EAST 152.00 FEET TO SAID SOUTH RIGHT-OF-WAY OF VIOLET AVENUE;
THENCE DEPARTING SAID EAST LINE OF TRACT 30221D AND ALONG THE SOUTH SAID RIGHT-OF-WAY OF VIOLET AVENUE NORTH 89°53'00" EAST 407.10 FEET TO THE POINT OF BEGINNING,
COUNTY OF BOULDER, STATE OF COLORADO

THIS PARCEL CONTAINS 61,904 SQUARE FEET (1.421 ACRES).

A. JOHN BURI P.L.S. #24302
FOR AND ON BEHALF OF
SCOTT, COX & ASSOCIATES, INC.
1530 55TH STREET
BOULDER, COLORADO 80303
303-444-3051
PROJECT NO. 16252E
12/19/17
1. CALL TO ORDER
   Chair, J. Putnam, declared a quorum at 6:05 p.m. and the following business was conducted.

2. APPROVAL OF MINUTES
   On a motion by D. Ensign, seconded by H. Zuckerman, the Planning Board voted 6-0 (C. Gray absent) to approve the October 19, 2017, November 2, 2017 and November 16, 2017 minutes as amended.

3. PUBLIC PARTICIPATION
   a) Alan Delamere (pooling time with Sheila Delamere), spoke regarding the proposed
project at 311 Mapleton. He stated that the project appears to be more massive than originally declared and that the public has not been informed of the three concurrent reviews. He informed the board that the project’s information is inaccessible and overwhelming.

4. DISCUSSION OF DISPOSITIONS, PLANNING BOARD CALL-UPS / CONTINUATIONS
   A. Call-Up Item: FINAL PLAT to subdivide the existing 44.9-acre property at 2655 63rd Street into three lots and two outlots. A Site Review Amendment (#LUR2016-00109) was approved earlier this year to allow for the consolidation of three lots (previously Lots 3, 4 and 5) into one lot (proposed Lot 3) for a bus transportation and maintenance facility. Case no. TEC2016-00060. The call-up period expires on December 12, 2017.

   This item was not called up.

5. PUBLIC HEARING ITEMS
   A. AGENDA TITLE: Public hearing and consideration of the following items relating to four properties in Crestview East:
      (1) Recommendation to City Council on proposed amendments to the annexation agreements for 2180 Violet Ave., 2100 Violet Ave., 1917 Upland Ave. and 2145 Upland Ave. to allow the affordable housing requirements of all the properties to be met at 2180 Violet Ave. Proposal includes an amendment to allow an increase in density at 2180 Violet Ave. for a total of 19 dwelling units and amendments to reduce the required dedication of right-of-way for future Vine Street (LUR2017-00010);
      (2) Recommendation to City Council on an ordinance amending the Boulder Revised Code and annexation Ordinance No. 5932 to authorize development of 2180 Violet Ave. in the RM-2 zoning district with 19 dwelling units consistent with the proposed amendment to the annexation agreement for 2180 Violet Ave.; and
      (3) Public hearing and consideration of a Site Review (case no. LUR2017-00011) to develop the three properties at 2180 Violet Ave., 2100 Violet Ave., and 2145 Upland Ave. as follows:
         a. 2180 Violet Ave. Proposal for the construction of 19 residential units in five buildings. The development would be 100 percent permanently affordable for-sale residences built by Flatirons Habitat for Humanity. Seventeen of the units are proposed to be two-story, three-bedroom townhouses and two units would be one-story, one-bedroom accessible residences. Thirty parking spaces are proposed.
         b. 2100 Violet Ave. Proposal to subdivide the property into 6 lots for single-family development. Design guidelines are proposed to guide the design of the homes.
         c. 2145 Upland Ave. Proposal to subdivide the property into 3 lots for single-family development. Design guidelines would be used to guide the design of the homes.
Board members were asked to reveal any ex-parte contacts they may have had on this item.

- H. Zuckerman, B. Bowen, L. Payton and C. Gray all stated that they had been on Planning Board when the Concept Review was presented in 2016. All members mentioned they had conducted site visits except for P. Vitale and L. Payton. Both B. Bowen and C. Gray stated they had reviewed the packet but had no other ex-parte contacts. H. Zuckerman said that he had worked for Habitat for Humanity in the past, but that he could remain impartial. Finally, P. Vitale stated he had sat on the Habitat of Humanity Board prior to being on Planning Board, but that he also could remain impartial.

Staff Presentation:
C. Ferro introduced the item.
S. Walbert presented the item to the board.

Board Questions:
S. Walbert and C. Ferro answered questions from the board, primarily related to planned connections for the area, proposed TDM measures, and accessory dwelling units.

Applicant Presentation:
Robert Naumann, Susan Lythgoe, with Flatirons Habitat for Humanity, Don Ash, with Scott, Cox and Associates, Inc., and Jeff Dawson, with Studio Architecture, presented the item to the board.

Board Questions:
Don Ash, Jeff Dawson and Susan Lythgoe representing the Applicant, answered questions from the board, primarily related to wiring for solar on rooftops and utility outlets for charging stations in the carports.

S. Walbert, C. Ferro and B. Roberts answered questions from the board, primarily related to livability standards, the proposed design guidelines, on-street parking, compatible development and floor area, and affordable housing.

Public Hearing:
1) Janet Meyer spoke in support of the project with two concerns regarding the proposed parking and the planned construction schedule. The proposed parking reduction would be inadequate for the number of proposed units. The construction schedule is proposed to be six years, which is an unreasonable impact on the neighborhood.
2) Nolan Rosall, speaking as the President of the Board of Directors of Flatirons Habitat for Humanity, spoke in support of the project. It will help support the mission of providing quality affordable homes.
3) Jan Morzel spoke in support of the project and encouraged Habitat for Humanity to develop an ECO pass or Carshare program with the existing neighborhood. He also encouraged Habitat to communicate TDM measures to residents before they move in to limit car ownership. However, he is opposed the developer of 2100 Violet Ave. and 2145 Upland Ave. reducing their affordable housing requirements due to the
advantages they have already received through the original annexation.

Board Comments:

**Key Issue #1: Is the proposal consistent with Boulder Valley Comprehensive Plan (BVCP) and North Boulder (NBSP) Subcommunity Plan?**

- All board members agreed with the staff recommendation that the proposal is consistent with the BVCP and NBSP.
- L. Payton stated the BVCP has polices regarding middle-income housing, and the goals may not be consistent with these policies.

**Key Issue #2: Are the proposed annexation agreement amendments consistent with the Boulder Valley Comprehensive Plan (BVCP) policies of annexation and the intent of the original annexation terms?**

- B. Bowen added that it is positive to be able to adjust the annexation agreements around affordable housing.
- L. Payton voiced concerns about the size of the proposed single-family homes, referring to the newly constructed Trail Head development as an example. She stated that she may propose a condition or modification to the annexation amendment to address the potential square footage of the homes, specifically maximum floor area ratio (FAR). She asked H. Pannewig to assist in the drafting of a condition or modification.

**Key Issue #3: Is the proposed land use intensity increase consistent with the BVCP land use map and policies?**

- The board agreed with the staff recommendation that the proposal is consistent with the BVCP.

**Key Issue #4: Does the development proposal meet the Site Review criteria found in Section 9-2-14(h), B.R.C. 1981?**

- B. Bowen said that this was a strong proposal and the applicant adjusted the design to respond to the Planning Board’s Concept Review recommendations. He complimented the architecture, open space and focusing on diversity in affordability and age. He suggested a few conditions to consider, such as requiring an EVSE mount, convenience outlets in each storage unit or carport, and conduit for future PV on the rooftops of each home. He clarified that there is no way to solar energy from the carports to feed back into individual homes, due to the electrical code and Xcel.
- C. Gray appreciated that the applicant listened to the Planning Board’s comments from the Concept Plan Review. She approved of the proposed community space and placing the detention to the side rather than incorporating it into the open space.
- D. Ensign approved of the proposed multiple colors on the buildings. He agreed with B. Bowen’s proposed condition regarding conduits on the rooftops.
- L. Payton stated that the project meets the Site Review criteria.
- H. Zuckerman approved of the site design. He said that he would have like to have seen the height of the porch floors to be three or four steps high, rather than just 12-18 inches.
- J. Putman agreed that carports are a benefit to the site design and long-term livability.
EV provisions are important because that will make for affordable transportation in the future. The condition should be not be too prescriptive and allow for flexibility. If it is not incorporated now it will be a real barrier in the future.

- **B. Bowen** encouraged the Applicant to take advantage of grants for EV and PV.

**Key Issue #5: Is the requested 16.7 percent parking reduction for the multi-family development consistent with the criteria for parking reductions set forth in Subsection 9-2-14(h)(2)(K), B.R.C. 1981?**

- **B. Bowen** suggested an alternative parking design and granting a smaller parking reduction of four stalls, with an associated parking deferral for parking in front of the proposed play lawn (six spaces). This would allow the parking lot to get smaller and play area to get larger. On-street parking may not offer much relief to the development. In this case, the developer would not be incumbered with the cost of building the parking now if it is not necessary. The HOA and Habitat for Humanity could come back to request the deferred parking (six stalls) if they realize that there is increased parking demand in the future. He proposed that the deferred parking stalls would be on-plan, but not constructed. In this case, the city has a mechanism in the future to build it.

- Staff agreed that conceptually, it could be done.

- **D. Ensign** said there may be some concern by the residents regarding a future decision to build the parking and may create the probability of conflict.

- **B. Bowen** disagreed stating that residents would already have one space per unit and the decision to implement the deferred parking would be made by the entire group.

- **H. Zuckerman** agreed that there may be an advantage to **B. Bowen’s** idea because it may be a better design and have more permeable surface in the beginning.

- **P. Vitale** stated that **B. Bowen’s** idea would be “future-proofing” the site and there is the notion that there would be less vehicles in the future, not more.

- **L. Payton** said if the residents do realize that there are not enough parking spaces, they may park in other neighborhoods rather than eliminate the play lawn.

- **H. Zuckerman** added that scenario would be the trigger for staff to perform a parking analysis and enact the parking deferral.

  - **Jeff Dawson**, representing the applicant, was asked his opinion regarding the deferred parking concept. He stated that there was some support for the idea; however, they would prefer head-in parking along the alley rather than designing a partial parking lot with four spaces. He suggested using tandem parking spaces. He asked for some flexibility within the condition.

- The board discussed the construction phasing of the project.

  - **Susan Lythgoe**, representing the Applicant, stated that the funding for the project is over five years, one building per year. They build 3 days a week, bet 8 am and 4 pm, Wednesday, Friday and Saturday. There is some flexibility is that schedule if the neighborhood requests it.

- The board determined that due to the timing of funding, the phasing plan was unavoidable.
Motion #1:
On a motion by L. Payton, seconded by H. Zuckerman, the Planning Board voted 7-0 to approve Site Review case no. LUR2017-00011, adopting the staff memorandum as findings of fact, including the attached analysis of review criteria, and subject to the recommended conditions of approval.

Friendly amendment by D. Ensign, accepted by L. Payton and H. Zuckerman, to add a condition that conduit for future photovoltaic systems be brought to the rooftops of the residential units.

Friendly amendment by J. Putnam, accepted by L. Payton and H. Zuckerman, that the Applicant provide measures to facilitate the future installation of electrical vehicle (EV) charging stations in the carports on Vine Alley at the technical document review stage.

- The board deliberated proposing the following motion regarding parking at 2180 Violet, but after discussion, it was not made:

   “The final site plans shall show that two additional parking spaces can be accommodated on site, meeting all applicable standards of the Boulder Revised Code. If the city manager finds that the parking needs of the Property are not adequately met on the Property, the Applicant shall construct such additional two parking spaces and commence construction within 90 days’ notice by mail.”

Motion #2:
On a motion by L. Payton, seconded by H. Zuckerman, the Planning Board voted 7-0 to recommend to City Council approval of the annexation agreement amendments as they are consistent with the overall goals and policies of the Boulder Valley Comprehensive Plan policies pertaining to annexation as well as the intent of the original annexation terms.

Friendly amendment by L. Payton, accepted by H. Zuckerman, to add to Motion #2 that the Planning Board recommends that the annexation agreements for 2145 Upland Avenue, 1917 Upland Avenue, and 2100 Violet Avenue be further revised to state that the Parties agree to replace Paragraphs 7(f), 6(f), and 8(h), respectively, relating to floor area ratio, with the following:

   “The compatible development standards of Sections 9-8-2, 9-7-9, 9-7-10, and 9-7-11, B.R.C. 1981, shall be complied with as they apply to the zoning district of the Subject Property.”

On a motion by B. Bowen, seconded by H. Zuckerman, the Planning Board voted 4-3 (C. Gray, D. Ensign, L. Payton opposed) to amend the main Motion #2 by deleting the friendly amendment language requiring compliance with compatible development standards.

Motion #3:
On a motion by L. Payton, seconded by H. Zuckerman, the Planning Board voted 7-0 to recommend to City Council on an ordinance amending the Boulder Revised Code and
annexation Ordinance No. 5932 to authorize development of 2180 Violet Ave. in the RM-2 zoning district with 19 dwelling units consistent with the proposed amendment to the annexation agreement for 2180 Violet Ave.

**Motion to Continue Tonight’s Meeting:**
On a motion by **H. Zuckerman**, seconded by **D. Ensign**, the Planning Board voted 7-0 to continue the Planning Board meeting and hear the remaining items on the agenda.

6. MATTERS FROM THE PLANNING BOARD, PLANNING DIRECTOR, AND CITY ATTORNEY
   A. AGENDA TITLE: Alpine-Balsam Area Plan Update

**Staff Presentation:**
L. Ellis introduced the item.
C. Zacharias presented the item to the board.

**Board Comments:**
Project Purpose Statement
- Board members agreed the statement was clear.
- **L. Payton** added that everything in the area plan could be achieved, yet the city could still end up with a jobs-housing imbalance. She recommended that it may be useful to conduct a post-mortem on Transit Village Plan and conduct a comparison to the job-housing plan so the same mistakes are not made.
- **D. Ensign** suggested adding “constituents” to the phrase “create a common understanding with the larger Boulder neighborhoods”.
- **C. Gray** expressed concern about the nearby areas and would we be expecting them to change.

Feedback on the Scope and Key Considerations
- **C. Gray** appreciated that this area will be connected to other sites along the corridor.
- **D. Ensign**, regarding parking and mobility, said he would like to see reference to the transit support along that corridor.
- **L. Payton** said people are calling for this area to be used to solve several city problems, and it is important to find a way to communicate what some of these key issues are that this project might tackle. In addition, real number targets, e.g. for commercial space, could be shown.
- **J. Putnam** suggested that the plan consider what is the highest and best use for the site.
- **H. Zuckerman** said that one thing that should be considered is a way to soften the impact for nearby businesses from the loss of the hospital.

Feedback on the criteria for and definition of the planning and study areas
- **P. Vitale** said the map should clarify what is not the hospital site and what that will mean for those residents within the circled area.
• **B. Bowen** added the criteria make sense. He recommended expanding the planning area to both sides of 9th Street, to include the northeast corner of 13th and Balsam Streets, and to extend further south down Broadway one or two blocks.

• **J. Putnam** was confused by the difference between the planning vs. study areas. The labels should reflect and convey our intent more clearly.

• **L. Payton** agreed.

• **D. Ensign** agreed. In addition, he approved of the area plan being tied into the Broadway corridor.

• **C. Gray** agreed. She has concerns regarding the planning area extending north of Balsam along 13th Street as well as the neighborhood to the south of the Alpine-Balsam site and the affect it may have on the existing neighborhood.

Suggestions to improve the purpose and objectives for communications and engagement.

• **C. Gray** said it is a good start and that transparency and reflecting back what was heard will be important.

• **D. Ensign** reiterated having people from the community involved in working groups will be advantageous with continuity.

• **L. Payton** suggested giving people advance notice to save the date for events. In addition, the engagement objective should be that the community helps to plan and design the site.

• **J. Putnam** stated that the engagement process is strong, but he advised to use some different, strategic tools, methods and approaches to gain additional thoughts (e.g. tech ideas).

• **H. Zuckerman** said the purpose needs to show a clear path to the eventual decision. The language should be clearer, where the public is in the process of the engagement, what the city is soliciting from them, and where the information will go from there.

• **B. Bowen** agreed that the language needs to be as clear and concise as possible. Workshops in which residents are talking to each other are very positive and create a strong community building exercise.

• **P. Vitale** agreed with all previous statements. He added that before the hospital is deconstructed, the parking lot will be sitting empty. He suggested the parking lot and the exterior of the building could be used for entertaining events by the local community. This may bring additional and different types of people to come and talk about this area.

B. **AGENDA TITLE: Letter to Council Discussion**

**Board Comments:**

- The board reviewed and edited their previously submitted comments and formatted the Letter to Council to address City Council’s three questions presented to the Boards and Commissions.

7. **DEBRIEF MEETING/CALENDAR CHECK**
8. ADJOURNMENT

The Planning Board adjourned the meeting at 11:19 p.m.

APPROVED BY

___________________
Board Chair

___________________
DATE
Written Statement for 2180 Violet Ave. Site Review
01/16/2017

CURRENT OWNERSHIP:

The project is owned by Flatirons Habitat for Humanity

PROJECT OBJECTIVES:

LAND USE:

2180 Violet Ave is a 61,905 sf (1.42 acre) site near on the southwest corner of 22nd Street and Violet Avenue in Boulder, currently zoned RM-2. Under the RM-2 zoning, this development proposes a total of 19 residential units in five buildings. All of the units are proposed to be permanently affordable, for-sale residences. 17 of the units will be ~1,200 sf two-story, three-bedroom units, and the remaining two units will be ~750 sf one-story, one-bedroom, accessible residences.

Four of the buildings are located along and facing Violet Avenue, and the other building is located along the alley. This proposed layout provides street frontage along Violet, allows for maximum solar access throughout the site, and allows the residents to take advantage of the views to the west, southwest, and northwest. All of the buildings are oriented on the east-west axis with gracious open space to the south, which minimizes shadowing from adjacent buildings and allows for maximum access to solar energy. A large open space is centered within the site and is programmed to allow for a variety of uses. The site is accessed along 22nd Street from the proposed alley that runs east-west along the south property line. The proposed alley will continue to the west in the future as adjacent properties develop. 28 automobile parking spaces are provided along the alley, with 19 parking spaces (one per unit) being covered by carports. At the front of each covered parking space is a storage space reserved for the respective residential unit. The proposed carports will potentially have photovoltaics on the roof to offset the energy usage of the proposed development and to minimize the use of non-renewable resources. A 6’ multi-modal path is proposed within the existing 7’ public easement along the west property line to provide an easy, safe connection through the site to the planned future pathways to the south and to the proposed bike lane along Violet Avenue to the north.

ARCHITECTURAL CHARACTER:

The proposed development is comprised mainly of a typical two-story, three-bedroom unit that translates into an easily recognizable visual pattern along Violet Avenue and throughout the project. To provide variety of mass and a comfortable human scale, the 19 residential units have been broken out into five smaller buildings as described above. To further break down the mass of the structures, two of the buildings contain a residential unit that is a one-story, one-bedroom unit that provides a variety of mass along Violet Avenue. Pitched roofs are used on every building so the project fits in seamlessly with the surrounding character of the residential neighborhood. Front porches and front yards are proposed to provide depth and shadow to the façade, to provide a pedestrian scale along the sidewalk, and to create an environment that will encourage residents to activate the ground level. All window and door sizes are easily recognized as residential in nature, and effort has been put to place a majority of these windows facing Violet Avenue, to provide transparency along the street and as much light in to the unit as possible. At the corners of each building, the front porches have added detail to provide visual interest and variety, and stronger colors are used at the buildings that mark the corners of the project to create a “gateway” and sense of arrival.

Engineered wood lap and shingle siding with trim is proposed and will be consistent with the surrounding architectural character. Neutral gray and blue colors will be used in most areas, and a comfortable, bolder color will be used in accent areas to enliven the neighborhood and create a sense of place.
DEVELOPMENT SCHEDULE:

The owner anticipates beginning construction immediately upon receipt of building permits from the City of Boulder, and completing buildings as funding allows, which is anticipated to be one building per year.

COPIES OF ANY SPECIAL AGREEMENTS, CONVEYANCES, RESTRICTIONS, 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:

An annexation agreement amendment for this parcel is being applied for concurrently with this Site Review that would change the allowable number of units in the RM-2 zone portion to 19, change the 30’ right-of-way to 20’ for Vine Street along the south property line, and allow the affordable requirements for the 1917 Upland and 2145 Upland parcels to be satisfied on this property when the affordable units receive final Certificate of Occupancy.

RESPONSE TO GENERAL CRITERIA FOR ALL SITE REVIEW APPLICATIONS (9-2-14(h))

I. Boulder Valley Comprehensive Plan:

(A) How is the proposed site plan 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 in the Medium Density Residential zone in the BVCP. The medium density designation in the BVCP allows for a density of six to 14 units per acre. The proposed development falls within that range – by proposing 13 units per acre (19 units on a 1.42 acre site). Other key policies that the proposed site plan addresses include:

Sustainability, through thoughtful site plan design, connection to the larger neighborhood and city, the potential use of renewable energy, and overall building and site design that reduces the use of non-renewable resources.

A welcoming and inclusive community, by providing 19 desperately needed permanently affordable, for-sale housing units within Boulder that will help balance the disparity between jobs within the city and available affordable housing within the city.

Strong city and county cooperation, by involving and responding to both City staff and surrounding community member comments in the design direction of the proposed development.

The unique community identity and sense of place, by respecting the community’s setting and history in the proposed architectural character and site plan design.

Compact, contiguous development and infill that supports evolution to a more sustainable urban form, by providing appropriate and needed permanently affordable, for-sale density in a developing section of the North Boulder residential area.

Environmental stewardship and climate action, by reducing and minimizing the use of non-renewable resources throughout the proposed development.

A diversity of housing types and price ranges, by providing two different permanently affordable, for-sale unit types: (17) family-centric three-bedroom units and (2) accessible one-bedroom units.

An all-mode transportation system to make getting around without a car easy and accessible to everyone, by providing a robust Transportation Demand Management plan to all residents and adding multi-modal connections to existing and anticipated neighborhood and city systems.
Physical health and well-being, by providing central, usable open space well in excess of the City’s zoning requirement for residents and neighbors alike, and by improving connections to Boulder’s network of trails and open space.

(B) The proposed development shall not exceed the maximum density associated with the Boulder Valley Comprehensive Plan residential land use designation. Additionally, if the density of existing residential development within a 300 foot area surrounding the site is at or exceeds the density permitted in the Boulder Valley Comprehensive Plan, then the maximum density permitted on the site shall not exceed the lesser of:

(i) the density permitted in the Boulder Valley Comprehensive Plan, or,
(ii) the maximum number of units that could be placed on the site without waiving or varying any of the requirements of Chapter 9-7, “Bulk and Density Standards,” B.R.C. 1981.

How is the proposed site plan consistent with the above density criteria?

According to the BVCP, the allowable density in the medium density designation in newly developing areas is from six to 14 units per acre. The proposed development proposes 19 units on a 1.42 acre site, a density of 13 units per acre. Neither the proposed development nor any existing residential development within a 300 foot area surrounding the site is at or exceeds the density permitted in the BVCP.

(C) How does the proposed development’s success in meeting the broad range of BVCP policies consider the economic feasibility of implementation techniques required to meet other site review criteria?

The project supports much needed opportunities for for-sale, below median income households by providing 19 permanently affordable, for-sale units in a couple of unit types; a three-bedroom unit that is suitable for families, and a one-bedroom, fully accessible unit that supports the growing need for “age-in-place” residences. The proposed architectural character is generally consistent with and an improvement on the modest established character of surrounding neighborhoods while proposing a compact pattern of development which is consistent with both the zoning and the density advocated by the BVCP.

II. Site Design:

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

(A). Open space, including, without limitation, parks, recreation areas, and playgrounds:

1. How is usable open space arranged to be accessible and functional, and how does it incorporate quality landscaping, a mixture of sun and shade and places to gather?

The usable open space has been relocated to be more central to the site plan per Staff’s comments at concept review in an effort to make the open space more functional and safe. The proposed open space has been designed to accommodate a number of possible uses; some spaces are more public and appropriate for gatherings or group play, and other spaces are more private and allow for rest and contemplation. There are multiple connections to the open space through the site, making it easily accessible for both residents and neighbors alike. Benches have been placed around the site to provide spaces to rest; a mostly flat lawn is proposed on the western side of the site to allow for group play; a pergola is proposed in the center of the site where small groups can gather; a “meadow” with flowers and grasses is proposed on the eastern side as a more organic place of discovery; the detention area slope has been minimized to allow it to be usable open space; a multi-functional boardwalk that crosses the detention area is proposed as both as a connector to the parking area as well as a place of rest or an impromptu stage for the amphitheater; and seating for the amphitheater has been integrated in to the slope of the detention area.
2. How is private open space provided for each detached residential unit?

In addition to the public open space, private rear yards are proposed for each residential unit where the residents can choose one of five landscape options at the time they take over ownership, providing variety of landscaping throughout the project and a feeling of ownership for the residents. Front porches and landscaped front lawns are proposed for each unit, adding to the useable private open space.

3. How does the project provide for the preservation of natural features, including, without limitation, healthy long-lived trees, terrain, significant plant communities, threatened and endangered species and habitat, ground and surface water, wetlands, riparian areas, and drainage areas?

None of the existing trees are proposed to be preserved at this time. There are many existing specimens which are either not desirable as defined by City approved selections or are in poor condition, grouped too closely, or dead, and should be replaced. There are no significant plant communities present. A study of any existing prairie dog population and a plan for their relocation will be completed once the project is approved by the City of Boulder. Existing surface water is not present in any measurable quantity and therefore there are no wetlands, riparian areas or drainage areas on this site to be preserved.

4. How does the open space provide a relief to the density, both within the project and from surrounding development?

The surrounding development is not of high density. Within the proposed development, we have provided a number of open space options for residents and visitors alike, including both private and public spaces. Each residential unit has been provided with a private rear yard and a front porch. For the community as a whole, there is a large open space in the center of the proposed development that is easily accessible and visible to all residents. The southeast corner of the property is planned to take advantage of a low slope detention area to create another place to walk, rest, or play. All of these spaces are connected by safe, comfortable sidewalks within the development.

5. How does the open space provide a buffer to protect sensitive environmental features and natural areas?

Along the north property line, we propose to landscape the setback with native grasses and trees to provide a buffer from Violet Avenue.

6. If possible, how is open space linked to an area- or a city-wide system?

We are proposing to add a 6’ multi-modal path along the western property line that connects the proposed sidewalk and bike lane along Violet Avenue on the north of the property to the proposed new alley on the south of the property. This will allow for a multi-modal connection to future neighborhood trails once the surrounding parcels are developed. Also proposed is a designated 5’ bike lane along Violet Avenue, which will connect the entire project to the area- and city-wide system.

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

1. How does the open space provide 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?

Not applicable, as this is a 100% residential project.

2. How does the open space provide active areas and passive areas that will meet the needs of the anticipated residents, occupants, tenants, and visitors of the property and how is the open space compatible with the surrounding area or an adopted plan for the area?
Not applicable, as this is a 100% residential project.

(C) Landscaping:

1. How does the project provide for aesthetic enhancement and a variety of plant and hard surface materials, and how does the selection of materials provide for a variety of colors and contrast and how does it incorporate the preservation or use of local native vegetation where appropriate?

Landscaping within the site will serve the users and the community both aesthetically and functionally. The specific landscape materials chosen for the development will be of native species to minimize water consumption, and will emphasize a variety of colors, textures and forms in order to provide year-round interest. Among the major landscape objectives are the following:

   i. Provide an attractive streetscape along 22nd and Violet Avenue,
   ii. Visually enhance the architectural features on the corners and entries into the project,
   iii. Provide comfortable, safe sidewalks within the proposed development by creating buffers between the sidewalks and the parking areas,
   iv. Provide shade and visual interest throughout the project by providing a variety of tree types and sizes,
   v. Screen, and break up the parking along the alley with landscape areas, and
   vi. Provide enclosed areas for trash and recycling.

2. How does the landscape and design attempt to avoid, minimize, or mitigate impacts to important native species, plant communities of special concern, threatened and endangered species and habitat by integrating the existing natural environment into the project?

There are no important native species or plant communities of special concern. A study will be completed during site review to determine if threatened and endangered species and habitat are present on the subject property if deemed necessary by the City of Boulder staff. The proposed landscape palette will be a combination of xeriscaping and adaptive and native plants that are known to thrive in the micro-climate of North Boulder.


Our plan exceeds the General Landscaping and Screening Requirements in the following ways:

   1. Open Space: Over an acre of usable open space is provided where none is required.
   2. Pedestrian Access: Although no walks are required in the RM zone, paved pedestrian walkways to all units, parking areas and common open space are provided.
   3. Minimum Overall Site Landscaping: Although no landscaping is required in the RM zone, 73 trees and 466 shrubs are provided.
   4. Minimum Plant Sizes: Deciduous trees shall be two and a half inches DBH where only two-inch caliper is required. Evergreens shall be 6 feet tall where only five feet tall is required.
   5. Tree Protection: All existing trees are noxious weeds. We will remove all of this invasive and otherwise undesirable plant material and replace with landscaping that will improve the health of the site.
4. How are the setbacks, yards, and useable open space along public rights-of-way landscaped to provide attractive streetscapes, to enhance architectural features, and to contribute to the development of an attractive site plan?

As shown in the plan, and alluded to above, the streetscape along Violet Avenue is very rich with the addition of street trees, a 6’ sidewalk, and landscaped front yards that enhance the residential character and front porches. Large deciduous trees have been placed at the main pedestrian entry along Violet, and evergreen trees have been placed on the ends of the property along Violet Avenue to visually fortify the corners of the proposed development. Street trees have been located along 22nd Street in a proposed new 8’ landscaping strip with a 5’ detached sidewalk in an effort to both beautify and make safer the pedestrian experience along 22nd Street. In addition, trees have been added along the proposed new alley to make it more attractive.

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

1. How are high speeds discouraged or a physical separation between streets and the project provided?

A new 8’ landscaping strip with street trees and a detached sidewalk is proposed for both Violet and 22nd Street that will provide a physical separation between the streets and the project. Along the proposed new alley, landscaping areas, parking spaces, storage units, and sidewalks provide the physical separation from the adjacent open space.

2. How are potential conflicts with vehicles minimized?

Potential conflicts with vehicles are minimized through the physical separations outlined above, as well as the decision to provide only a single curb cut to access the site where the proposed new alley connects to 22nd Street.

3. How are safe and convenient connections accessible to the public within the project and between the project and existing and proposed transportation systems provided, including without limitation streets, bikeways, pedestrian ways and trails?

Within the project, safe and accessible sidewalks connect all the units to the proposed open space, parking areas, 6’ multi-modal path along the west property line, and the proposed detached sidewalks along both Violet and 22nd Street. The well-placed sidewalk connections make the project permeable with great access to Violet Avenue. We are proposing a 5’ bike lane along Violet Avenue to align with the BVCP’s vision of creating a future bike lane along the entirety of Violet Avenue, which will connect the proposed development to city-wide transportation systems, paths and trails.

4. How are alternatives to the automobile promoted by incorporating site design techniques, land use patterns, and supporting infrastructure that supports and encourages walking, biking, and other alternatives to the single occupant vehicle?

- A robust TDM plan is proposed that would support and promote the use of alternative transportation in a variety of ways.
- We propose to exceed the long-term bicycle parking requirements and meet the short-term bicycle parking requirements set forth by the City.
- The safe and conveniently located sidewalks and paths are designed to encourage connections by walking, rather than driving, especially in the future as the surrounding neighborhood develops.

5. Where practical and beneficial, how is a significant shift away from single-occupant vehicle use to alternate modes promoted through the use of travel demand management techniques?

Please refer to the TDM plan submitted with the Site Review Application.
6. What on-site facilities for external linkage with other modes of transportation are provided, where applicable?

Not Applicable

7. How is the amount of land devoted to the street system minimized?

A 20’ public ROW has been dedicated on the south property line to allow for an alley to connect through the site to future development to the west. Automobile parking is accessed from the alley in an effort to minimize pavement throughout the site, which was a positive site plan layout change that was suggested by City Staff members at the time of Concept Review. Also, a parking reduction is being proposed to minimize the amount of pavement required on site, to promote alternative modes of transportation, and to increase the usable open space available to residents and the neighborhood as a whole.

8. How is the project designed for the types of traffic expected, including, without limitation, automobiles, bicycles, and pedestrians, and how does it provide safety, separation from living areas, and control of noise and exhaust?; and

Traffic entering and leaving the proposed development will do so through one access point along 22nd Street, which is located furthest away from the majority of the units as possible to control automobile noise and exhaust. This minimal amount of interruption of the sidewalk also maximizes pedestrian safety. Detached sidewalks with 8’ landscaping strips proposed along Violet and 22nd Street increase pedestrian safety by maximizing separation from automobile circulation. The 6’ multi-modal path will provide adequate space for runners, cyclists, and the like to safely travel through the site.

9. How will city construction standards be met, and how will emergency vehicle use be facilitated?

City construction standards will be met by following the Design and Construction Standards where applicable. Emergency vehicles will have access to the project’s buildings from Violet Avenue, 22nd Street, and the alley if needed. All of the buildings, including Building A on the southwest corner of the site, are within 150’ of Violet Avenue for fire emergency access.

E. Parking:

1. How does the project incorporate into the design of parking areas, measures to provide safety, convenience, and separation of pedestrian movements from vehicular movements?

All of the parking is accessed from the alley at the far south of the property, keeping pedestrian and vehicular circulation as separate as possible. Planters are proposed at the north edge of the unbundled parking area, and storage sheds are located at the ends of each bundled parking stall to further separate, both physically and visually, the parking areas from the pedestrian movements. Sidewalk access and site lighting has been carefully located to provide safe, convenient access from each unit to the parking areas.

2. How does the design of parking areas make efficient use of the land and use the minimum amount of land necessary to meet the parking needs of the project?

The parking area layout reflects Staff’s recommendations at Concept Review, where all of the parking spaces are accessed from the alley, minimizing the need for additional pavement. A parking reduction is proposed that further reduces the amount of land dedicated to the parking needs of the project.

3. How are the parking areas and lighting designed to reduce the visual impact on the project, adjacent properties and adjacent streets?

The parking is located internal to the project and along the alley on the south property line, reducing the visual impact of the parking from Violet Avenue and 22nd Street. In addition, the buildings and landscaping have been located to screen most of the parking areas in the project. Lighting has been designed with luminaires that provide for
adequate safety and security while reducing light pollution that allows for an environmentally sensitive nighttime atmosphere for both the proposed development and adjacent properties.

4. How do the 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?

1. Shade: A solar carport will shade much of the parking lot and reduce urban heat island effect while generating power.
2. Screening Parking Lots from The Street: A landscape strip planted with wildflowers and grasses of over 55’ is provided where a minimum width of only 12.5 feet is required.
3. Interior Parking Lot Landscaping: Our interior parking lot landscaped areas exceed the minimum dimensional requirements.

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

1. How is the building height, mass, scale, orientation, architecture and configuration compatible with the existing character of the area or the character established by adopted design guidelines or plans for the area?

The proposed building character utilizes pitched roofs, covered porches, residential-scale windows and openings, landscaped front yards, and fenced rear yards to create a compatible character with the surrounding existing single-family homes. The proposed orientation of the buildings mimic the housing developments to the east, where the buildings face Violet Avenue while the main access is from the back. One and two-story buildings are proposed, which is consistent with the surrounding context.

2. How are the height of buildings in general proportion to the height of existing buildings and the proposed projected heights of approved buildings or approved plans or design guidelines for the immediate area:

The development proposes one and two-story buildings with pitched roofs, which are in proportion to the height of existing surrounding one and two-story single-family homes.

3. How does the orientation of buildings minimize shadows on and blocking of views from adjacent properties?

The majority of the buildings are located along the north property line (Violet Avenue), which minimizes any shadows on the adjacent property to the south. The buildings are positioned so that gaps between the buildings allow views to permeate through the site from adjacent properties.

4. If the character of the area is identifiable, how is the project made compatible by the appropriate use of color, materials, landscaping, signs, and lighting?

The proposed buildings use a simple palette of materials, which consist of horizontal lap siding, shingle siding, asphalt roofs, decorative trim at corners, soffits and fascia boards, all of which is consistent with the surrounding neighborhood. The vocabulary of the architecture is a traditional and under-stated residential style which is compatible with the neighborhoods to the east, and an improvement on the mobile home park to the north. Landscaping and lighting is designed to meet and exceed the standards of the City of Boulder and as such, will not only “fit in,” but it will enhance the surrounding area.

5. How do buildings present an attractive streetscape, incorporate architectural and site design elements appropriate to a pedestrian scale, and provide for the safety and convenience of pedestrians?

The proposed buildings are based on a suburban typology using substantial and traditional materials such as horizontal and shingle siding with decorative trim, accented by human scale elements such as residential railings, front porches, sloping roofs, and windows and doors which are easily recognizable as residential in character. The pattern, massing, materials and volumes formed by the design are also easily understood as residential. Deep, welcoming front porches face the sidewalks inviting interaction between residents and passersby. Safety of the area
is increased due to the exterior lighting, which will also be provided in accordance with the minimum standards of the City of Boulder.

6. To the extent practical, how does the project provide public amenities and planned public facilities?

Even though there is no open space requirement in the RM-2 zone, this project proposes public amenities that are far above and beyond many neighborhoods of its type. The permeability through the buildings to the central open space is welcoming to neighbors and residents, and the much improved public sidewalks and multi-modal paths will benefit the neighborhood now and in the future as development of this area continues. The proposed open space is designed to be safe, dynamic, and multi-functional with areas for rest, play, discovery, exercise, and gathering for individuals, small groups, and large groups.

7. For residential projects, how does the project assist the community in producing a variety of housing types, such as multifamily, townhouses, and detached single family units as well as mixed lot sizes, number of bedrooms, and sizes of units?

The project is proposing to provide desperately needed permanently affordable, for-sale housing in Boulder. 19 units are proposed, with 17 of those units being two-story, ~1,200 sf three-bedroom units that are perfect for families. The remaining two units will support the growing need to house “age-in-place” individuals with fully accessible, one-story, 750 sf one-bedroom units.

8. For residential projects, how is noise minimized between units, between buildings, and from either on-site or off-site external sources through spacing, landscaping, and building materials?

Each of the units will be constructed using staggered stud demising walls and floors with acoustically insulating components which provide STC ratings of approximately 60 between units. Each of the units will use insulated glass in the windows and solid core front doors to reduce sound impacts from the street.

9. If a lighting plan is provided, how does it augment security, energy conservation, safety, and aesthetics?

The lighting plan aims to provide safe and comfortable lighting levels in the parking areas and along the pedestrian paths by providing full cut off down-lighting at unit entries and lamp post lighting along the main sidewalks. Motion activated lighting fixtures are proposed under the carports to conserve energy and provide safety in that area.

10. How does the project incorporate the natural environment into the design and avoid, minimize, or mitigate impacts to natural systems?

By orienting all of the buildings on an east – west axis and designing the open spaces to the south of the majority of the buildings, there is great access to solar energy. The generous open space, central open space, and water quality pond in the southeast of the site acts as storm-water filter device utilizing designs based on previous work with the EPA on micro management techniques.

11. How are cut and fill minimized on the site, and how does the design of buildings conform to the natural contours of the land, and how does the site design minimize erosion, slope instability, landslide, mudflow or subsidence, and minimize the potential threat to property caused by geological hazards?

Cut and fill are minimized by maintaining the existing drainage patterns of the site. The site generally drains from northwest to southeast currently and will continue the same general pattern after development. The site will utilize the current standards and BMPs used to control erosion and sediment. Some of the BMPs that will be used on this project may include sediment ponds, silt fencing, erosion control logs, inlet/outlet protection, and construction access tracking control devices, concrete washouts and dust control.
(G) Solar Siting and Construction: For the purpose of insuring the maximum potential for utilization of solar energy in the city, all applicants for residential site reviews shall place streets, lots, open spaces, and buildings so as to maximize the potential for the use of solar energy in accordance with the following solar siting criteria:

1. 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. How is this criterion met?

As demonstrated in the Solar Analysis submitted with the Site Review application, all buildings will have access to solar energy. The open space is centralized on the site, with the majority of buildings being located along the north property line. This minimizes any shading on the proposed buildings by adjacent development to the south, both now and in the future. 22nd Street is located adjacent to the property to the East, which won’t cast any shadows on the proposed development.

2. 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. How is this criterion met?

The proposed site plan locates four of the five buildings along the north lot line to maximize open space and control of solar shading. This layout also minimizes the shading effect on the proposed buildings by adjacent properties, and maximizes the solar access of the buildings on the site.


The project meets the criterion of the BRC as demonstrated in the solar shadow diagram submitted with the Site Review application. As described above, the orientation of the buildings on the east-west axis and their location along the north lot line with generous open space to the south of the buildings maximizes the residents’ access to solar energy.

4. Landscaping. The shading effects of proposed landscaping on adjacent buildings are minimized. How is this criterion met?

Deciduous trees are used throughout the project to provide shading in the summer and allow access to the sun in the winter.

(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:

1. The light pole is required for nighttime recreation activities, which are compatible with the surrounding neighborhood, or the light or traffic signal pole is required for safety, or the electrical utility pole is required to serve the needs of the city; and

Not Applicable

2. The pole is at the minimum height appropriate to accomplish the purposes for which the pole was erected and is designed and constructed so as to minimize light and electromagnetic pollution. If applicable, how are these criteria met?

Not Applicable

(I) Land Use intensity Modifications:
1. **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
   
   Not Applicable

   b. The open space requirements in all Downtown (DT) districts may be reduced by up to one hundred percent
   
   Not Applicable

   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
   
   Not Applicable

   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.
   
   Not Applicable

2. 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:** How have the project’s occupants and visitors needs for high quality and functional useable open space been met?

      As outlined above, high quality and functional useable open space has been provided in the proposed site plan via:

      1. Private rear yards with different landscaping options for each residential unit that allows the owner to personalize their space, which in turn creates a variety of visually attractive outdoor spaces for the neighborhood to enjoy as a whole

      2. A pergola located centrally in the open space that allows for both small group gatherings and impromptu meetings between neighbors

      3. Benches conveniently placed along the internal sidewalks to provide residents and visitors a more private place for rest and contemplation.

      4. An open lawn on the west side of the pergola that provides the opportunity for exercise, large-group gatherings, and game play.

      5. A more organically planted and less structured “meadow” on the east side of the pergola where the topography gently rises and falls that allows for discovery, slower-paced play, non-paved walking paths, sledding in the winter, and more imaginative play.

      6. A boardwalk that crosses the detention area that has been enlarged to provide a place of rest, contemplation, and possibly a stage for plays.

      7. Flat rock seating areas located in the slope of the detention pond that could act as small amphitheater seating for the “stage” outlined above.
b. Character of the Project and Area: The open space reduction does not adversely affect the character of the development or the character of the surrounding area.

There is no open space requirement in the RM-2 zone, therefore an open space reduction is not being requested. Conversely, open space, as outlined above, is being provided far in excess of what is required in the RM-2 zone.

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 excised 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.

   Not Applicable

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

   The proposed development is a combination of mostly two-story residential units with a few one-story residential units in an effort to fit in with the surrounding context, to provide a variety of massing, and to provide a human scale to the entirety of the project. Front porches, sloped roofs, and residential windows were implemented to further reduce the apparent mass of the buildings. In addition, the 19 units have been broken up into five separate buildings to allow visual and physical permeability through the site, reducing the mass of the structures.

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;

   A common open space has been provided that allows for a number of recreational activities, both for large groups and small groups, active and sedentary play. The proposed open space has been designed to be accessible to both the occupants and visitors of the neighborhood.

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:

   Not Applicable

5. The reduction in open space in 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

   Not Applicable

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 of the open space: maximum twenty-five percent reduction.

Although the proposed development does not contain nonresidential uses, the open space will still meet the needs of the anticipated residents and visitors of the property as well as accommodate public gatherings and important activities or events in the life of the community and its people as outlined above.

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

Not Applicable

(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 probably number of motor vehicles to be owned by occupants of and visitors to dwellings in the project will be adequately accommodated:

Being a 100% permanently affordable project providing low to moderate income housing, the parking demand is anticipated to be short of the requirements set forth in Section 9-9-6, “Parking Standards,” B.R.C. 1981. The proposed off-street parking is proposed to be partially unbundled, where 19 of the 28 spaces will be bundled at one parking space per unit, and the remaining nine spaces will be unbundled to accommodate any additional resident or visitor parking. The proposed parking reduction will also encourage the use of alternative transportation methods that will be supported by the proposed robust Transportation Management Plan.

b. The parking needs of any nonresidential uses will be adequately accommodated through on-street parking or off-street parking:

Not Applicable

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:

Not Applicable

d. If joint use of common parking areas is proposed, varying time periods of use will accommodate proposed parking needs: and

Not Applicable

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 applicant is proposing a 100% permanently affordable development, which will not change in the future.
(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:

Not Applicable

HEIGHT MODIFICATION:

Not Applicable

End of Written Statement
BOULDER VALLEY COMPREHENSIVE PLAN POLICIES:

POLICY 1.25

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

a) Annexation will be required before adequate facilities and services are furnished;
   - The 2180 Violet Avenue, 2145 Upland Avenue, and 1917 Upland Avenue parcels are already annexe
     d in to the city. The applicant is proposing to amend the current annexation agreements as follows:
     i. 2180 Violet Avenue (Rec #1755860)
        1. Change the 30' wide right-of-way for Vine St along the southern line of the Subject Property to a 20' wide right-of-way.
        2. Change the number of allowed units in the RM-2 zone to 19 units
        3. Allow the affordable housing requirements outlined in the annexation agreements for 2145 Upland Avenue and 1917 Upland Avenue to be met by providing affordable housing on this parcel only (2180 Violet Avenue).
     ii. 2145 Upland Avenue (Rec #1755861)
        1. Allow the affordable housing requirements for this parcel to be met on the 2180 Violet Avenue parcel. The affordable and restricted requirements will be considered to be satisfied once the affordable units on the 2180 Violet Avenue parcel receive final Certificate of Occupancy
     iii. 1917 Upland Avenue (Rec # 1755859)
        1. Change the 60' wide right-of-way for Vine St to 40', vacating 10' on the north and south portions
        2. Allow the affordable housing requirements for this parcel to be met on the 2180 Violet Avenue parcel. The affordable and restricted requirements will be considered to be satisfied once the affordable units on the 2180 Violet Avenue parcel receive final Certificate of Occupancy
   b) The city will actively pursue annexation of county enclaves, Area II properties along the western
      boundary, and other fully developed Area II properties. County enclave means an unincorporated area of
      land entirely contained within the outer boundary of the city. Terms of annexation will be based on the
      amount of development potential as described in (c), (d), and (e) of this policy. Applications made to
      the county for development of enclaves and Area II lands in lieu of annexation shall be referred to the city
      for review and comment. The county shall attach great weight to the city’s response and may require that the landowner conform to one or more of the city’s development standards so that any future annexation into the city will be consistent and compatible with the city’s requirements.
      - The 2180 Violet Avenue, 2145 Upland Avenue, and 1917 Upland Avenue parcels are already annexed in to the city. Refer to the respective Annexation Agreement record numbers outlined above for more information.
   c) Annexation of existing substantially developed areas will be offered in a manner and on terms and
      conditions which respect existing lifestyles and densities, and the city will expect these areas to be
      brought to city standards only where necessary to protect the health and safety of the residents of the
      subject area or of the city. The city, in developing annexation plans of reasonable cost, may phase new
facilities and services. The County, which now has jurisdiction over these areas, shall be a supportive partner with the city in annexation efforts to the extent the county supports the terms and conditions being proposed.

- The 2180 Violet Avenue, 2145 Upland Avenue, and 1917 Upland Avenue parcels are already annexed in to the city. Refer to the respective Annexation Agreement record numbers outlined above for more information.

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

- The 2180 Violet Avenue, 2145 Upland Avenue, and 1917 Upland Avenue parcels are already annexed in to the city. The proposed development at 2180 Violet Avenue concurrently applying for Site Review proposes 19 permanently affordable residential units and functional, accessible open space far in excess of city requirements; both of which are outlined above as special benefits to the city.

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

- The 2180 Violet Avenue, 2145 Upland Avenue, and 1917 Upland Avenue parcels are already annexed in to the city. The proposed development at 2180 Violet Avenue concurrently applying for Site Review proposes an increase in the allowable units in the RM-2 zone to 19 units. The additional residential units provide community benefit, as all 19 units are proposed as permanently affordable residential units. Also, functional, accessible open space is proposed far in excess of city requirements.

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

- The 2180 Violet Avenue, 2145 Upland Avenue, and 1917 Upland Avenue parcels are already annexed in to the city. Refer to the respective Annexation Agreement record numbers outlined above for more information.

g) Area II is anticipated to become part of the city within the planning period. Area III is not anticipated to become part of the city within the planning period. However, publicly owned property located in Area III and intended to remain in Area III may be annexed to the city if the property requires less than a full range of urban services or requires inclusion under city jurisdiction for health, welfare and safety reasons.

- The 2180 Violet Avenue, 2145 Upland Avenue, and 1917 Upland Avenue parcels are already annexed in to the city. Refer to the respective Annexation Agreement record numbers outlined above for more information.

h) The Gunbarrel-Heatherwood subcommunity, which is unique because of its size, developed at an urban
density with city water and sewer service. The commercial and industrial portion of Gunbarrel-Heatherwood is annexed to the city, while much of the residential development is still unincorporated. The Gunbarrel-Heatherwood Subcommunity is also unique because of the shared jurisdiction for planning and service provision among the county, the city, the Gunbarrel General Improvement District and other special districts. Those areas annexed to the city are provided with city services, although deficiencies exist in developed park facilities and services. In the unincorporated area, a variety of arrangements for service provision exist. Some services, such as road maintenance, flood control, and law enforcement, are primarily provided by the county. Area residents now tax themselves through the Gunbarrel General Improvement District to pay for open space acquisitions and possible park and major roadway improvements. Fire protection is provided to the unincorporated area by Boulder Rural Fire District. Although interest in voluntary annexation has been limited, the city and county continue to support the eventual annexation of Gunbarrel-Heatherwood. If resident interest in annexation does occur in the future, the city and county will negotiate new terms of annexation with the residents.

- The 2180 Violet Avenue, 2145 Upland Avenue, and 1917 Upland Avenue parcels are already annexed in to the city and are not part of the Gunbarrel-Heatherwood subcommunity. Refer to the respective Annexation Agreement record numbers outlined above for more information.

ANNEXATION PROCESS

It is anticipated in the Comprehensive Plan that Area IIA shall be annexed to the city of Boulder within three years, consistent with the phased expansion of the city’s capacity to provide adequate urban facilities and services. The following statements describe very briefly and very generally the city’s present annexation policies and procedures, both of which may be modified from time to time without requiring an amendment of the Comprehensive Plan. The city's annexation process may vary somewhat to fit the circumstances of any particular annexation, but shall be consistent with Policy 1.25.

- The 2180 Violet Avenue, 2145 Upland Avenue, and 1917 Upland Avenue parcels are already annexed in to the city. Refer to the respective Annexation Agreement record numbers outlined above for more information.

State Law
Among other requirements, all annexations shall comply with requirements of Colorado State law which includes the following provisions:

(1) Minimum Required Contiguity: At least one-sixth of the perimeter of the area to be annexed shall be contiguous to the city limits.

(2) Annexation by Petition: A petition must be presented by more than half of the land owners owning more than fifty percent of the area to be annexed. For enclaves and municipally owned property, the city may take the initiative without petition.

(3) Annexation by Election: Under certain conditions, an election may be held by the property owners and registered electors within the area to be annexed.

Relationship to Existing City Boundaries and Consolidation of Petitions
The city may consolidate individual properties requesting annexation into larger aggregate parcels when the request areas are adjacent and such grouping is desirable because of contiguity, compactness, or logical extensions of then-existing city boundaries, or for the more efficient processing of numerous annexation requests.
The 2180 Violet Avenue, 2145 Upland Avenue, and 1917 Upland Avenue parcels are already annexed in to the city. Refer to the respective Annexation Agreement record numbers outlined above for more information.

Zoning and Land Use
While zoning classifications in the county will be recognized, annexation into the city will need to conform to city zoning categories and the land use designations of the Comprehensive Plan.

The 2180 Violet Avenue, 2145 Upland Avenue, and 1917 Upland Avenue parcels are already annexed in to the city and already conform to city zoning categories and the land use designations of the Comprehensive Plan. Refer to the respective Annexation Agreement record numbers outlined above for more information.

Environmental Features
Though detailed environmental impact statements generally will not be expected for lands within Area IIA, commitments may be required at the time of annexation to protect parcels having special or unique natural features or hazards.

The 2180 Violet Avenue, 2145 Upland Avenue, and 1917 Upland Avenue parcels are already annexed in to the city. Refer to the respective Annexation Agreement record numbers outlined above for more information.

Public Improvements
The following topics indicate the general terms and conditions that normally will be imposed for existing development at time of annexation. These conditions may vary to some degree depending upon the annexation of a particular area.

1. Water and Ditch Rights: The city shall follow the procedures outlined in Ordinance No. 4351 concerning the acquisition of first right of refusal of water and ditch rights.

   The 2180 Violet Avenue, 2145 Upland Avenue, and 1917 Upland Avenue parcels are already annexed in to the city. Each parcels Annexation Agreement contains language regarding Water and Ditch Rights.

2. Streets: The city will permit flexibility in the design and improvements of local streets when desired by local residents. As a condition of annexation, the city shall require the improvement of streets to levels which will ensure that the city will not incur extraordinary maintenance costs as a result of new annexations. The city will consider petitions from property owners to initiate a street improvement project at any time after annexation, so long as such project will not conflict with other scheduled capital improvements.

   The 2180 Violet Avenue, 2145 Upland Avenue, and 1917 Upland Avenue parcels are already annexed in to the city. Each parcels Annexation Agreement contains language regarding the improvement of streets. The proposed changes to the Annexation agreements regarding right-of-way widths are outlined above.

3. Street Lights: Following annexation, street lights may be installed, upon petition of the residents of the area, subject to Excel Energy (formerly Public Service Company) standards and approval.

   The 2180 Violet Avenue, 2145 Upland Avenue, and 1917 Upland Avenue parcels are already annexed in to the city. Refer to the respective Annexation Agreement record numbers outlined above for more information.

4. Water and Sewer: At the time of annexation, a property owner of property other than a large
lot single family residence shall connect to the city water and sewer if the lines abut the property. For a property owner of a large lot single family residence that has an existing water and sewer system with no health-related problems, the property owner may continue use of the individual system until said system fails or needs upgrading.

- The 2180 Violet Avenue, 2145 Upland Avenue, and 1917 Upland Avenue parcels are already annexed in to the city. Refer to the respective Annexation Agreement record numbers outlined above for more information.

(5) Payment of Water and Sewer Plant Investment Fees and Front Foot Charges: The city may consider financing and low-income deferrals for plant investment fees and front foot charges for previously developed property within the city and developed property annexing to the city. If the property is redeveloped or ownership changes, the outstanding charges will become due and payable at that time.

- The 2180 Violet Avenue, 2145 Upland Avenue, and 1917 Upland Avenue parcels are already annexed in to the city. Refer to the respective Annexation Agreement record numbers outlined above for more information.

(6) Other Terms and Conditions: The items listed above will normally be imposed. Other conditions may be imposed by the city to meet the particular circumstances of any annexation and will be developed in a manner to allocate equitably the burdens, if any, of a particular annexation between the property owners and the city.

- The 2180 Violet Avenue, 2145 Upland Avenue, and 1917 Upland Avenue parcels are already annexed in to the city. Refer to the respective Annexation Agreement record numbers outlined above for more information.

End of Written Statement
AGENDA TITLE
Introduction, first reading and motion to publish by title only Ordinance 8234 updating the city’s code provisions regulating short-term rentals, by amending Chapter 10-1, “Definitions,” and Chapter 10-3, “Rental Licensing,” and setting forth related details

PRIMARY STAFF CONTACT
Tom Carr, City Attorney

REQUESTED ACTION OR MOTION LANGUAGE
Introduction, first reading and motion to publish by title only Ordinance 8234 updating the city’s code provisions regulating short-term rentals, by amending Chapter 10-1, “Definitions,” and Chapter 10-3, “Rental Licensing,” and setting forth related details

ATTACHMENTS:
- Description
  - Memo and Attachment
AGENDA TITLE

Introduction, first reading and motion to publish by title only an ordinance updating the city’s code provisions regulating short-term rentals, by amending Chapter 10-1 “Definitions,” and Chapter 10-3 “Rental Licensing” and setting forth related details.

PRESENTERS

Jane S. Brautigam, City Manager
Tom Carr, City Attorney
Maureen Rait, Executive Director, Public Works
Trish Jimenez, Deputy Director of Public Works for Development Services and Interim Building Services Manager

EXECUTIVE SUMMARY

The purpose of this council agenda item is to amend the city’s code provisions relating to short-term rentals. Council passed Ordinance 8050 on September 29, 2015. The ordinance became effective January 4, 2016. After an education period, staff began significant enforcement efforts in June 2016. With two years of experience, staff has identified several areas where updates would be helpful. The proposed ordinance includes the following proposed changes:

- Conforms definitions in title 10 to those in title 9.
- Clarifies that a license is required for advertising a vacant property.
- Clarifies that a short-term rental license is intended for residential uses and not banquets, weddings and fund-raisers.
- Clarifies that applicants must file a complete application.
- Clarifies that all fees and fines must be paid prior to issuance of a license except for fines that are the subject of an appeal.
• Requires an affidavit of exemption prior to rental of exempted properties.

In addition, staff seeks guidance about whether council wishes to consider a future amendment limiting the number of occupants in short-term rentals to a fixed number without regard to family relationship.

Suggested Motion Language:

Staff requests council consideration of this matter and action in the form of the following motion:

Motion to introduce on first reading and order published by title only an ordinance updating the city’s code provisions regulating short-term rentals, by amending Chapter 10-1 “Definitions,’ and Chapter 10-3 “Rental Licensing” and setting forth related details.

COMMUNITY SUSTAINABILITY ASSESSMENTS AND IMPACTS

• Economic: Short-term rentals provide additional income for Boulder residents.
• Environmental: Not applicable.
• Social: Less expensive travel is an important social benefit. Short-term rentals provide additional opportunities for visitors to Boulder. Short-term rentals can remove housing stock from the long-term rental market. Boulder’s requirement of owner occupancy was intended to limit this effect.

OTHER IMPACTS

• Fiscal-Budgetary: None.
• Staff Time: The proposed changes and clarifications may provide some staff time savings.

BOARD AND COMMISSION FEEDBACK

None.

PUBLIC FEEDBACK

None.

BACKGROUND & ANALYSIS

Staff began issuing short-term rental licenses on January 4, 2016. As of December 18, 2017, short-term licensing statistics are as follows:
Licenses Issued: 738
Incomplete Applications Pending: 2
Applications Being Processed: 20
Applications Moved to Enforcement: 4
Denied/Withdrawn (could not meet requirements) 17

Through September 30, 2017, staff has received complaints about 61 properties and undertaken pro-active investigations of another 449 properties. Prior to 2016, virtually all enforcement was complaint-based. Beginning in 2016, council budgeted for dedicated staff to shift to a more proactive enforcement model. As a result, there has been a significant increase in compliance through enforcement, with almost 90% of enforcement cases now being initiated by city staff.

PROPOSED CHANGES

Staff has developed a few recommendations for potential changes.

1. Definition Changes

Both title 9 and title 10 include definitions of “dwelling unit” and “family.” The definitions are consistent, but not identical. The proposed changes would incorporate the title 9 definitions into title 10.

In addition, the proposed ordinance would also amend the definition of “Short-term rental” to clarify that short-term rentals include properties offered for rental as well as those actually rented. The proposed ordinance also would prohibit the use of a short-term rental license for weddings, banquets, fund raisers or similar gatherings.

2. Change to section 10-3-2

The proposed ordinance would eliminate the reference to “rental property” in section 10-3-2 and replace it with the phrase “dwelling, dwelling unit or rooming unit.” Rental property is defined as follows:

*Rental property* means all dwellings, dwelling units, and rooming units located within the city and rented or leased for any valuable consideration, but excludes dwellings owned by the federal government, the state, or any of their agencies or political subdivisions and facilities licensed by the state as health care facilities. Rental property includes any property used as a short-term rental.

One recent challenger to a citation asserted the city could not enforce against a unit that was not actually rented, because it did not meet the definition of “rental property.” That is, because it was vacant, it was not “rented or leased for any valuable consideration.” The proposed change would clarify that the regulations apply to vacant properties as well as those being rented.
The proposed ordinance also would add a requirement that a person seeking to rent without a license under two specific exemptions file an affidavit of exemption prior to rental. The two specific exemptions are in subsections (1) and (2) of section 10-3-2(b). They exempt from the licensing requirement “roomers” and properties leased for more than 30 days by individuals traveling out of the county for up to a year. A few property owners have used the exemption provision to avoid enforcement for illegal short-term rentals by claiming that the rentals were exempted long-term rentals. The proposed change would require prior documentation of the basis for the claimed exemption.

3. Change to Section 10-3-4.

The proposed ordinance would clarify that the city manager would have the authority to issue a reduced term license if the licensee has received a penalty, suspension or other administrative penalty.

4. Change to Section 10-3-6

The proposed ordinance would clarify that an applicant must submit a complete license packet. It also requires that all fees and penalties be paid, other than penalties subject to a pending appeal.

5. Change to Section 10-3-7

The proposed ordinance would make similar changes in section 10-3-7, which addresses license rentals as are in section 10-3-6, which governs properties converted to rentals.

OTHER POTENTIAL CHANGES

A bigger issue only partially addressed by these proposed changes is regulation of large parties at short-term rentals. There have been circumstances in which a large group rents a residence. The groups claim that they are not subject to occupancy restrictions because they are “related.” By their nature short-term rentals are transitory. Thus, by the time the city receives a complaint or discovers the rental, the renters are gone. This makes it very difficult to prove an occupancy violation. Council could consider imposing a fixed occupancy limit that would make enforcement much easier. This, of course, would be a significant change that would require careful consideration of the various policy implications.

ATTACHMENTS

Attachment A – Proposed Ordinance
ORDINANCE 8234


BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BOULDER, COLORADO:

Section 1. The following definitions in Chapter 10-1, “Definitions,” B.R.C. 1981, are amended as follows, all other definitions remain unchanged:

Chapter 10-1. - Definitions

(a)—The following terms used in this title have the following meanings unless the context clearly indicates otherwise:

... 

_Dwelling unit_ shall have the same meaning as set forth in Section 9-16-1, "General Definitions," B.R.C. 1981, means one room or rooms connected together for residential occupancy and including bathroom and kitchen facilities. If there is more than one meter for any utility, address to the property or kitchen, or if there are separate entrances to rooms which could be used as separate dwelling units; or if there is a lockable, physical separation between rooms in the dwelling unit such that a room or rooms on each side of the separation could be used as a dwelling unit, multiple dwelling units are presumed to exist; but this presumption may be rebutted by evidence that the residents of the dwelling share utilities and keys to all entrances to the property and that they: 1) share a single common bathroom as the primary bathroom, or 2) share a single common kitchen as the primary kitchen.

...

_Family_ shall have the same meaning as set forth in Section 9-16-1, "General Definitions," B.R.C. 1981.

...

.Owner_ shall have the same meaning as set forth in Section 9-16-1, "General Definitions," B.R.C. 1981, means any person who is a commercial or industrial building owner, or is an owner's representative, such as a property manager, who has charge of, or controls any building or parts thereof.

...
Short-term rental means any dwelling, dwelling unit, rooming unit, room or portion of any dwelling unit, rooming unit, room being offered, advertised, rented or leased to any person for valuable consideration for periods of time less than thirty days, but excludes commercial hotels, motels or bed and breakfasts. A short-term rental is a residential use that is accessory to such dwelling, dwelling unit, rooming unit, or room and shall not be used for direct or indirect compensation for meetings, including but not limited to weddings, banquets, fund raisers or similar gatherings.

Section 2. Section 10-3-2, “Rental License Required Before Occupancy and License Exemptions,” B.R.C. 1981, shall be amended as follows:

10-3-2. - Rental License Required Before Occupancy and License Exemptions.

(a) No operator shall allow, or offer to allow through advertisement or otherwise, any person to occupy any dwelling, dwelling unit or rooming unit rental property as a tenant or lessee or otherwise for a valuable consideration unless each room or group of rooms constituting the rental property has been issued a valid rental license by the city manager. Any advertisement shall include the rental licensing number assigned by the city manager.

(b) Buildings, or building areas, described in one or more of the following paragraphs are exempted from the requirement to obtain a rental license from the city manager, provided, however that the exemptions in subsections (b)(1) and (b)(2) below shall not apply to short-term rentals. No operator shall allow any person to occupy any dwelling, dwelling unit or rooming unit exempted pursuant to subsections (b)(1) and (b)(2) below prior to submitting to the city manager an Affidavit of Exemption for the dwelling, dwelling unit or rooming unit.

(1) Any dwelling unit occupied by the owner or members of the owner’s family who are at least 21 years of age and housing no more than two roomers who are unrelated to the owner or the owner’s family. An owner includes an occupant who certifies that the occupant owns an interest in a corporation, firm, partnership, association, organization or any other group acting as a unit that owns the rental property.

(2) A dwelling unit meeting all of the following conditions:

   (A) The dwelling unit constitutes the owner’s principal residence;
   (B) The dwelling unit is temporarily rented by the owner for a period of time no greater than twelve consecutive months in any twenty-four-month period;
   (C) The dwelling unit was occupied by the owner immediately before its rental;
   (D) The owner of the dwelling unit is temporarily living outside of Boulder County; and
   (E) The owner intends to re-occupy the dwelling unit upon termination of the temporary rental period identified in subparagraph (b)(2)(B) of this section.

(3) Commercial hotel and motel occupancies which offer lodging accommodations primarily for periods of time less than thirty days, but bed and breakfast facilities are not excluded from rental license requirements.
(4) Common areas and elements of buildings containing attached, but individually owned, dwelling units.

Section 3. Section 10-3-4, “Reduced Term License,” B.R.C. 1981, shall be amended as follows:

10-3-4. - Reduced Term License.

(a) The city manager shall issue a reduced term license whenever the city manager determines that:

(1) Violations of Chapter 10-2, "Property Maintenance Code," B.R.C. 1981, revealed during an inspection, individually or in combination, demonstrate a failure to maintain the rental property in a safe, sanitary and clean condition so that the dwelling endangers the health and safety of the occupants;

(2) There is or has been a violation of a limitation on numbers of occupants or numbers of dwelling units found in Title 9, "Land Use Code," B.R.C. 1981, which demonstrates a failure to maintain the rental property in compliance with that title; or

(3) The term of an initial license or renewal of an existing license would otherwise extend beyond December 31, 2018 for a property that has not received an "Energy efficiency requirements inspection" demonstrating compliance with Chapter 10-2, "Property Maintenance Code," Appendix C - "Energy Efficiency Requirements," B.R.C. 1981.

(A) For violations of Chapter 10-2, "Property Maintenance Code," B.R.C. 1981, the license term shall be reduced to twenty-four months.

(B) For violations of Title 9, "Land Use Code," B.R.C. 1981, the license term shall be reduced to twelve months.

(C) In the case of failure to demonstrate a satisfactory energy efficiency requirements inspection for the subject property, under paragraph (3), above, the license term shall expire December 31, 2018, unless, before that date, the city manager receives an energy efficiency requirements inspection demonstrating compliance, in which case the license term shall extend the full period otherwise prescribed by this chapter.

(b) The city manager may issue a reduced term license if the operator has received a penalty, suspension or other order pursuant to section 10-3-16(a), “Administrative Remedy,” B.R.C. 1981.

(c) If an operator disagrees with the decision of the city manager to issue a reduced term license under subsection (a) of this section, such person may appeal the city manager's decision within thirty days after the issuance of the reduced term license, as follows:

(2) For reduced term licenses issued as a result of violations of title 9, "Land Use Code," B.R.C. 1981, the appeal shall be made to the board of zoning adjustment, although the fee amount shall be as specified for an appeal to the board of building appeals.

Section 4. Section 10-3-6, “License Application Procedure for Buildings Converted to Rental Property,” B.R.C. 1981, shall be amended as follows:

10-3-6. - License Application Procedure for Buildings Converted to Rental Property.

Every operator converting a property to rental property shall follow the procedures in this section for procuring a rental license:

(a) Submit a complete written application packet for a license to the City, on official city forms provided for that purpose, at least thirty days before rental of the property including:

(1) A rental housing inspector’s certification of baseline inspection dated within twelve months before the application. The operator shall make a copy of the inspection form available to city staff and tenants of inspected units within fourteen days of a request; and

(2) A report on the condition and location of all smoke and carbon monoxide alarms required by chapter 10-2, "Property Maintenance Code," B.R.C. 1981, made and verified by the operator; and

(3) A trash removal plan meeting the requirements of subsection 6-3-3(b), B.R.C. 1981, made and verified by the operator.

(b) Pay all license fees prescribed by section 4-20-18, "Rental License Fee," B.R.C. 1981, at the time of submitting the license application. The city manager shall not issue any rental license if the operator owes any fees or penalties, unless the penalties are subject to a pending appeal.

(c) Take all reasonable steps to notify any occupants of the property in advance of the date and time of the inspection. The operator shall be present and accompany the inspector throughout the inspection, unlocking and opening doors as required.

Section 5. Section 10-3-7, “License Renewal Procedure for Buildings Occupied as Rental Property,” B.R.C. 1981, shall be amended as follows:

10-3-7. - License Renewal Procedure for Buildings Occupied as Rental Property.

Every operator of a rental property shall follow the procedures in this section when renewing an unexpired license:

(a) Pay all license fees prescribed by section 4-20-18, "Rental License Fee," B.R.C. 1981, before the expiration of the existing license. The city manager shall not issue any rental license if the operator owes any fees or penalties, unless the penalties are subject to a pending appeal.
(b) Submit to the city manager a complete application packet, on forms provided by the manager including:

(1) A rental housing inspector's certification of renewal inspection within twelve months before application. The operator shall make a copy of the inspection form available to city staff and tenants of inspected units within fourteen days of a request;

(2) A report on the condition and location of all smoke and carbon monoxide alarms required by chapter 10-2, "Property Maintenance Code," B.R.C. 1981, made and verified by the operator; and

(3) A trash removal plan meeting the requirements of subsection 6-3-3(b), B.R.C. 1981, made and verified by the operator.

(c) Take all reasonable steps to notify in advance all tenants of the property of the date and time of the inspection. The operator shall be present and accompany the inspector throughout the inspection, unlocking and opening doors as required.

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 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 4th day of January 2018.

__________________________________________
Suzanne Jones
Mayor

Attest:

____________________________
Lynette Beck
City Clerk
READ ON SECOND READING, PASSED, ADOPTED, AND ORDERED PUBLISHED

BY TITLE ONLY this 16th day of January 2018.

____________________________________
Suzanne Jones
Mayor

Attest:

____________________________
Lynette Beck
City Clerk
AGENDA TITLE
Second reading and consideration of a motion to adopt Ordinances 8224, 8225, 8226, 8227, 8228, 8229, 8230 designating five properties at 1406-08 Pine St., 1414 Pine St., 2118 14th St., 2124 14th St. and 2132 14th St., and portions of two properties at 1424 Pine St. and 1443 Spruce St. each as individual landmarks under the city’s Historic Preservation Ordinance

PRIMARY STAFF CONTACT
James Hewat, Senior Planner
Marcy Cameron, Historic Preservation- Planner II

REQUESTED ACTION OR MOTION LANGUAGE
Second reading and consideration of a motion to adopt Ordinances 8224, 8225, 8226, 8227, 8228, 8229, 8230 designating five properties at 1406-08 Pine St., 1414 Pine St., 2118 14th St., 2124 14th St. and 2132 14th St., and portions of two properties at 1424 Pine St. and 1443 Spruce St. each as individual landmarks under the city’s Historic Preservation Ordinance

ATTACHMENTS:
   Description
   □ Memo and Attachments
AGENDA TITLE:
Second reading and consideration of a motion to adopt Ordinances 8224, 8225, 8226, 8227, 8228, 8229, 8230 designating five properties at 1406-08 Pine St., 1414 Pine St., 2118 14th St., 2124 14th St. and 2132 14th St., and portions of two properties at 1424 Pine St. and 1443 Spruce St. each as individual landmarks under the city’s Historic Preservation Ordinance.

Owner/Applicant: First United Methodist Church / Shannon Cox Baker

PRESENTERS:
Jane S. Brautigam, City Manager
Jim Robertson, Director of Planning, Housing & Sustainability
Debra Kalish, Senior Counsel, City Attorney
Lesli Ellis, Comprehensive Planning Manager
James Hewat, Senior Historic Preservation Planner
Marcy Cameron, Historic Preservation Planner

EXECUTIVE SUMMARY:
The purpose of this item is for City Council to determine whether the proposed individual landmark designations of the properties at 1406-08 Pine St., 1414 Pine St., 2118 14th St., 2124 14th St. and 2132 14th St., and portions of two properties at 1424 Pine St. and 1443 Spruce St. meet the purposes and standards of the Historic Preservation Ordinance (Sections 9-11-1 and 9-11-2, B.R.C. 1981). The property owner, First United Methodist Church, is in support of the designations.

If approved, these ordinances (see Attachment A) would result in the designation of the buildings and properties as individual landmarks. The findings are included in the ordinances. These landmark designation applications were submitted by the property owner on Nov. 9, 2016, and was heard by the Landmarks Board on Jan. 1 and Oct. 4, 2017. The board voted 5-0 to recommend the designation to City Council. A second reading for these designations is a quasi-judicial public hearing.

Landmark Designation vs. Historic District Designation
Seven individual landmark designation applications were submitted as a recommended condition of Site Review approval by the Planning Board. Staff and the applicant discussed designating the collection of properties as a historic district, but the applicant preferred to
designate the properties individually. Staff considers that individual designations would afford the same level of protection as a historic district.

Individual landmark designation and historic districts provide similar protection to properties located in historic districts and require the same procedures for review of exterior changes. In both cases, property owners are eligible for certain exemptions and variances, and owners are eligible for Historic Preservation Tax Credits.

**Historic district designation** recognizes a collection of buildings, structures and objects that have a special character and historic, architectural, or aesthetic interest or value constituting a distinct section of the city. Buildings within a historic districts are identified as “contributing” or “non-contributing” to the historic character of the district. In addition to protecting the individual properties, historic district designation also requires review to changes in the public realm. In some cases, historic district design guidelines are developed to address unique or special conditions within the district. Finally, streets signage is posted within the historic district. Staff does not consider designating this group of seven buildings as a historic district necessary at this time, and the property owner prefers to pursue individual landmark designations.

**Individual landmark designation** recognizes properties for their architectural, historic and environmental significance. The City will provide a bronze plaques to be mounted at each property if the City Council considers the designations appropriate.

**STAFF RECOMMENDATION:**

<table>
<thead>
<tr>
<th><strong>Suggested Motion Language:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff requests council consideration of this matter and action in the form of the following motion:</td>
</tr>
</tbody>
</table>

Motion to adopt Ordinances 8224, 8225, 8226, 8227, 8228, 8229, 8230 designating five properties at 1406-08 Pine St., 1414 Pine St., 2118 14th St., 2124 14th St. and 2132 14th St., and portions of two properties at 1424 Pine St. and 1443 Spruce St. each as individual landmarks under the City of Boulder’s Historic Preservation Ordinance.

**COMMUNITY SUSTAINABILITY ASSESSMENTS AND IMPACTS:**

**Economic:** Owners of locally designated landmarked properties are eligible for state and local tax credits for approved rehabilitations and repairs, and studies have found that historic preservation adds to economic vitality and tourism. Exterior changes to individually landmarked buildings require a Landmark Alteration Certificate, issued by the Planning, Housing & Sustainability department at no charge. The additional review process for landmarked buildings may, however, add time and design expense to a project.

**Environmental:** The preservation of historic buildings is inherently sustainable. Owners of individually landmarked buildings are encouraged to reuse and repair as much of the original building as possible when making exterior alterations, thereby reducing the amount of building material waste deposited in landfills. City staff can assist architects, contractors and homeowners with design and material selections and sources that are environmentally
friendly. Also, the Historic Preservation website provides information on improving the energy efficiency of older buildings.

**Social:** The Historic Preservation Ordinance was adopted to “…enhance property values, stabilize neighborhoods, promote tourist trade and interest, and foster knowledge of the city’s living heritage.” Section 9-11-1 (a), B.R.C., 1981. The primary beneficiaries of historic designation are the property owners of a historic landmark and adjacent neighbors, who are ensured that the character of the immediate area will be protected through the design review process. The greater community also benefits from the preservation of the community’s character and history.

**OTHER IMPACTS:**
**Fiscal:** The designation of individual historic landmarks is an anticipated and ongoing function of the Historic Preservation Program.

**Staff Time:** This designation application is within the staff work plan.

**LANDMARKS BOARD ACTION:**
On November 1, 2017 the Landmarks Board voted 5-0 to recommend to City Council that the buildings and portions of the properties be designated as local historic landmarks, finding that they meet the standards for individual landmark designation in Sections 9-11-1 and 9-11-2, B.R.C. 1981, and is consistent with the criteria specified in section 9-11-5(c), B.R.C. 1981.

**PROPERTY DESCRIPTION:**
The seven buildings proposed for landmark designation are located on the city block bound by Pine Street on the north, Spruce Street on the south, 14th Street on the west, and 15th Street on the east (See Figures 1 and 2). Constructed between 1885 and 1903, the buildings are excellent examples architectural styles popular in Boulder at the turn of the century, including Queen Ann and Foursquare. The properties are historically significant for their association with the First United Methodist Church, which was designated as an individual landmark in 2000. The properties meet the criteria for environmental significance for their location within the boundaries of the identified potential Whittier Historic District. At the time the buildings were surveyed in 1988, each of the buildings was found to be contributing to a potential historic district. The Parsonage, 2118 14th St. was found to be eligible for individual landmark designation.
Figure 1: Location Map, 1400 Block of Pine Street

Figure 2: Detail map showing location of lots and proposed landmark boundaries on the 1400 block of Pine Street.
The First United Methodist Church began in 1859, the same year Boulder City was platted, and is home to the oldest religious congregation in Boulder. The landmark designation memo for the building recognizes not just its architectural merit as a grand Romanesque Revival building designed by Harlan Thomas, but for its social history as well:

“From its mission to serve not only its own members, but those within the community as a whole and beyond, coupled with its location in the heart of Boulder's historic center, the church building has served as a religious as well as social center for many Boulder citizens. The Methodist Church has played a vital role in providing a variety of social services for the entire community over the years: it managed the construction of the Frasier Meadows retirement facility and has provided space within the church building for several community agencies, such as Hospice, the Women's Resource Center, and the Boulder County Aids Project.”

On May 30, 2017, the Planning Board conditionally approved (6-1, C. Gray opposed) the Site Review and Use Review (LUR2017-00006 and LUR2017-00007) applications for the Attention Homes project.

The Attention Homes project will provide housing for at-risk young adults between the ages of 18 and 24 years old who are in need for supportive services. As part of the proposal, the church submitted landmark designation applications for seven existing buildings on the site.

BUILDING DESCRIPTIONS AND STATEMENTS OF SIGNIFICANCE

1406-08 Pine St.
The building at 1406-08 Pine St. was constructed as a duplex around 1900. The façade of the two and a half story building is symmetrically composed, with two projecting front gables. The recessed entrance is centrally located, with a small pediment located above the entry. Paired double hung windows are located on the second level, while wide, double hung windows are located on the first floor of the façade. The northwest corner of the building is chamfered, with decorative wooden brackets. The first level is masonry with stone sills, while the upper stories are of frame construction clad in shingles. The building appears to be largely intact to its original construction. The porch was remodeled and the brick has been painted.

Figure 3: 1406-08 Pine St., 2016 (left) and Tax Assessor Card Photograph, c.1949 (right)

---

Notable Residents
In 1900, this duplex was home to the families of Benjamin Ellsworth and Marquis Hornbeck. Ellsworth was a grocery dealer; Rev. Hornbeck was a minister with the Methodist Church. They remained there only a short time, having moved away by 1903. Throughout the building’s history, it has attracted primarily short-term residents, and has changed ownership many times. The building was first owned by Charles Edward Coulehan, a local hay and feed store owner. He acquired the land from John H. Obrien and Estella L. Knight in 1891 and 1893, respectively. Coulehan evidently invested heavily on this block, as he also owned 2132 14th St. and 1414 Pine St. at around the same time. He sold all three properties in 1919. The property at 1406-08 Pine St. was purchased by Mary A. Schaltenbrand. The building would pass through 10 more owners until 1967, when it was purchased by the First United Methodist Church. During the mid 1940s, it became known as the White House Apartments, a name which it retained until the late 1970s when the First United Methodist Church converted it for office use.

The 1995 Building Inventory Form found the building to be potentially contributing to a historic district, and significant as “one of the few examples of early multi-family housing found on Pine Street. The building is unusual in that it is a large, styled building; most early duplexes in Boulder were small vernacular building, usually only one-story in height.”

Statement of Significance – 1406-08 Pine St.
The characteristics of the subject property that justify its designation as a landmark are: 1) its historic significance relevant to its construction around 1900, as an example of early multi-family housing in Boulder; and for its association with the First United Methodist Church; and 2) its architectural significance as an example of a multi-family duplex with classical detailing; and 3) its environmental significance for its prominent corner location; and its location within the boundaries of the identified potential Whittier historic district.

Proposed Landmark Boundary and Name

---

The boundary is proposed to follow the property lines (see Figure 4). Staff recommends the property be known as the White House Apartments, the name of the building from the mid-1940s until the late 1970s.

**1414 Pine St.**
The one-story, hipped roof cottage at 1414 Pine St. was constructed in 1898. Rectangular in plan, the building features a bay at the northwest corner, with a decorative porch extending east. Hipped roof dormers with multi-paned windows are located on the north and west elevations. The cornice is decorated with incised scrolls, and the building features segmental brick arches and architrave surrounds at the bay window. The building rests on a stone foundation. The building appears to be largely intact to its original construction, including the leaded glass windows.

![Figure 5. 1414 Pine St., 2016 (left) and Tax Assessor Card Photograph, c.1949 (right)](image)

**Notable Residents**
This house was constructed under the ownership of local feed store owner Charles E. Coulehan. Like his other properties in the area, Coulehan appears to have constructed 1414 Pine as a rental property; he is never listed as a resident here. In 1900, Samuel D. Hum, a railway auditor born in Pennsylvania, lived here with his wife, Allie, and daughters Leila and Frances. From 1903 to about 1910, Dr. Emley Barber Queal, his mother, Martha, and his sister, Anna were the residents. Emley Queal was born in June, 1860 in Ohio. While in Boulder, Dr. Queal operated a private practice out of the Physicians Building at 1345 Spruce St. The Queals had moved out by 1913, when brothers Augustine C. and Clyde E. Seitz, proprietors of the Boulderado Cleaning and Pressing Co. and Seitz Bros. Barbershop were the listed occupants. Coulehan sold the property in 1919, when it was acquired by Benjamin M. and Bert B. Dawson. They held the property until 1942. Bert was a Christian Science practitioner, while her husband Benjamin was a cement worker. In 1942, the property was purchased by Frances A. Nickols, who operated a music and gift shop with her aunt, Josephine M. Bay. Bay and Nickols lived together at 1414 Pine St. until Josephine’s death in 1955. Nickols then worked as a private music teacher. She sold the property to its present owner, the First United Methodist Church, in 1966.

---

4. [Find A Grave Index](http://www.findagrave.com/cgi-bin/fg.cgi).
The 1987 Historic Building Inventory Record found the building to be significant for its high artistic value, and “a good example of a classic cottage design and retains most of its original architectural details, including a cornice with incised scrolls, wooden porch trim, segmental brick arches, and most, notably, wooden bay windows.” The building was found to be contributing to the potential Whittier Historic District.

**Statement of Significance – 1414 Pine St.**
The characteristics of the subject property that justify its designation as a landmark are: 1) its historic significance relevant to its construction in 1898; and for its association with the First United Methodist Church; and 2) its architectural significance as an example of a Classic Cottage, evidenced in its decorative cornice, segmental brick arches, and wooden bay window; and 3) its environmental significance for its location within the boundaries of the identified potential Whittier historic district.

**Proposed Landmark Boundary and Name**
The boundary is proposed to follow the property lines (see Figure 6). Staff recommends the property be known as the Coulehan House, to recognize Charles E. Coulehan, who was responsible for the construction of this building and two others on the block and owned the property from 1900 to 1919.

**1424 Pine St.**
The one and one-half story Queen Anne cottage at 1424 Pine St. was constructed around 1895. Originally a single family house, it was remodeled into a duplex in 1986. The building features a hipped roof with a projecting front gable at the north elevation. The first story is constructed of finely executed masonry, with stone sills and lintels and decorative brickwork. An alternating pattern of decorative shingles adorn the gable ends of the second story. The windows and door on the façade are single light with a transom above.

The windows on side and rear elevations are tall, narrow semi-circular hung widows on the lower level, and rectilinear hung windows on the upper level and in the bay window. A single, tripartite window is located on the upper level of the northeast elevation. A frame, shed roof addition is located at the rear and features square, four-light windows with

---

prominent, white wood mullions. A matching, four-light wood door can be seen behind a single-light aluminum storm door.

The building appears to be largely intact to its original construction. A wooden porch was located at the entry from c. 1900 to c. 1960. It featured Classical detailing, including three irregularly spaced wooden Doric columns with wooden bases and paneled detailing. A low railing spanned between the eastern columns, with densely spaced turned spindles. The rear addition was constructed between 1929 and 1949, replacing an earlier, wood frame addition.

Figure 7. 1424 Pine St., 2016 (left) and Tax Assessor Card Photograph, c.1949 (right)

Notable Residents
Frank Lounsberry, a builder and owner of a local lumberyard, resided here with his extended family from 1895 until 1908. Frank married Mildred in 1881 and they had two children. The family moved to Los Angeles by 1910, where Frank operated a lumber company. From 1906 until 1945, the house was occupied by a series of short-term renters, including a real estate agent, livery operator, a painter and seamstress.

Around 1946, the property was purchased by John Priest, a retiree who had farmed property in Newlands. He resided here with his daughter, Maude, a Boulder native and high school teacher. She remained at the property until her death in 1976. Around 1979, the property was purchased by First United Methodist Church, which has rented the property as housing for ministerial staff.

Statement of Significance – 1424 Pine St.
The characteristics of the subject property that justify its designation as a landmark are: 1) its historic significance relevant to its construction around 1895; and for its association with the First United Methodist Church; and 2) its architectural significance as an example of a Queen Anne Cottage, evidenced in its finely executed masonry, stone sills and lintels and decorative brickwork; and 3) its environmental significance for its location within the boundaries of the identified potential Whittier historic district.
Proposed Landmark Boundary and Name
The boundary is proposed to encompass the front portion of the property. Reference Figure 8; legal description to follow.

Staff recommends the property be known as the Lounsberry-Priest House, recognizing Frank Lounsberry, who constructed the house in 1895, and for John and Maude Priest, who owned and occupied the house from 1946 until 1976.

2118 14th St.
The house at 2118 14th St. was constructed in 1903 and has long been used as a parsonage for the First United Methodist Church. The two-story American Four Square features a hipped roof with wide, over-hanging eaves. A hipped roof dormer with paired double hung windows is centrally located on the façade. The second story has flat-arched, double-hung windows and corbelled brick decoration at the center. The first floor windows feature stone sills and segmentally arched openings. Small, leaded glass windows are located on the north and west elevations. A hipped roof porch with a front gable is located at the entrance and features classical columns. The corners are adorned with brick quoining. The building originally had three tall chimneys. The building appears to be largely intact to its original construction. The windows, included the decorative, leaded windows, appear to be intact.

Notable Residents
This building was constructed by the First United Methodist Church in 1903 as a parsonage. It cost $5,600 to construct. The building served its intended purpose as a parsonage for most
of its history, and it was the residence of several pastors and their families. In the late 1950s, the church converted the structure into the Methodist Youth House. By the 1980s, it was rented out as offices for a number of organizations.

The Historic Building Inventory Form found the building to potentially eligible for landmark designation and as a contributing building to a potential historic district, noting the building is a “good example of Foursquare architecture, embodying archetypical elements such as a central dormer, symmetrical composition, and classical detailing. The parsonage is associated with one of Colorado’s earliest church organizations.”

**Statement of Significance – 2118 14th St.**

The characteristics of the subject property that justify its designation as a landmark are: 1) its historic significance relevant to its construction in 1903; and for its association with the First United Methodist Church; and 2) its architectural significance as an example of the Four Square style, evidenced in its two-story massing, symmetrical façade, and classical detailing; and 3) its environmental significance for its location within the boundaries of the identified potential Whittier historic district.

![Figure 10: Map of 2118 14th St., showing proposed landmark boundary.](image)

**Proposed Landmark Boundary and Name**

The boundary is proposed to property lines. Staff recommends the property be known as the First United Methodist Parsonage, recognizing its historic use and the church, the building’s sole owner.

**2124 14th St.**

The one-and-a-half story masonry house at 2124 14th St. was constructed around 1895. The building features a double front gable with decorative wood shingles (alternating scallop and diamond pattern) and double hung windows. A corbelled brick beltcourse defines the second floor level, while a stone water table defines the first floor. The hipped roof front porch, enclosed around 1956, features a brick foundation, with an inset entrance, and divided light windows above beadboard wood paneling. Decorative diamond and heart wood detailing adorns the wood panels.
The building appears to be largely intact to its original construction. The 1987 Historic Building Inventory Form found the building to be in excellent condition with moderate alterations, including a “new enclosed porch; painted brick and stone.” The original porch featured a gable roof with turned spindle supports and latticework.

**Figure 11. 2124 14th St., 2016 (left) and Tax Assessor Card Photograph, c.1929 (right)**

**Notable Residents**

In 1896, the residents were R.H. Brenner, a clerk, B. F. Ellsworth, who operated a grocery and utensil shop, Frances Peirson, a Nurse, and Maude Peirson. Ellsworth remained at the property through 1898, but had moved away by 1900. The 1987 Survey form found the building to be significant as a boarding house in the early 1900s. In 1900, it was occupied by ten people, including Guy Adams and his wife Annie; his brother-in-law Theodore Strawn, a grocery clerk; Ira Rothergerber, law student; Addie Sullivan and Louise Fisher, dressmakers; and Burt Battles and Joseph Stamm, dairymen. Guy Adams was an early resident of Colorado, who distinguished himself by promoting the advancement of Boulder through its governmental, religious, and civic institutions. He served on the city council, as deputy county clerk and as police judge for Boulder. He organized the Boulder County Abstract Company and practiced law in Boulder for many years. Ira C. Rothgerber was a graduate of the University of Colorado Law School, who later became a Denver County judge. Rothgerber was a strong supporter of the University Law School after his graduation. By 1904, Strawn, by then proprietor of Strawn and Esagar Groceries, was the sole occupant listed. In 1908, three men of the same family, Charles H., E. Glenn, and J. Guy Archibald were the residents, along with Charles’s wife, Susie. Charles was a grocer, E. Glenn was a student, and J. Guy was a Deputy Clerk for the District Court.

The property was acquired by Clarence W. Burner around 1916. He used it as an individual residence of himself and his wife Lula, ending its history as a boarding house. Clarence worked as a salesman at a shoe store. Following Clarence’s death on 3 November 1934, Lulu owned the property, selling it shortly before 1940. In 1953, the house became the host of a commercial operation for the first time when Dr. Donald P. and Esther J. Jensen purchased the property. The Jensens both lived there and operated Jensen Chiropractic Clinic.

---


on the premises. They continued in this until 1970, when they sold the property to the First United Methodist Church, the present owner. The FUMC rented the property out to a series of restaurants, including Nancy’s Restaurant, Vicki’s Restaurant, and today, Lucile’s.

Statement of Significance – 2124 14th St.
The characteristics of the subject property that justify its designation as a landmark are: 1) its historic significance relevant to its construction around 1895; and for its association with Guy Adams, an early civic, religious and governmental leader; and 2) its architectural significance for its artistic merit evident in its corbelled detailing; and 3) its environmental significance for its location within the boundaries of the identified potential Whittier historic district.

Figure 12: Map of 2124 14th St., showing proposed landmark boundary.

Proposed Landmark Boundary and Name
The boundary is proposed to follow the property lines (See Figure 12). Staff recommends the property be known as the Adams House, to recognize Guy Adams, an early resident of Colorado, who distinguished himself by promoting the advancement of Boulder through its governmental, religious, and civic institutions.

2132 14th St.
The small, one-story wood frame building at 2132 14th St. was constructed around 1890 and has been the offices of Out Boulder! since 2004. The side-gabled building features a gable with decorative shingles above the central shed-roof front porch. The porch is supported by delicate spindlework supports with brackets. The porch walls are covered with wood shingles. Two windows with segmentally arched lintels flank the entrance. The original masonry exterior walls have been clad in stucco.

The building appears to be largely intact to its original construction. Stucco has been applied over the exterior masonry. The 1988 Historic Building Inventory Form found the building to be in fair condition with moderate alterations.
Notable Residents
In 1896, the house was the residence of Samuel Martin, a baker, and Amos Senior, a miner. In 1900, the house was owned by Louis Herman (formerly Aronowitch), an immigrant from Germany who was born in 1868. Herman is significant to Boulder’s history as an early German immigrant and Boulder businessman, had a dry goods and shoe store at 1239 Pearl St. His wife, Bessie, was born in 1869 in New York. The Herman’s children included Mildred and Harry. Also living in the house was their servant, Hedois Carlson, a Swedish immigrant. Through the 1940s, the 2132 12th was rented by a series of short-term renters, including Anna E. Hawley, a dressmaker, Belshe C. Garbarino, owner of a garage at 1102 Pearl St., and Mrs. Laura Thompson, an instructor at Boulder Dance Studio. In 1945, it was purchased by John S. and Mae Halfen, who occupied the residence themselves. They remained there for the next 30 years. John was born in 1894, while Mae (alternately spelled “May”) was born in 1897, both in Wisconsin.9 John served in the U.S. Navy during the closing days of the First World War, enlisting in 1918 and serving until 1921.10 By 1940, he and Mae were living in Sullivan, Wisconsin, where he owned a hardware store.11 After coming to Boulder and purchasing 2132 14th St., he worked as a sheet metal worker for Specht Plumbing and Heating. They sold the house to its current owner, the First United Methodist Church, in 1975. Mae died in July of 1977, and John died in November of 1979.12

Statement of Significance – 2132 14th St.
The characteristics of the subject property that justify its designation as a landmark are: 1) its historic significance relevant to its construction around 1890; and for its association with Louis Herman, a German immigrant and Boulder businessman; and 2) its architectural significance as an example of an early masonry vernacular residence; and 3) its environmental significance for its location within the boundaries of the identified potential Whittier historic district.

---

12 Social Security Administration.
Proposed Landmark Boundary and Name
The boundary is proposed to follow the property lines. Staff recommends the property be known as the Herman-Halfen House, to recognize Louis Herman, a significant figure in Boulder’s history as an early German immigrant and Boulder businessman, and John S. and Mae Halfen, who owned and resided at the property from 1945 until 1979.

1443 Spruce St.

This house exemplifies the Italianate variant of late nineteenth century house design in Boulder, with deep eaves supported by coupled brackets, segmental brick arched lintels with brick headers and stone sills. A porch is located at the southeast corner and features wood decorative trim. The one-story porch of the building has a lower pitch roof with shallower eaves and more decorative splayed brackets, which are decorated with scrollwork. The building was featured in Jane Barker’s 1976 books “76 Historic Homes of Boulder.”

Notable Residents
The house, one of the earliest in Boulder, was built by J. Levi Rachofsky in 1885. Rachofsky was a dry goods merchant in Boulder in the 1880s and 1890s. He was a native of Poland, and first settled in Central City. Jacob and Katherine Faus purchased the property in 1905, after losing their house at 9th and Pearl streets in the 1894 flood. Mr. Faus, a native of Germany, was a blacksmith and is said to have owned the second car in Boulder. They resided at 1443
Spruce St. until their deaths in 1941 and 1946. The First United Methodist Church purchased the property in 1959. In 1974, the building was proposed for demolition due to a lack of funding to bring the building up to current building codes. In response, Historic Boulder, Inc. applied for landmark designation of the property. The church rescinded its request to demolish the building, and the City Council voted to deny the landmark designation in order to provide “more freedom to weigh plans” after members of the congregation expressed concern about the ability to move the building. In 1978, a member of the congregation offered funding to rehabilitate the building. It was then converted for office use and is currently used by Attention Homes. A second landmark designation application was submitted in 2012 by a member of the congregation, but was withdrawn due to lack of support by the majority of the congregation.

The Historic Building Inventory Record found the building to possess high artistic value and be historically significant for its association with Rachofsky and Faus. “Contrasted with the mansions of Mapleton Hill, this house is an excellent example of the simpler, yet well-designed homes of Boulder’s early merchants and tradesmen.”

Statement of Significance – 1443 Spruce St.
The characteristics of the subject property that justify its designation as a landmark are: 1) its historic significance relevant to its construction in 1885, making it one of the earliest houses in Boulder; for its association with J. Levi Rachofsky, a dry goods merchant, and 2) its architectural significance as an example of Italianate design evidenced in its deep eaves supported by coupled brackets, segmental brick arched lintels and sandstone sills; and 3) its environmental significance for its prominent location at the corner of 15th Street and Spruce Street, within the boundaries of the identified potential Whittier historic district.

Figure 16: Map of 1443 Spruce St., showing proposed landmark boundary.

Proposed Landmark Boundary and Name
The boundary is proposed to encompass the front portion of the property. Reference Figure 16.

13 Historic Building Inventory Form. City of Boulder, 1986.
Staff recommends the property be known as the Rachofsky-Faus House, to recognize J. Levi Rachofsky, the original owner of the house, and Jacob and Katherine Faus, who owned the property from 1905 until 1946.

**ANALYSIS:**

**Criteria for Review**

Section 9-11-6(b), B.R.C. 1981, specifies that during the review for an application for local landmark designation, the council must consider “whether the designation meets the purposes and standards in subsection 9-11-1(a) and section 9-11-2, “City Council May Designate or Amend Landmarks and Historic Districts,” B.R.C. 1981, in balance with the goals and policies of the Boulder Valley Comprehensive Plan” and provides that the City Council “shall approve by ordinance, modify and approve by ordinance, or disapprove the proposed designation.”

Staff and the Landmarks Board find that the designation the five properties at 1406-08 Pine St., 1414 Pine St., 2118 14th St., 2124 14th St. and 2132 14th St., and portions of two properties at 1424 Pine St. and 1443 Spruce St. as individual landmarks will protect, enhance, and perpetuate a building reminiscent of a past era, past events, and persons important in local history and preserve an important example of Boulder’s historic architecture. Staff considers the applications meet the historic criteria for individual landmark designation as outlined following each property description above.

Does the proposed application develop and maintain appropriate settings and environments for such buildings, sites, and areas to enhance property values, stabilize neighborhoods, promote tourist trade and interest, and foster knowledge of the city’s living heritage?

Staff finds that the proposed applications would maintain appropriate settings and environments for such buildings, sites, and areas to enhance property values, stabilize neighborhoods, promote tourist trade and interest, and foster knowledge of the city’s living heritage.

**OPTIONS:**

The City Council may approve, modify or not approve the ordinances.

Approved By:

Jane S. Brautigam,
City Manager

**ATTACHMENTS:**

A: Ordinances 8224, 8225, 8226, 8227, 8228, 8229, 8230
C: Significance Criteria for individual landmarks
ORDINANCE 8224


BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BOULDER, COLORADO:

Section 1. The City Council enacts this ordinance pursuant to its authority under Chapter 9-11, “Historic Preservation,” B.R.C. 1981, to designate as a landmark a property having a special character or special historic, architectural, or aesthetic interest or value.

Section 2. The City Council finds that: 1) on or about Nov. 9, 2016, property owner First United Methodist Church, applied to the City of Boulder to designate the building and property at said property as a landmark; 2) the Landmarks Board held a public hearing on the proposed designation on Jan. 1, 2017 and Oct. 4, 2017; and 3) on Oct. 4, 2017, the Board recommended that the City Council approve the proposed designation.

Section 3. The City Council also finds that upon public notice required by law, the council held a public hearing on the proposed designation on Jan. 4, 2017 and Nov. 1, 2017 and upon the basis of the presentations at that hearing finds that the building and the property at 1406-08 Pine St. possesses a special character and special historic, architectural, or aesthetic interest or value warranting its designation as a landmark.

Section 4. The characteristics of the subject property that justify its designation as a landmark are: 1) its historic significance is relevant to its construction around 1900, as an example of early multi-family housing in Boulder and 2) its architectural significance as an example of a multi-
family duplex with classical detailing, and 3) its environmental significance for its prominent corner location; and its location within the boundaries of the identified potential Whittier historic district.

Section 5. The City Council further finds that the foregoing landmark designation is necessary to promote the public health, safety, and welfare of the residents of the city.

Section 6. There is hereby created as a landmark the building and property located at 1406-08 Pine St., also known as the White House Apartments, whose legal landmark boundary encompasses the legal lots upon which it sits:

LEGAL DESCRIPTION

N 70.54 FT OF W 10.79 FT LOT 5 & N 70.54 FT LOT 6 BLK 122 BO as depicted in the proposed landmark boundary map, attached hereto as Exhibit A.

Section 7. The City Council directs that the department of Planning, Housing and Sustainability give prompt notice of this designation to the property owner and cause a copy of this ordinance to be recorded as described in Subsection 9-11-6(d), B.R.C. 1981.

Section 8. 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 5th DAY OF DECEMBER, 2017.

Mayor
Exhibit A – Landmark Boundary Map for 1406-08 Pine St.

LEGAL DESCRIPTION
N 70.54 FT OF W 10.79 FT LOT 5 & N 70.54 FT LOT 6 BLK 122 BO

Map of 1406-08 Pine St. with landmark boundary.
ORDINANCE 8225


BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BOULDER, COLORADO:

Section 1. The City Council enacts this ordinance pursuant to its authority under Chapter 9-11, “Historic Preservation,” B.R.C. 1981, to designate as a landmark a property having a special character or special historic, architectural, or aesthetic interest or value.

Section 2. The City Council finds that: 1) on or about Nov. 9, 2016, property owner First United Methodist Church, applied to the City of Boulder to designate the building and property at said property as a landmark; 2) the Landmarks Board held a public hearing on the proposed designation on Jan. 1, 2017 and Oct. 4, 2017; and 3) on Oct. 4, 2017, the Board recommended that the City Council approve the proposed designation.

Section 3. The City Council also finds that upon public notice required by law, the council held a public hearing on the proposed designation on Jan. 4, 2017 and Nov. 1, 2017 and upon the basis of the presentations at that hearing finds that the building and the property at 1414 Pine St. possesses a special character and special historic, architectural, or aesthetic interest or value warranting its designation as a landmark.

Section 4. The characteristics of the subject property that justify its designation as a landmark are: 1) its historic significance is relevant to its construction in 1898, for its association with the First United Methodist Church; and 2) its architectural significance as an example of a Classic
Cottage, evidenced in its decorative cornice, segmental brick arches, and wooden bay window; and (3) its environmental significance for its location within the boundaries of the identified potential Whitter historic district.

Section 5. The City Council further finds that the foregoing landmark designation is necessary to promote the public health, safety, and welfare of the residents of the city.

Section 6. There is hereby created as a landmark the building and property located at 1414 Pine St., also known as the Coulehan House, whose legal landmark boundary encompasses the legal lots upon which it sits:

LEGAL DESCRIPTION
N PT LOTS 4 & 5 BLK 122 BOULDER AKA TR 997 30-1N-70 PER DEED
827669 09/21/66 BCR
as depicted in the proposed landmark boundary map, attached hereto as Exhibit A.

Section 7. The City Council directs that the department of Planning, Housing and Sustainability give prompt notice of this designation to the property owner and cause a copy of this ordinance to be recorded as described in Subsection 9-11-6(d), B.R.C. 1981.

Section 8. 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 5TH DAY OF DECEMBER, 2017.

Mayor
READ ON SECOND READING, PASSED, ADOPTED, AND ORDERED PUBLISHED BY TITLE ONLY THIS 4TH DAY OF JANUARY, 2018.

Mayor

Attest:

City Clerk

Exhibit A – Landmark Boundary Map for 1414 Pine St.

LEGAL DESCRIPTION
N PT LOTS 4 & 5 BLK 122 BOULDER OT AKA TR 997 30-IN-70 PER DEED 827669 09/21/66 BCR

Map of 1414 Pine St. with landmark boundary.
ORDINANCE 8226


BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BOULDER, COLORADO:

Section 1. The City Council enacts this ordinance pursuant to its authority under Chapter 9-11, “Historic Preservation,” B.R.C. 1981, to designate as a landmark a property having a special character or special historic, architectural, or aesthetic interest or value.

Section 2. The City Council finds that: 1) on or about Nov. 9, 2016, property owner First United Methodist Church, applied to the City of Boulder to designate the building and property at said property as a landmark; 2) the Landmarks Board held a public hearing on the proposed designation on Jan. 1, 2017 and Oct. 4, 2017; and 3) on Oct. 4, 2017, the Board recommended that the City Council approve the proposed designation.

Section 3. The City Council also finds that upon public notice required by law, the council held a public hearing on the proposed designation on Jan. 4, 2017 and Nov. 1, 2017 and upon the basis of the presentations at that hearing finds that the building and the property at 2118 14th St. possesses a special character and special historic, architectural, or aesthetic interest or value warranting its designation as a landmark.

Section 4. The characteristics of the subject property that justify its designation as a landmark are: 1) its historic significance is relevant to its construction in 1903; and for its association with the First United Methodist Church; and 2) its architectural significance as an example of the Four
Square style, evidenced in its two-story massing, symmetrical façade, and classical detailing; and 3) its environmental significance for its location within the boundaries of the identified potential Whittier historic district.

Section 5. The City Council further finds that the foregoing landmark designation is necessary to promote the public health, safety, and welfare of the residents of the city.

Section 6. There is hereby created as a landmark the building and property located at 2118 14th St., also known as the First Methodist Church Parsonage, whose legal landmark boundary encompasses the legal lots upon which it sits:

LEGAL DESCRIPTION

LOTS 7-11 BLK 122 BOULDER O T DPT FILE 07-01-025-09
as depicted in the proposed landmark boundary map, attached hereto as Exhibit A.

Section 7. The City Council directs that the department of Planning, Housing and Sustainability give prompt notice of this designation to the property owner and cause a copy of this ordinance to be recorded as described in Subsection 9-11-6(d), B.R.C. 1981.

Section 8. 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 5TH DAY OF DECEMBER, 2017.

Mayor
Attest:

______________________________________
City Clerk

READ ON SECOND READING, PASSED, ADOPTED, AND ORDERED PUBLISHED BY
TITLE ONLY THIS 4TH DAY OF JANUARY, 2018.

______________________________________
Mayor

Attest:

______________________________________
City Clerk

Exhibit A – Landmark Boundary Map for 2118 14th St.

LEGAL DESCRIPTION
LOTS 7-11 BLK 122 BOULDER OT DPT FILE 07-01-025-09

Map of 2118 14th St., with landmark boundary.
ORDINANCE 8227


BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BOULDER, COLORADO:

Section 1. The City Council enacts this ordinance pursuant to its authority under Chapter 9-11, “Historic Preservation,” B.R.C. 1981, to designate as a landmark a property having a special character or special historic, architectural, or aesthetic interest or value.

Section 2. The City Council finds that: 1) on or about Nov. 9, 2016, property owner First United Methodist Church, applied to the City of Boulder to designate the building and property at said property as a landmark; 2) the Landmarks Board held a public hearing on the proposed designation on Jan. 1, 2017 and Oct. 4, 2017; and 3) on Oct. 4, 2017, the Board recommended that the City Council approve the proposed designation.

Section 3. The City Council also finds that upon public notice required by law, the council held a public hearing on the proposed designation on Jan. 4, 2017 and Nov. 1, 2017 and upon the basis of the presentations at that hearing finds that the building and the property at 2124 14th St. possesses a special character and special historic, architectural, or aesthetic interest or value warranting its designation as a landmark.

Section 4. The characteristics of the subject property that justify its designation as a landmark are: 1) its historic significance is relevant to its construction 1895, for its association with Guy Adams, an early civic, religious and governmental leader; and 2) its architectural significance for
its artistic merit evident in its corbelled detailing; and 3) its environmental significance for its
location within the boundaries of the identified potential Whittier historic district.

Section 5. The City Council further finds that the foregoing landmark designation is
necessary to promote the public health, safety, and welfare of the residents of the city.

Section 6. There is hereby created as a landmark the building and property located at 2124
14th St., also known as the Guy Adams House, whose legal landmark boundary encompasses the
legal lots upon which it sits:

LEGAL DESCRIPTION
S 34 1/2 FT OF W 10 FT LOT 4 & S 34 1/2 FT OF LOTS 5-6 BLK 1 22 BOULDER
as depicted in the proposed landmark boundary map, attached hereto as Exhibit A.

Section 7. The City Council directs that the department of Planning, Housing and
Sustainability give prompt notice of this designation to the property owner and cause a copy of
this ordinance to be recorded as described in Subsection 9-11-6(d), B.R.C. 1981.

Section 8. 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 5TH DAY OF DECEMBER, 2017.

______________________________
Mayor
READ ON SECOND READING, PASSED, ADOPTED, AND ORDERED PUBLISHED BY TITLE ONLY THIS 4TH DAY OF JANUARY, 2018.

Mayor

Exhibit A – Landmark Boundary Map for 2124 14th St.

LEGAL DESCRIPTION
S 34 1/2 FT OF W 10 FT LOT 4 & S 34 1/2 FT OF LOTS 5-6 BLK 1 22 BOULDER

Figure 12: Map of 2124 14th St., showing proposed landmark boundary.
ORDINANCE 8228


BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BOULDER, COLORADO:

Section 1. The City Council enacts this ordinance pursuant to its authority under Chapter 9-11, “Historic Preservation,” B.R.C. 1981, to designate as a landmark a property having a special character or special historic, architectural, or aesthetic interest or value.

Section 2. The City Council finds that: 1) on or about Nov. 9, 2016, property owner First United Methodist Church, applied to the City of Boulder to designate the building and property at said property as a landmark; 2) the Landmarks Board held a public hearing on the proposed designation on Jan. 1, 2017 and Oct. 4, 2017; and 3) on Oct. 4, 2017, the Board recommended that the City Council approve the proposed designation.

Section 3. The City Council also finds that upon public notice required by law, the council held a public hearing on the proposed designation on Jan. 4, 2017 and Nov. 1, 2017 and upon the basis of the presentations at that hearing finds that the building and the property at 2132 14th St. possesses a special character and special historic, architectural, or aesthetic interest or value warranting its designation as a landmark.

Section 4. The characteristics of the subject property that justify its designation as a landmark are: 1) its historic significance is relevant to its construction around 1890, for its association with Louis Herman, a German immigrant and Boulder businessman; and 2) its architectural significance
as an example of an early masonry vernacular residence; and 3) its environmental significance for its location within the boundaries of the identified potential Whittier historic district.

Section 5. The City Council further finds that the foregoing landmark designation is necessary to promote the public health, safety, and welfare of the residents of the city.

Section 6. There is hereby created as a landmark the building and property located at 2132 14th St., also known as the Herman-Halfen House, whose legal landmark boundary encompasses the legal lots upon which it sits:

LEGAL DESCRIPTION
PT LOTS 4 5 & 6 BLK 122 BOULDER R O T AKA TRACT 996 30-1N-70 PER DEED 131194 03/07/75 BCR 10 0% TAX EXEMPT PER DPT 07-01-02 5-08 as depicted in the proposed landmark boundary map, attached hereto as Exhibit A.

Section 7. The City Council directs that the department of Planning, Housing and Sustainability give prompt notice of this designation to the property owner and cause a copy of this ordinance to be recorded as described in Subsection 9-11-6(d), B.R.C. 1981.

Section 8. 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 5TH DAY OF DECEMBER, 2017.

Mayor
READ ON SECOND READING, PASSED, ADOPTED, AND ORDERED PUBLISHED BY TITLE ONLY THIS 4TH DAY OF JANUARY, 2018.

Mayor

Attest:

____________________________
City Clerk

Exhibit A – Landmark Boundary Map for 2132 14th St.
LEGAL DESCRIPTION
PT LOTS 4 5 & 6 BLK 122 BOULDER O T AKA TRACT 996 30-1N-70 P ER DEED 131194 03/07/75 BCR 10 0% TAX EXEMPT PER DPT 07-01-02 5-08

Map of 2132 14th St. with landmark boundary.
ORDINANCE 8229


BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BOULDER, COLORADO:

Section 1. The City Council enacts this ordinance pursuant to its authority under Chapter 9-11, “Historic Preservation,” B.R.C. 1981, to designate as a landmark a property having a special character or special historic, architectural, or aesthetic interest or value.

Section 2. The City Council finds that: 1) on or about June 9, 2016, property owner First United Methodist Church, applied to the City of Boulder to designate the building and property at said property as a landmark; 2) the Landmarks Board held a public hearing on the proposed designation on Jan. 1, 2017 and Oct. 4, 2017; and 3) on Oct. 4, 2017, the Board recommended that the City Council approve the proposed designation.

Section 3. The City Council also finds that upon public notice required by law, the council held a public hearing on the proposed designation on Jan. 4, 2017 and Nov. 1, 2017 and upon the basis of the presentations at that hearing finds that the building and the property at 1424 Pine St. possesses a special character and special historic, architectural, or aesthetic interest or value warranting its designation as a landmark.

Section 4. The characteristics of the subject property that justify its designation as a landmark are: 1) its historic significance is relevant to its construction around 1895, and for its association with First United Methodist Church; and 2) its architectural significance as an example of Queen
Anne Cottage, evidenced in its finely executed masonry, stone sills and lintels and decorative brickwork; and 3) its environmental significance for its location within the boundaries of the identified potential Whittier historic district.

Section 5. The City Council further finds that the foregoing landmark designation is necessary to promote the public health, safety, and welfare of the residents of the city.

Section 6. There is hereby created as a landmark the building and property located at 1424 Pine St., also known as the Lounsberry House, whose legal landmark boundary encompasses the north 100' feet of the property, extending from the east to the west property lines of the legal lot upon which it sits:

LEGAL DESCRIPTION

E 40 FT LOT 4 BLK 122 BOULDER OT DPT 07-01-025-05 6/13/1989
as depicted in the proposed landmark boundary map, attached hereto as Exhibit A.

Section 7. The City Council directs that the department of Planning, Housing and Sustainability give prompt notice of this designation to the property owner and cause a copy of this ordinance to be recorded as described in Subsection 9-11-6(d), B.R.C. 1981.

Section 8. 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 5TH DAY OF DECEMBER, 2017.

_____________________________________________________________________

Mayor
Attest:

____________________________
City Clerk

READ ON SECOND READING, PASSED, ADOPTED, AND ORDERED PUBLISHED BY
TITLE ONLY THIS 4TH DAY OF JANUARY, 2018.

____________________________
Mayor

Attest:

____________________________
City Clerk

**Exhibit A – Landmark Boundary Map for 1424 Pine St.**

LEGAL DESCRIPTION

E 40 FT LOT 4 BLK 122 BOULDER OT DPT 07-01-025-05 6/13/1989

*Map of 1424 Pine St., showing approved relocation and landmark boundary.*
ORDINANCE 8230


BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BOULDER, COLORADO:

Section 1. The City Council enacts this ordinance pursuant to its authority under Chapter 9-11, “Historic Preservation,” B.R.C. 1981, to designate as a landmark a property having a special character or special historic, architectural, or aesthetic interest or value.

Section 2. The City Council finds that: 1) on or about Nov. 9, 2016, property owner First United Methodist Church, applied to the City of Boulder to designate the building and property at said property as a landmark; 2) the Landmarks Board held a public hearing on the proposed designation on Jan. 1, 2017 and Oct. 4, 2017; and 3) on Oct. 4, 2017, the Board recommended that the City Council approve the proposed designation.

Section 3. The City Council also finds that upon public notice required by law, the council held a public hearing on the proposed designation on Jan. 4, 2017 and Nov. 1, 2017 and upon the basis of the presentations at that hearing finds that the building and the property at 1443 Spruce St. possesses a special character and special historic, architectural, or aesthetic interest or value warranting its designation as a landmark.

Section 4. The characteristics of the subject property that justify its designation as a landmark are: 1) its historic significance is relevant to its construction in 1885, making it one of the earliest houses in Boulder; for its association with J. Levi Rachofsky, a dry goods merchant, and 2) its
architectural significance as an example of Italianate design evidenced in its deep eaves supported
by coupled brackets, segmental brick arched lintels and sandstone sills; and 3) its environmental
significance for its prominent location at the corner of 15th Street and Spruce Street, within the
boundaries of the identified potential Whittier historic district.

Section 5. The City Council further finds that the foregoing landmark designation is
necessary to promote the public health, safety, and welfare of the residents of the city.

Section 6. There is hereby created as a landmark the building and property located at 1443
Spruce St., also known as the Rachofsky-Faus House, whose legal landmark boundary
encompasses the south 90’ feet of the property, extending from the east to the west property lines
of the legal lot upon which it sits:

LEGAL DESCRIPTION
LOT 12 BLK 122 BOULDER O T DPT FILE 07-01025-10
as depicted in the proposed landmark boundary map, attached hereto as Exhibit A.

Section 7. The City Council directs that the department of Planning, Housing and
Sustainability give prompt notice of this designation to the property owner and cause a copy of
this ordinance to be recorded as described in Subsection 9-11-6(d), B.R.C. 1981.

Section 8. 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 5TH DAY OF DECEMBER, 2017.

Mayor
READ ON SECOND READING, PASSED, ADOPTED, AND ORDERED PUBLISHED BY TITLE ONLY THIS 4TH DAY OF JANUARY, 2018.

Mayor

Attest:

____________________________
City Clerk

Exhibit A – Landmark Boundary Map for 1443 Spruce St.

LEGAL DESCRIPTION
LOT 12 BLK 122 BOULDER O T DPT FILE 07-01025-10

Map of 1443 Spruce St. with landmark boundary
9-11-1 & 9-11-2 Purposes and Intent
Boulder Revised Code, 1981

9-11-1: *Purpose and Legislative Intent* states:

(a) The purpose of this chapter is to promote the public health, safety, and welfare by protecting, enhancing, and perpetuating buildings, sites, and areas of the city reminiscent of past eras, events, and persons important in local, state, or national history or providing significant examples of architectural styles of the past. It is also the purpose of this chapter to develop and maintain appropriate settings and environments for such buildings, sites, and areas to enhance property values, stabilize neighborhoods, promote tourist trade and interest, and foster knowledge of the city’s living heritage.

(b) The City Council does not intend by this chapter to preserve every old building in the city but instead to draw a reasonable balance between private property rights and the public interest in preserving the city’s cultural, historic, and architectural heritage by ensuring that demolition of buildings and structures important to that heritage will be carefully weighed with other alternatives and that alterations to such buildings and structures and new construction will respect the character of each such setting, not by imitating surrounding structures, but by being compatible with them.

(c) The City Council intends that in reviewing applications for alterations to and new construction on landmarks or structures in a historic district, the Landmarks Board shall follow relevant city policies, including, without limitation, energy-efficient design, access for the disabled and creative approaches to renovation.

9-11-2: *City Council may Designate or Amend Landmarks and Historic Districts* states:

(a) Pursuant to the procedures in this chapter the City Council may by ordinance:

(1) Designate as a landmark an individual building or other feature or an integrated group of structures or features on a single lot or site having a special character and historical, architectural, or aesthetic interest or value and designate a landmark site for each landmark;

(2) Designate as a historic district a contiguous area containing a number of sites, buildings, structures or features having a special character and historical, architectural, or aesthetic interest or value and constituting a distinct section of the city;

(3) Designate as a discontiguous historic district a collection of sites, buildings, structures, or features which are contained in two or more geographically separate areas, having a special character and historical, architectural, or aesthetic interest or value that are united together by historical, architectural, or aesthetic characteristics; and

(4) Amend designations to add features or property to or from the site or district.

(b) Upon designation, the property included in any such designation is subject to all the requirements of this code and other ordinances of the city.
SIGNIFICANCE CRITERIA
Individual Landmark
September 1975

On September 6, 1975, the City Council adopted Ordinance #4000 providing procedures for the designation of Landmarks and Historic Districts in the City of Boulder. The purpose of the ordinance is the preservation of the City’s permitted cultural, historic, and architectural heritage. The Landmarks Board is permitted by the ordinance to adopt rules and regulations as it deems necessary for its own organization and procedures. The following Significance Criteria have been adopted by the board to help evaluate each potential designation in a consistent and equitable manner.

**Historic Significance**

The place (building, site, area) should show character, interest or value as part of the development, heritage, or cultural characteristics of the community, state or nation; be the site of a historic, or prehistoric event that had an effect upon society; or exemplify the cultural, political, economic, or social heritage of the community.

**Date of Construction:** This area of consideration places particular importance on the age of the structure.

**Association with Historical Persons or Events:** This association could be national, state, or local.

**Distinction in the Development of the Community of Boulder:** This is most applicable to an institution (religious, educational, civic, etc) or business structure, though in some cases residences might qualify. It stresses the importance of preserving those places which demonstrate the growth during different time spans in the history of Boulder, in order to maintain an awareness of our cultural, economic, social or political heritage.

**Recognition by Authorities:** If it is recognized by Historic Boulder, Inc. the Boulder Historical Society, local historians (Barker, Crossen, Frink, Gladden, Paddock, Schooland, etc), State Historical Society, The Improvement of Boulder, Colorado by F.L. Olmsted, or others in published form as having historic interest and value.

Other, if applicable.

**Architectural Significance**

The place should embody those distinguishing characteristics of an architectural type specimen, a good example of the common; be the work of an architect or master builder, known nationally, state-wide, or locally, and perhaps whose work has influenced later
development; contain elements of architectural design, detail, materials or craftsmanship which represent a significant innovation; or be a fine example of the uncommon.

**Recognized Period/Style:** It should exemplify specific elements of an architectural period/style, i.e.: Victorian, Revival styles, such as described by *Historic American Building Survey Criteria*, Gingerbread Age (Maass), 76 Boulder Homes (Barkar), *The History of Architectural Style* (Marcus/Wiffin), *Architecture in San Francisco* (Gebhard et al), *History of Architecture* (Fletcher), *Architecture/Colorado*, and any other published source of universal or local analysis of a style.

**Architect or Builder of Prominence:** A good example of the work of an architect or builder who is recognized for expertise in his field nationally, state-wide, or locally.

**Artistic Merit:** A skillful integration of design, material, and color which is of excellent visual quality and/or demonstrates superior craftsmanship.

**Example of the Uncommon:** Elements of architectural design, details, or craftsmanship that are representative of a significant innovation.

**Indigenous Qualities:** A style or material that is particularly associated with the Boulder area.

Other, if applicable.

**Environmental Significance**

The place should enhance the variety, interest, and sense of identity of the community by the protection of the unique natural and man-made environment.

**Site Characteristics:** It should be of high quality in terms of planned or natural vegetation.

**Compatibility with Site:** Consideration will be given to scale, massing placement, or other qualities of design with respect to its site.

**Geographic Importance:** Due to its unique location or singular physical characteristics, it represents an established and familiar visual feature of the community.

**Environmental Appropriateness:** The surroundings are complementary and/or it is situated in a manner particularly suited to its function.

**Area Integrity:** Places which provide historical, architectural, or environmental importance and continuity of an existing condition, although taken singularly or out of context might not qualify under other criteria.
AGENDA TITLE
Second reading and consideration of a motion to adopt Ordinance 8231, as an amendment to Title 9, “Land Use Code,” B.R.C. 1981, granting authority to the City Manager to approve a day shelter and overnight shelter use at 2691 30th street, to modify density and parking standards as they apply to the use, and setting forth details in relation thereto.

PRIMARY STAFF CONTACT
Charles Ferro, Development Review Manager

REQUESTED ACTION OR MOTION LANGUAGE
Second reading and consideration of a motion to adopt Ordinance 8231, an emergency Ordinance that, as an amendment to Title 9, “Land Use Code,” B.R.C. 1981, grants authority to the City Manager to approve a day shelter and overnight shelter use at 2691 30th street and to modify density and parking standards as they apply to the use, and setting forth details in relation thereto.

ATTACHMENTS:

- Description
- Memo and Attachment
AGENDA TITLE:
Second reading and consideration of a motion to adopt Ordinance 8231, an emergency Ordinance that, as an amendment to Title 9, “Land Use Code,” B.R.C. 1981, grants authority to the City Manager to approve a day shelter and overnight shelter use at 2691 30th street and to modify density and parking standards as they apply to the use, and setting forth details in relation thereto.

PRESENTER/S
Jane Brautigam, City Manager
Tanya Ange, Deputy City Manager
Jim Robertson, Executive Director of Planning, Housing & Sustainability
Charles Ferro, Development Review Manager

EXECUTIVE SUMMARY
Bridge House seeks to site its Path to Home Navigation Center and day and overnight shelter at 2691 30th Street. The Path to Home Navigation program (PTHN) will provide 24/7 sheltering and case management services for homeless adults. PTHN has been selected to provide the navigation services called for in the City of Boulder’s Homelessness Strategy. PTHN will host onsite coordinated entry services in addition to program services including meals, sleeping and supportive services for program participants. The building can accommodate up to 50 persons and in order to serve the largest amount of program participants possible Bridge House would like the ability to serve 50 occupants.

In order to do so, the following modifications to the city’s code are required:

1. Occupancy of Overnight Shelter, Section 9-6-6(b)(4)(D)

The maximum occupancy in the Business Transition One (BT-1) zone is based on a standard of six persons per dwelling unit. A minimum of 1,200 square feet of open space is also required per dwelling unit. The .93 acre site is mostly paved and has approximately 5,056 square feet of existing open space, which equates to 4 dwelling units and thus (at six
persons per dwelling unit) would allow approximately 24 persons in the overnight shelter whereas the building can accommodate 50 persons.

2. Parking, Section 9-6-6(b)(2)(D)/9-6-6(b)(4)(C) (refers to Table 9-2 (overnight shelter), Table 9-3 (day shelter)).

Since the use is considered both a day and overnight shelter, the applicant must provide parking for both uses on site. 61 spaces are required where 40 will be provided, resulting in a parking reduction of 34%. Per Bridge House, a vast majority of those seeking services do not have vehicles. Staff finds that parking can appropriately be managed based on the limited number of vehicles that program participants are expected to bring to the site. Additionally, the maximum amount of staff and volunteers on-site at one time would be 15.

The proposed code modifications are being considered as an emergency ordinance due to the immediate human service needs of the homeless population. The proposed modifications are reflected in Attachment A.

An informational item was forwarded to Planning Board on December 12, 2017. City Council approved first reading of the ordinance on December 19, 2017.

STAFF RECOMMENDATION

**Suggested Motion Language:**
Staff requests council consideration of this matter and action in the form of the following motion:

*Motion to adopt second reading of Ordinance 8231, an emergency Ordinance that, as an amendment to Title 9, “Land Use Code,” B.R.C. 1981, grants authority to the City Manager to approve a day shelter and overnight shelter use at 2691 30th street and to modify density and parking standards as they apply to the use, and setting forth details in relation thereto.*

**COMMUNITY SUSTAINABILITY ASSESSMENTS AND IMPACTS**

- **Economic** – None identified.
- **Environmental** – None identified.
- **Social** – The proposed use will provide the services specified in the Homelessness Strategy.

**ATTACHMENTS**
A. Ordinance 8231
ORDINANCE 8231

AN EMERGENCY ORDINANCE THAT, AS AN AMENDMENT TO TITLE 9, “LAND USE CODE,” B.R.C. 1981, GRANTS AUTHORITY TO THE CITY MANAGER TO APPROVE A DAY SHELTER AND OVERNIGHT SHELTER USE AT 2691 30TH STREET AND TO MODIFY DENSITY AND PARKING STANDARDS AS THEY APPLY TO THE USE, AND SETTING FORTH DETAILS IN RELATION THERETO.

WHEREAS THE CITY COUNCIL OF THE CITY OF BOULDER, COLORADO, FINDS THAT:

A. The Carriage House Community Table, also known as the Bridge House (“Bridge House”), has filed land use application ADR2017-00280 (the “Project”) for a day shelter and an overnight shelter use at a property located at 2691 30th Street and more particular described on Exhibit A (the “Property”).

B. Bridge House proposes to utilize a tenant space within a building on the Property to site a Path to Home Navigation Center and Lodge which would provide 24/7 sheltering and case management services for homeless adults.

C. The proposed Path to Home Navigation Center and Lodge would also provide navigation services to homeless adults called for in the City of Boulder Homelessness Strategy, including coordinated entry services.

D. The Project proposes to provide overnight shelter for up to 50 persons.

E. The Property is located in the Business-Transitional 1 (BT-1) zoning district, and the Project is inconsistent with parking and density or occupancy standards applicable to the proposed uses.

F. Although inconsistent with the applicable parking and density or occupancy standards, the Project is consistent with the Boulder Valley Comprehensive Plan in that the Project
would provide human services programs that are based on best practices, address
immediate human needs, and, through its programming, assist individuals in exiting
homelessness. The Project is also consistent with the City of Boulder Homelessness
Strategy.

G. The Planning Board was notified of this ordinance on December 12, 2017 consistent with
Charter Section 79.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BOULDER,
COLORADO:

Section 1. The city council authorizes the city manager to grant the necessary approvals
under Title 9, “Land Use Code,” B.R.C. 1981, for a day shelter and overnight shelter use on the
Property generally consistent with the Project.

Section 2. To accomplish the objectives of this ordinance, the city council authorizes the
city manager to modify standards established in Title 9, “Land Use Code,” B.R.C 1981,
including, in particular, the parking and density or occupancy requirements under Paragraphs 9-
6-6(b)(2)(D), (b)(4)(C) and (D), B.R.C. 1981, for the Project.

Section 3. For the limited purposes of this ordinance, the city council suspends the
1981.

Section 4. All other City of Boulder regulations and ordinances that have not been
mentioned herein continue to apply to the Property.

Section 5. This ordinance shall be considered an amendment to Title 9, “Land Use
Code,” B.R.C. 1981. To the extent that this ordinance conflicts with any other ordinance of the
city, such ordinance shall be suspended for the limited purpose of implementing this ordinance. Nothing in this ordinance shall be construed as a waiver of the city’s police power.

Section 6. The city council finds that this ordinance furthers important human services goals for the City of Boulder. Further the city council finds that the benefits of the city’s human services goals made possible through this ordinance outweigh the benefits that accrue to the city through the standards that are waived by this ordinance.

Section 7. This ordinance is hereby declared to be an emergency measure due to immediate human service needs of the city’s homeless population and as such shall be in full force and effect upon its final passage.

Section 8. 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 9. 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 19th day of December 2017.

Suzanne Jones
Mayor

Attest:

Lynnette Beck
City Clerk
READ ON SECOND READING, PASSED, AND ADOPTED AS AN EMERGENCY MEASURE BY TWO-THIRDS COUNCILMEMBERS PRESENT, this ____ day of January 2018.

Suzanne Jones
Mayor

Attest:

Lynnette Beck
City Clerk
Exhibit A

LEGAL DESCRIPTION

BEGINNING AT THE NORTHEAST CORNER OF THE NORTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 29, TOWNSHIP 1 NORTH, RANGE 70 WEST OF THE 6TH P.M.; THENCE SOUTH A DISTANCE OF 698.5 FEET; THENCE WEST A DISTANCE OF 20 FEET TO THE TRUE POINT OF BEGINNING; THENCE WEST A DISTANCE OF 309.535 FEET; THENCE NORTH A DISTANCE OF 140.72 FEET; THENCE EAST A DISTANCE OF 309.535 FEET; THENCE SOUTH A DISTANCE OF 140.72 FEET TO THE TRUE POINT OF BEGINNING, COUNTY OF BOULDER, STATE OF COLORADO; EXCEPTING THEREFROM THAT PORTION CONVEYED TO THE CITY OF BOULDER, COLORADO BY DEED RECORDED JUNE 22, 1972 UNDER RECEIPTION NO. 23533.
AGENDA TITLE
Discussion of Major Planning and Housing Work Plan Items (including Information on Subcommunity and Area Planning, Regulatory Changes to Address Enhanced Community Benefits, and Commercial Linkage Fees)

PRIMARY STAFF CONTACT
Jim Robertson, Director of Planning, Housing and Sustainability
Lesli Ellis, Comprehensive Planning Manager

REQUESTED ACTION OR MOTION LANGUAGE
Discussion of Major Planning and Housing Work Plan Items (including Information on Subcommunity and Area Planning, Regulatory Changes to Address Enhanced Community Benefits, and Commercial Linkage Fees)

ATTACHMENTS:
   Description
   Memo and Attachments
AGENDA TITLE: Discussion of Major Planning and Housing Work Plan Items (including Information on Subcommunity and Area Planning, Regulatory Changes to Address Enhanced Community Benefits, and Commercial Linkage Fees)

PRESENTER/S
Jane S. Brautigam, City Manager
Jim Robertson, Executive Director, Planning, Housing & Sustainability (PH&S)
Kurt Firnhauber, Deputy Director of Housing, PH&S
Lesli Ellis, Comprehensive Planning Manager, PH&S
Charles Ferro, Development Review Manager, PH&S
Jay Sagnet, Senior Planner, PH&S
Karl Guiler, Senior Planner, PH&S
Phil Kleisler, Planner II, PH&S

EXECUTIVE SUMMARY

The purpose of this item is for staff to provide City Council an overview of the proposed Planning Housing and Sustainability (PH&S) 2018/2019 Planning and Housing Work Plan and the 2018/2019 Timeline for projects, including what is expected for community engagement. (See Attachments A and B.) Staff will answer questions and hear input and discussion from council about other priorities and approaches to the work in advance of the council retreat on Jan. 19 and Jan. 20, 2018, particularly if adjustments to the work plan may be necessary to achieve council priorities. To aid council’s discussion, this packet includes additional information about items that may not have originally been part of the 2018/2019 work plan but for which multiple council members have indicated interest, including:

1. Subcommunity and area planning (p. 6 and Attachment D);
2. Regulations to address enhanced community benefit (on the work plan) (p. 7); and
3. Commercial linkage fees (p. 8).

Finally, this packet includes brief updates on projects that are in progress and a summary of community engagement and input to date: (1) the Accessory Dwelling Unit Update (See Attachment E); and
the Building Height code change project. (See Attachment F.) The Central Broadway planning projects are on council’s study session agenda for Jan. 9, 2018, so no project updates are included in this packet. Additionally, the Housing Board study session has been scheduled for Jan. 23, 2018, and staff will be prepared to update council on current mobile home park actions on Jan. 4, 2018.

BACKGROUND

Planning, Housing, and Sustainability (PH&S) Planning Work Overview

The work of PH&S falls into two broad categories: (1) core services and (2) special projects and initiatives, as further described below.

1. **Core Services** account for about 80 percent of planning and housing staff time and resources and is the work performed in support of the City Charter to serve customers of planning and development services and to implement the Boulder Valley Comprehensive Plan and community goals through development review. This memo does not address the core services; however, the work plan in PH&S does consider resource needs to be put toward core services and the services and work performed in 2017 that will continue into 2018, such as:

   o Development and land use review (e.g., concept plans; site reviews; technical document submittals; building permits; use reviews, etc.).
   o Historic Preservation: review of landmark designations; alteration permits; demolition applications.
   o Housing Programs (i.e., homeownership, community investment, compliance monitoring, and development/land use review support).
   o Staff support of housing committees: Technical Review Group, Home Ownership Committee, HOME and Community Development Advisory Committee.
   o Staff support for boards: Planning Board; Design Advisory Board; Landmarks Board and Landmarks Design Review Committee; and Board of Zoning Adjustment.
   o Provision of demographic and building data.
   o Annual Capital Improvements Program.
   o Master Plan Coordinating Committee.
   o Rental licensing.
   o LandLink Replacement (EnerGov going live April of 2018).

2. **Special Projects and Initiatives** account for the remaining 20 percent, or so, of planning and housing staff time and resources, including initiatives prioritized by City Council. Some projects are identified in the updated Boulder Valley Comprehensive Plan (BVCP) (adopted Aug. 2017) and identified in the BVCP Action Plan (approved Sept. 2017).

Following two years of community engagement, multiple revisions of policies, and 50+ meetings and hearings with the four approval bodies for the BVCP and the resulting Action Plan, the community has identified many of its policies and priorities that have subsequently carried over into the 2018/2019 Planning and Housing Work Plan. These include topics such as housing affordability and diversity, affordable commercial space, land use compatibility and quality urban design, neighborhood/community character, and enhanced community benefits.

Other departments of the city also lead projects that are council work plan priorities and on the council agenda, such as the Open Space Master Plan and Transportation Master Plan updates.
Those projects are not included in this packet, but planning staff provide some level of support and the community invests time and interest in those projects, too.

The next sections focus on the PH&S-led special projects and initiatives that are currently planned and budgeted according to available departmental and staff resources. If items shift on the work plan to accomplish other council and community goals, they need to fit department resources or will trigger an adjustment. In other words, replacing a “smaller” project with a “larger” one may necessitate an adjustment to base for the planning or housing division resources. Furthermore, trading different types of projects (e.g., an area plan for a land use code project) may create different staffing and resource demands.

Implementing Council and Community Planning and Housing Goals

The city uses a variety of planning tools to address planning challenges and implement the policies of the comprehensive plan, as shown in the graphic below. 2018 and 2019 are anticipated to be time to focus on policy implementation, particularly around area planning and regulatory changes (e.g., in the Land Use Code) to address BVCP, community, and council directions and achieve great outcomes for the community and city.

Certain tools lend themselves to particular challenges. For example, area planning is useful to address challenges associated with character, service provision, and unique needs around areas of change. Such fine-grained planning may be suited to meet needs at the local level, however, it can be resource-, time- and community engagement-intensive and results in a policy document with a path toward implementation strategy but not regulations or specific programs.

For other challenges and more immediate needs, Land Use Code amendments (i.e., regulatory changes) or fees, which tend to work at a citywide scale but that can be tailored locally, may be the most effective implementation tools. Examples might include amending the Land Use Code to limit non-residential development in the Boulder Valley Regional Center while accomplishing affordable and diverse housing and affordability goals; adjusting site review criteria to address community benefit standards; or amending parking standards to further multi-modal mobility goals. The regulatory projects currently occurring around building height and ADU/OAUs can also be tailored by geographic location if desired.

2018 - 2019 Work Plan

Attachment A shows the 2018/19 Planning and Housing timeline, and it reflects what appears on the 2018 City Council Work Plan Draft (aka, the “Dot Chart”) and Nov. 2017 Council Action Guide and 2018-2019 Department Work Plans. Those documents provide information about major Planning and Housing projects, including:
Since November, City Council has discussed additional planning and housing projects and priorities, including the following:

A. **Housing Advisory Board** Council discussed this item under matters at a regular meeting on Dec. 5 and directed staff to expedite this work plan item and schedule a study session (accompanied by a draft ordinance) for Jan. 23, 2018.

B. **Homeless Strategy** Council adopted the strategy in June 2017 and in October directed staff to secure a location for Coordinated Entry and Navigation Services (i.e., Robb’s Music) and increase the creation and placement of new and existing Permanent Supportive Housing units/vouchers.

C. As part of the Hotline response: A number of council members have expressed priority for commercial linkage fees, subcommunity planning, large lots/subdivisions, regulatory changes to address community benefits, and mobile home park actions.

### 2018 - 2019 Work Plan Items: Description and Timeline

A brief description of each project is noted below. As noted above, **Attachment A** includes a timeline and information about planning and housing projects and major milestones. **Attachment B** shows the anticipated level of engagement anticipated for each of the scoped projects, consistent with Boulder’s Engagement Strategic Framework (p. 7).


A. **Alpine-Balsam Area Plan and Civic Area East Bookend Area Plan (coordinated with Central Area Planning Projects).** These two projects, anticipated to unfold over the coming 18-months, will result in area plans for the area around the city-owned properties at Alpine-Balsam and the East Bookend of the Civic Area. The timing of the two area plans is guided in part by the desire to complete them before the city assumes full financial responsibility for the deconstruction of the hospital at Alpine-Balsam. A high level of community, staff, and City Council engagement is anticipated, with a minimum of two study sessions in 2018 and adoption in mid-2019. Project information is at: [https://bouldercolorado.gov/planning/alpinebalsam](https://bouldercolorado.gov/planning/alpinebalsam) and [https://bouldercolorado.gov/civic-area/east-bookend-of-the-civic-area](https://bouldercolorado.gov/civic-area/east-bookend-of-the-civic-area)

B. **Land Use Code amendment to address building heights (up to 55-foot City Charter) modifications through Site Review and affordable housing community benefit.** This is a six- to eight-month project to complete any necessary changes to site review criteria in the Land Use Code, per Ordinance 8172 which expires in July 2018. Project information is at:
https://bouldercolorado.gov/planning/building-heights and in Attachment F, which summarizes input from focus groups that have been occurring this month. This project focus and timeline could have some flexibility, as noted in a later section (p. 9). Multiple council members have indicated they would like to extend the date of the ordinance.

C. **Land Use Code amendments to address enhanced community benefit and other code changes as recommended by Planning Board to implement BVCP.** Staff has not yet scoped the full range of code changes, including regulatory changes to address enhanced community benefit but has been gathering input through the building height focus group discussions. Additionally, a staff team is preparing a memo regarding code changes as a discussion item for Planning Board on Jan. 4 and will share feedback from the board in a council Information Packet in mid-Jan. 2018. Finally, the enhanced community benefit topic is addressed below, under “focused topics” section of this memo below. (See p. 7.)

D. **Coordination on South Boulder Creek Flood Mitigation and CU-South planning and annexation terms,** as informed by the BVCP Guiding Principles and following completion of the preliminary engineering for South Boulder Creek as it affects the site. The project is addressed in the 2018-2019 Department Work Plans (p. 44). Preliminary design for flood mitigation is underway, and the coordination and CU/City annexation agreement process is being scoped. Project information is at: https://bouldercolorado.gov/flood/south-boulder-creek-flood-mitigation-plan. Planning staff are mainly in a support role for the first part of the year; exact resource needs are unknown for the later part of the year.

E. **Neighborhood Plan/Residential Infill Pilot Project.** This project, prioritized through the BVCP Action Plan, is anticipated for mid-2018, with a process to define the purpose, criteria and selection process and then planning work commencing in late 2018 and continuing through 2019 – if council prioritizes this work.

**2018-2019 Housing**

The housing work plan is as follows:

A. **Housing Strategy Governance, Advisory Board creation.** Create a city board to provide advice to council and staff on housing issues.

B. **30th and Pearl.** Redevelop the site of the former Pollard Motors into a mixed-income, mixed-use community on city-owned property at 30th and Pearl.

C. **Accessory Dwelling Unit/Owner Accessory Units.** A project to identify and prepare minor code changes to address barriers to accessory housing. Estimated completion is by June of 2018. Project information is at: https://bouldercolorado.gov/housing/adu and in Attachment E which summarizes community input from two meetings and an online campaign to “Share Your ADU Story.”

D. **Inclusionary Housing Update implementation.** Based on the 2017 update to the ordinance, create a middle-income requirement and incentivize on-site affordable units, and create an affordable housing design review process and online incentive calculator.

E. **Affordable Housing Community Benefit.** Adopt regulations to establish incentive-based zoning specific to affordable housing.

F. **Ponderosa Community Stabilization.** Work with already engaged residents to ensure the upgrade of infrastructure, annexation into the city and the creation of sustainable housing options.

G. **Affordable Commercial Space.** Develop a program to preserve permanently affordable commercial space.

H. **Regional Housing Strategy implementation.** Pursue the outlined collaborative approach to addressing affordable housing and establishing regional housing goals (i.e., targets for units/funding by 2035).
I. **Homeless Strategy implementation.** Support the City’s Homeless Strategy by generating affordable units serving those most vulnerable to a lack of housing, including those who are chronically homeless. Create a homeless resource center and coordinated entry facility.

J. **Middle Income Homebuyer Assistance pilot implementation.** Address middle income downpayment assistance. Explore a potential program creating a revolving loan for middle-income home purchases.

### Planning and Housing Projects Slated for 2019-2020 and Beyond

**2019-2020 Planning (In BVCP Action Plan):**

A. 55th and Arapahoe Area Plan and other locations.
B. Phase 2 Transit Village Area Plan.
C. Land Use Code amendments for Boulder Valley Regional Center to encourage better balance jobs and housing and diverse and affordable housing opportunities.
D. Land Use Code amendments for Light Industrial zoning districts to encourage compatible diverse and affordable residential and mixed use along with affordable service industrial.

**2019-2020 Housing:**

E. Fee waivers, expedited review and other tools to encourage affordable housing.
F. Tiny Homes and Microunits.

### FOCUSED PLANNING AND HOUSING TOPICS

This section is intended to provide a bit more discussion of some topics that appear to be council priorities, based on recent discussions and input provided via Hotline.

**1—Subcommunity and Area Planning**

**Boulder’s Approach to Localized Planning**

Some council and community members have indicated interest in doing more subcommunity and area planning to address local needs and community goals. The BVCP provides guidance and explains Boulder’s approach, which is to bridge the gap between the broader policies and guidance of the BVCP and site-specific project review (e.g., development applications or capital projects). (See BVCP, Ch. V, pp. 119-127 and **Attachment D** for more information.) Area plans typically address planning issues at a more detailed level than subcommunity plans and focus on areas or corridors with special problems or opportunities that are not addressed in the comprehensive plan or regulations. Each are created with extensive engagement and coordination with neighbors, property owners, businesses, and the city and (sometimes county) departments toward defining the vision, goals and implementation strategies. The BVCP contains the criteria for selecting and prioritizing areas for planning, on pp. 111-112 of the plan.

Since 1992, Boulder has completed seven local plans (one subcommunity plan for North Boulder and six area plans, with the last one – Junior Academy – completed in 2009). Each plan averages about 18 months to complete, which is partly driven by community expectations for a high level of involvement, and because the plans include a level of detail sufficient to guide their implementation (e.g., financing strategies or regulatory changes). They are fairly staff, Planning Board, and council-intensive as well.
**BVCP Information at Subcommunity Level**

During the recent BVCP major update, staff made information available at the subcommunity level to assess and assist with updating the plan, including:

- **Fact Sheets** that include a summary of the conditions, history, and resources for each of 10 subcommunities.
- **Online story maps** that provide that information in an interactive, web-based, 3-D format, and
- **BVCP Survey and Listening Session input** as “key findings” for each subcommunity. (Note: this information is roughly compiled but needs formatting and completion.)

**Area Planning - Underway and Anticipated in 2018/2018 Work Plan**

As noted above, the city is resourced in 2018 and 2019 to develop area plans for the Central Broadway Planning Projects (including Alpine-Balsam Area Plan and Civic Area East Bookend). Additionally, in mid-2018, if guided by council, staff will work with council and the community to initiate the neighborhood plan/residential infill pilot project, as guided by the criteria in the BVCP. Staff understands that some council members would like to discuss a broader subcommunity planning program and/or initiating a subcommunity plan and that may be established as a higher priority.

City staff have been researched best practices and lessons from other communities such as Denver, Madison, Lakewood, Austin, and Ashville about local area planning. On Jan. 4, staff will be prepared to describe some comparable community approaches, outcomes, and considerations.

**2—Enhanced Community Benefit Code Changes**

During the BVCP update, Planning Board expressed interest in improving policies and regulations to achieve a higher level of community benefit than currently gained from development. The city currently requires:

- Basic standards set forth in the Land Use Code to provide open space, street connections, etc.
- A requirement for Inclusionary Housing (20 percent of all residential units or cash in lieu for low and moderate-income affordable housing and 5 percent toward middle income affordable housing).
- The Commercial Linkage Fee modified and adopted in January 2017, requires a per square foot fee for Affordable Housing Impact Fees on non-residential development. It is further described below.
- Developments that are annexed into the city are required to provide larger community benefits as guided by the BVCP (e.g., 50 percent affordable housing or other benefits).
- Developers also are required to provide high levels of design as implemented through the development review process.

Last year, the Planning Board began to identify community objectives or benefits. That input from the board and public made its way into the BVCP, which now includes a policy about Enhanced Community Benefit (Policy 1.11, p. 26). It states:

> For land use or zoning district changes that result in increases in the density or intensity of development beyond what is permitted by the underlying zoning or for added height that increases intensity, the city will develop regulations and incentives so that the new
development provides benefits to the community beyond those otherwise required by the underlying zoning. Any incentives are intended to address the community economic, social and environmental objectives of the comprehensive plan. Community objectives include without limitation affordable housing, affordable commercial space, spaces for the arts, community gathering space, public art, land for parks, open space, environmental protection or restoration, outdoor spaces and other identified social needs and services. Community objectives also may be identified through other planning or policymaking efforts of the city.

The BVCP Action Plan notes that work related to regulatory changes in the Land Use Code site review criteria to address community benefit will be conducted in 2018 through early to mid-2019. Additionally, the building height project, currently underway, is affording staff and the community an opportunity to discuss the topic of community benefit, focusing on the affordable housing tied to height modifications.

Additionally, Ch. V, Subcommunity and Area Planning, notes that an outcome of area planning could be to identify and prioritize community benefits from developments that are a priority for the area (p. 110). Any new regulations would account for current requirements.

3—Commercial Linkage Fee: Summary of 2017 Updates

The Affordable Housing Commercial Linkage Fee is one of a handful of “development impact fees” designed to offset or mitigate the impacts of new development on the community. These impact fees flow from Policy 1.22 in the Boulder Valley Comprehensive Plan stating that new growth should “pay its own way.” Impact fees (including the Affordable Housing Linkage Fee) are a one-time fee to be paid (for new construction) prior to the scheduling of the final building inspection. For other types of development, payment occurs at the issuance of a building permit. Colorado law sets forth the requirements for adoption of an impact fee, including: the amount of the fee must be based upon “the reasonable impacts of proposed development” and assessed at a level no greater than necessary to defray the impacts directly related to the proposed development. The fee also needs to be based on a study that quantifies the impacts.

In 2015, the city adopted an Affordable Housing Linkage Fee for non-residential development. Also in May 2015, the City Council directed staff to initiate studies to update the work performed by Tischler-Bise in 2009 upon which the fee was based. This work resulted in, among other things, a report by Keyser Marston Associates. That report, “2016 Jobs Housing Nexus Analysis in Support of Non-Residential Affordable Housing Impact Fees,” was presented to City Council on June 14, 2016. The jobs-housing nexus study completed by Keyser Marston Associates established that the maximum impact fee that could be charged for new non-residential development to mitigate the its impacts on the need for affordable housing are quite significant and not recommended. This is common in linkage fee nexus analyses and therefore setting the fee is a policy decision that takes into consideration a variety of factors.

At the June 14, 2016 study session, council feedback was to set the updated fee based on market and economic factors, and to bring forward options for office building type fee levels of $10, $20 and $35/sq. ft. Key economic factors include the development cost context, market adjustments to absorb fees and fee rates in other communities. On Nov. 15, 2016, council directed staff to prepare an ordinance based on an office building type fee level of $12/sq. ft. That ordinance became effective on July 1, 2017.
If council is interested in revisiting the fee level for the affordable housing commercial linkage fee, the previous options presented based on the Keyser Marston Associates report may be used. Staff would recommend a study session to present the options and for council to provide feedback on any ordinance changes.

**Updates on Ongoing Projects: Accessory Dwelling Unit Code Project Update and Building Height**

**Accessory Dwelling Units**
Work on accessory dwelling unit regulations has been underway for the past several months, and the community has provided input through a “Share your ADU Story” format online and attended two open houses, generally sharing favorable input about continuing work on the project. The boards have also provided input. **Attachment E** includes a summary of the input. At the Jan. 4 meeting, if council would like additional information about the project, staff will be prepared to share that.

**Building Height Land Use Code Amendment**
In November, the city started the building height regulatory project with the community to address standards for building heights as guided by the BVCP and its policies. Land Use Code changes could regulate where buildings up to the 55-foot City Charter height limit may be permitted. In exchange for increased building height, applicants will be required to provide additional affordable housing. The project’s anticipated completion is July 2018 because of the expiration of Ordinance 8172. Prior to a 2015 ordinance, the city code permitted height requests to build between 35-feet and 55-feet through the Site Review process anywhere in the city. In early 2015, City Council adopted a two-year building height ordinance to address the community concern that height modification requests (up to 55 feet) could have been considered on any property in the city through the Site Review process. The ordinance does allow height modification requests in a few select areas within the city. It also requires city staff to analyze, through a public process, circumstances where height modifications may be appropriate.

Staff has been involving the community in focus groups and discussions and building on extensive community feedback from recent projects, including two surveys as part of the BVCP update. City Council could decide to remove the expiration date on the ordinance and keep the standards in place, or shift the focus on the project based on some of the feedback received to date which seems to be centered around urban design quality and ability to achieve affordable housing community benefits, along with a few other key points of feedback as summarized in **Attachment F**.

**NEXT STEPS**

Upcoming events at which planning and housing-related issues will be discussed:

- Jan. 9, Council Study Session: Central Broadway Planning Projects, including Alpine-Balsam Area Plan.
- Jan. 19 to 20, Council Retreat
- Jan. 23, Council Study Session: Housing Advisory Board
ATTACHMENTS

A. 2018/19 Timeline for Planning and Housing Work Items
B. 2018/19 Planning and Housing Work Plan with Public Engagement Spectrum
C. BVCP Action Plan, Sept. 2017
D. Subcommunity and Area Planning Description
E. Summary of ADU Regulatory Project, community feedback
F. Summary of Building Height Regulatory Project, community feedback
## 2018/19 Timeline for Planning Work Items

### 2018

#### Q1
- **1/9**: Central Broadway, Alpine-Balsam Study Session
- **1/23**: Housing Board Study Session
- **Q1 (TBD)**: Commercial Linkage Fees, revisit
- **Q1/2**: Housing Board, seated and functioning
- **Q1**: 30th and Pearl joint development agreement and review
- **Q1**: Ponderosa Mobile Home Park concept plan

#### Q2
- **Q2**: CU South/South Boulder Creek Flood Mitigation Study Session
- **Q2**: Options for Alpine-Balsam and Civic Area East Bookend
- **Q2**: Middle income downpayment assistance pilot scoped
- **Q2**: Open Homeless Resource Center

#### Q3
- **Q3**: Ponderosa annexation/site plan
- **Q3**: Consider ADU ordinance
- **Q3**: Land Use Code Changes - Building Height (on current work plan)
- **Q3/4**: Regional housing best practices
- **Q4**: Alpine-Balsam and Civic Area Preferred Directions

#### Q4
- **Q4**: Alpine-Balsam and Civic Area Preferred Directions

### 2019

#### Q1/Q2
- **TBD**: Land Use Code changes - Community Benefit (if building height schedule changes)
- **TBD**: Other Land Use Code updates
- **Q2**: Alpine-Balsam and Civic Area East Bookend Area Plans
- **Q3**: Begin other area planning efforts
- **Q3**: Begin other Land Use Code updates

### PLANNING ITEMS

#### 1/9 Central Broadway
- Alpine-Balsam and Civic Area East Bookend Area Plans

#### Building Height
- Land Use Code changes - building height ordinance

#### Enhanced Community Benefit
- Land Use Code changes - enhanced community benefits and other code updates, council IP in Jan.

#### Linkage Fees
- Commercial Linkage fees is a potential new item, per council priorities - Timing TBD

#### CU South Coordination
- Coordinate with utilities on South Boulder Creek Flood Mitigation and potential annexation of the property

#### Large Lot/Subdivision
- Address large lot, home size issues - Not currently on work plan

### Key Milestones
- Council (SS, direction, adopt)
- Major public engagement milestone

---

**Updated 12/26/17**
2018/19 timeline for housing work items (See p. 1 for planning items)

Housing Board

Q1
Finalize redevelopment plans for city owned 30th and Pearl site

Q2
Create and seat a Housing Advisory Board

Inclusionary Housing Update

Q2
Implement new ordinance (50% effective July 1) - Council consider design review in June

ADUs - Land Use Code

Q2
Implement new ordinance (50% effective July 1) - Council consider design review in June

Ponderosa

Q2
Mobile Home Park community stabilization

Affordable Commercial Space

Q2
Address commercial space affordability challenges

Regional Housing Strategy

Q1
Team formed (Q1) 10 best practices (Q3/4) Implement best practices

Middle Income Downpayment

Initial scoping

Homeless Strategy

Continue to place vouchers

Fair Housing Assessment

Fee Waivers and Expedited Review

to be addressed by housing board

Tiny Homes and Microunits

not on work plan

See page 1 for “outcomes”

Key milestones:
- Council (iss, direction, adopt)
- Major public engagement milestone

Updated 12/26/17
## Planning & Housing

### Draft 2018/19 Work Plan

<table>
<thead>
<tr>
<th>Scope</th>
<th>2018 Q1-2</th>
<th>2018 Q3-4</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Planned Actions</strong></td>
<td><strong>Planned Actions</strong></td>
<td><strong>Anticipated Work</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Public Engagement Council / Boards</strong></td>
<td><strong>Study Session Jan. 9. Develop preliminary options and analysis for Study Session May</strong></td>
<td><strong>Work toward preferred plan and implementation strategies. Study session Nov./Dec.</strong></td>
<td><strong>Finalize area plans. Adoption June</strong></td>
</tr>
<tr>
<td><strong>A Alpine-Balsam Area Plan (and coordination with Civic Area East Bookend and Central Area Planning Projects). Prepare area plans for the area around the hospital site and the east end of the civic area. $</strong></td>
<td>Study Session Jan. 9. Develop preliminary options and analysis for Study Session May/June</td>
<td>Work toward preferred plan and implementation strategies. Study session Nov./Dec.</td>
<td>Finalize area plans. Adoption June</td>
</tr>
<tr>
<td><strong>B Land Use Code amendment to address building heights. Standards will address buildings up to 55-foot City Charter and modifications through site review and affordable housing community benefit. $</strong></td>
<td>Hold focus groups and prepare analysis and recommendations. 1st and 2nd reading (May, June)</td>
<td>3rd reading (July)</td>
<td>TMD</td>
</tr>
<tr>
<td><strong>C Community Benefit. Land Use Code amendments to address enhanced community benefit and other code changes as recommended by Planning Board to implement BVCP. $</strong></td>
<td>Have begun to gather some input on community benefit as part of building height discussions. Otherwise needs to be scoped</td>
<td>Initiate work around the code changes</td>
<td>TBD</td>
</tr>
<tr>
<td><strong>D CU South. Coordination on South Boulder Creek Flood Mitigation and CU-South planning and annexation terms, as informed by the BVCP Guiding Principles and following completion of the preliminary design for the site.</strong></td>
<td>Utilities is coordinating flood analysis work through May. PH&amp;S will coordinate next steps</td>
<td>Level of engagement and work depends on previous steps</td>
<td>TBD</td>
</tr>
<tr>
<td><strong>E Neighborhood Plan/Residential Infill Pilot Project. Develop process to define the purpose, criteria and selection process and then commence planning work in late 2018</strong></td>
<td>Scoping and input</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td><strong>Commercial Linkage Fees, revisited</strong></td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td><strong>Large Lot Subdivision/ House size</strong></td>
<td>Not scoped - TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td><strong>Phase 2 Transit Village Area Plan.</strong></td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td><strong>BVRC. Land Use Code amendments for Boulder Valley Regional Center to encourage better balance jobs and housing and diverse and affordable housing opportunities.</strong></td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td><strong>Industrial Lands. Land Use Code amendments for Light Industrial zoning districts to encourage compatible diverse and affordable residential and mixed use along with affordable service industrial.</strong></td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
</tbody>
</table>

### HOUSING

<table>
<thead>
<tr>
<th>Scope</th>
<th>2018 Q1-2</th>
<th>2018 Q3-4</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Public Engagement Council / Boards</strong></td>
<td><strong>Study Session scheduled for Jan. 23</strong></td>
<td><strong>Board up and functioning</strong></td>
<td><strong>TBD</strong></td>
</tr>
<tr>
<td><strong>A Housing Advisory Board. Create a city board to provide advice to City Council and staff on housing issues.</strong></td>
<td>Study Session scheduled for Jan. 23</td>
<td>Board up and functioning</td>
<td>TBD</td>
</tr>
<tr>
<td><strong>B 30th and Pearl Redevelopment. $ A mixed-income, mixed-use redevelopment on the city-owned property at 30th and Pearl.</strong></td>
<td>Council consideration of a joint development agreement in March</td>
<td>Form-based code review submittal</td>
<td>Technical document submittal and construction to begin</td>
</tr>
<tr>
<td><strong>C Accessory Dwelling Units / Owner Accessory Units. Identify minor code changes to reduce barriers to accessory housing.</strong></td>
<td>Study Session scheduled for February 27 and Council consideration of changes scheduled for May</td>
<td>Monitoring and enforcement</td>
<td>Monitoring and enforcement</td>
</tr>
<tr>
<td><strong>D Inclusionary Housing Program Update Implementation. Based on the 2017 update to create a middle-income requirement and incentize on-site affordable units, create an affordable housing design review process and online incentive calculator.</strong></td>
<td>Design review in place and implementation of new middle income requirement begins Jul. 1</td>
<td>Consultant team will bring forward and annexation and site plan in the third quarter</td>
<td>Consultation and working groups</td>
</tr>
<tr>
<td><strong>E Ponderosa Community Stabilization. $ Ensure the upgrade of infrastructure, annexation into the city and the creation of sustainable housing options.</strong></td>
<td>Refine housing options – rehab existing homes and build new small, energy-efficient homes. Concept Plan in the first quarter</td>
<td>Consultant team will bring forward and annexation and site plan in the third quarter</td>
<td>Consultant team will bring forward and annexation and site plan in the third quarter</td>
</tr>
<tr>
<td><strong>F Affordable Housing Community Benefit. $ Adopt community benefit regulations to establish incentive-based zoning specific to affordable housing.</strong></td>
<td>Building Height Code Amendment project to be completed by July</td>
<td>Consultant team will bring forward and annexation and site plan in the third quarter</td>
<td>Consultant team will bring forward and annexation and site plan in the third quarter</td>
</tr>
<tr>
<td><strong>G Affordable Commercial Space. Develop a program to preserve permanently affordable commercial space.</strong></td>
<td>Study Session scheduled for June</td>
<td>Implement pilot at 30th and Pearl. Coordinate program refinements with the city’s retail strategy</td>
<td>Continue to identify strategies/opportunities to secure affordable commercial space</td>
</tr>
</tbody>
</table>

---

December 26, 2017

City Council Meeting Page 132 of 518
### Key to Public Participation Spectrum (level of engagement with community)

- **inform** (lower level, mostly communication)
- **consult or involve** (medium to high level, listen to concerns and aspirations and reflect in alternatives, may include some collaboration with boards and council)
- **collaborate** (high level, with multiple groups, community wide, look for advice and innovation and incorporate recommendations)
- **collaborate** (high level but more focused with a smaller group, look for advice and innovation and incorporate recommendations)
- **need to scope project and level of effort for 2019 and beyond**

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>Middle Income Down Payment Assistance Pilot. $ Explore a pilot program creating a revolving loan for middle-income home purchases.</td>
<td>M</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td>Initial scoping completed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>Regional Housing Strategy Implementation. Outlines a collaborative approach to addressing affordable housing and establishes regional housing goals (targets for units/funding by 2035).</td>
<td>M</td>
<td>L</td>
</tr>
<tr>
<td></td>
<td>Develop regional policy team to support local housing tools. Develop a monitoring and evaluation plan to measure the outcomes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Identify best practices for each community</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Implement unique housing policies in each community</td>
<td></td>
<td></td>
</tr>
<tr>
<td>J</td>
<td>Homeless Strategy Implementation. Support the City’s Homeless Strategy by generating affordable units serving those most vulnerable to a lack of housing, including those who are chronically homeless.</td>
<td>M</td>
<td>L</td>
</tr>
<tr>
<td></td>
<td>Create a homeless resource center and coordinated entry facility</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>First year of voucher match. Continue collaboration to place vouchers. Identify opportunity to add new units in support of the strategy</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Complete renovations for the opening of the homeless resource center and coordinated entry facility</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Third year of voucher match. Continue collaboration to place vouchers. Invest in new units</td>
<td></td>
<td></td>
</tr>
<tr>
<td>K</td>
<td>Fair Housing Assessment. $ Participate in a regional HUD required assessment that helps communities analyze challenges to fair housing choice and establish their own goals and priorities to address the fair housing barriers.</td>
<td>M</td>
<td>L</td>
</tr>
<tr>
<td></td>
<td>Complete research/draft plan, request public comment, submit to HUD</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Implementation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Implementation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L</td>
<td>Fee Waivers and Expedited Review. Explore options for projects that provide more than the minimum required affordable housing.</td>
<td>M</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td>TBD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>Tiny Homes and Micro Units. Address code and related issues that hinder development of “tiny homes” and “microunits” in Boulder; consider potential pilot/demonstration projects.</td>
<td>H</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td>TBD</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Boulder Valley Comprehensive Plan (BVCP) Action Plan

2015 Major Update to the BVCP

September 5, 2017

The Action Plan serves as an implementation tool of the BVCP and outlines the actions needed to implement policies that are currently not addressed through other plans and programs. It establishes the timing and priorities for new program initiatives, planning projects and regulatory changes to implement this major update – before the next major update. It is intended to be flexible and responsive to city goals and resources. Each action item has varying levels of timing, complexity, and resource needs, but almost all projects will entail community engagement and public participation.

The BVCP Action Plan is adopted by City Council after each Major Update and revisited alongside the council work plan and budget process – in this case in early 2018. It creates a framework to help council set priorities for new initiatives or programs, planning projects and regulatory changes to implement the major update to the BVCP. The county is sent a referral and invited to identify those actions, projects or other implementation activities in which they wish to participate. The county may also propose new or additional collaborative actions for city consideration during the major update.

The Action Plan does not include reference to work being led by other departments that may implement the plan or that will be part of other efforts (e.g., the Transportation Master Plan, Open Space Master Plan, Economic Sustainability Strategy, other items on the Housing Boulder work plan, or ongoing core services in Planning, Housing & Sustainability department).

The Action Plan table includes:

- **Action Item**: The type of work to be done.
- **BVCP Topic & Chapter**: The focus area addressed and the BVCP chapter (and policy).
- **Lead Department**: The department that will oversee the initiative, recognizing most work is collaborative with other departments, organizations, businesses, and community members.

- **Timing**: The year to initiate the project based on priorities within the work plan:
  - **Near-term**: 2017-2018
  - **Mid-term**: 2019-2020
  - **Long-term**: 2021+

- **Level of Effort**: An estimate of staff time and resources and council and community effort needed to complete the work.

- **Status**: A note about whether project has been started.

Ongoing and Near-Term Actions

The following ongoing and near-term projects are underway or will be initiated and continue into 2018:

1. Alpine-Balsam Area Plan, including coordination with Boulder County regarding the Iris and Broadway site.
2. Coordination with CU on next steps for planning for the CU South site mainly focused around utilities studies.
3. Modifications to the Inclusionary Housing Ordinance.
4. Land Use Code Amendments to address height modifications through Site Review (up to City Charter 55-foot height limit) and address the affordable housing community benefit.
5. Land Use Code Amendments for accessory dwelling units (ADUs).
7. Initiate Land Use Code Amendments to address Enhanced Community Benefit/Site Review, including some other Code amendments prioritized from the ongoing list.
## BVCP Action Plan

<table>
<thead>
<tr>
<th>ACTION ITEMS</th>
<th>SUBCOMMUNITY &amp; AREA PLANNING</th>
<th>LEAD DEPT.</th>
<th>TIMING</th>
<th>LEVEL OF EFFORT</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Develop an area plan for Alpine-Balsam, possibly with county-owned site at Iris and Broadway.</strong></td>
<td>The city will use the foundation of the guiding principles, strategies, and performance criteria in the Alpine-Balsam Vision Plan, outline the desired character of redevelopment, including its character and scale, land uses, streets and parking, and other aspects of the public realm. Additionally, staff will coordinate with Civic Area / Central Area planning efforts and the City Facilities Assessment and the county. Use innovative and creative community engagement processes, as recommended through the Public Participation Working Group’s process and Alpine-Balsam Vision Plan.</td>
<td>PH&amp;S: Planning, Ch. V</td>
<td>Near-term</td>
<td>High</td>
<td>Started</td>
</tr>
<tr>
<td><strong>Coordinate on CU South next steps.</strong></td>
<td>The city will define an ongoing public engagement process for future coordination and planning for the site with CU and the county using the BVCP land use designation and guiding principles to guide that process and to work toward an annexation agreement (intergovernmental agreement) with CU.</td>
<td>Ch. III, Sec. 1 (Policy 1.05) CU South Guiding Principles</td>
<td>PH&amp;S: Planning coord. with Public Works utilities</td>
<td>Near-term (ongoing)</td>
<td>Medium</td>
</tr>
<tr>
<td><strong>Determine a neighborhood planning/infill pilot project.</strong></td>
<td>The plan notes that a self-selected neighborhood may move forward according to the criteria in the plan and interests in certain outcomes, including addressing housing types that may be appropriate as infill in residential areas of Boulder. Outcomes of the neighborhood infill or planning project may include but are not limited to area plans, regulations, new residential building types or others. While the survey supported all infill types (e.g., Accessory Dwelling Units (ADUs), detached homes on existing lot, duplex conversion, or cottage court style units), responses varied by neighborhood.</td>
<td>PH&amp;S: Planning with CMO</td>
<td>Near-term</td>
<td>High</td>
<td>Not Started</td>
</tr>
<tr>
<td><strong>Begin phase 2 of the 2007 Transit Village Area Plan.</strong></td>
<td>The city will determine when to begin Phase 2 of Transit Village Area Plan (TVAP) – for the area east of the tracks and west of 30th Street. The Implementation Plan for TVAP notes that Phase 2 will occur after Phase 1, 10 to 15 years after plan adoption. The plan calls for: reassessing TVAP Phase 2 plan land uses, determining if any adjustments are necessary for the Boulder Junction area, developing a plan for providing public improvements in Phase 2 and a market study for land uses, and beginning Phase 2 land use and zoning changes. Property owners would be part of the effort.</td>
<td>PH&amp;S: Planning, Ch. V</td>
<td>Mid to Long-term</td>
<td>Medium to High</td>
<td>Not Started</td>
</tr>
<tr>
<td>ACTION ITEMS</td>
<td>BVCP TOPIC &amp; CHAPTER</td>
<td>LEAD DEPT.</td>
<td>TIMING</td>
<td>LEVEL OF EFFORT</td>
<td>STATUS</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------------</td>
<td>------------------------------------------------</td>
<td>-----------------</td>
<td>----------</td>
<td>-----------------</td>
<td>------------</td>
</tr>
<tr>
<td><strong>Develop an area plan for 55th Street and Arapahoe Avenue.</strong></td>
<td>Subcommunity and Area Planning, Ch. V</td>
<td>PH&amp;S: Planning</td>
<td>Mid-term</td>
<td>High</td>
<td>Not started</td>
</tr>
<tr>
<td>Use the policies identified in the BVCP for neighborhood activity centers to develop an area plan for the area near 55th and Arapahoe focusing on the future mix of uses that may be appropriate. Develop a public engagement process that includes businesses, residents and neighbors and property owners. Coordinate with East Arapahoe Transportation Plan project to ensure compatibility between mobility options and land use.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Prioritize other future area plans.</strong></td>
<td>Subcommunity and Area Planning, Ch. V</td>
<td>PH&amp;S: Planning</td>
<td>Long-term</td>
<td>Medium</td>
<td>Not started</td>
</tr>
<tr>
<td>Based on the policies of the plan for mixed use centers, the city will identify other neighborhood centers or mixed-use commercial areas where area planning should be done accomplish BVCP policies. The city will prepare community engagement plans that include affected and interested parties and neighbors. Areas that may be planned for over a slightly longer time horizon include: (1) East Walnut area, east of 33rd Street / South of Pearl Street, (2) Basemar Center, (3) Meadows Center, (4) Table Mesa Center, and (5) Diagonal Plaza.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Update and expand the subcommunity fact sheets and maps.</strong></td>
<td>Subcommunity and Area Planning, Ch. V</td>
<td>PH&amp;S: Planning</td>
<td>Long-term</td>
<td>Low</td>
<td>Started</td>
</tr>
<tr>
<td>Using input from surveys and community meetings, staff is compiling a summary planning sheet for each subcommunity that identifies issues, needs and desires. Staff is cataloging the information and adding it to the existing subcommunity fact sheets and online storymaps.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>LAND USE CODE UPDATES TO SUPPORT BVCP GOALS INCLUDING HOUSING</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Update Inclusionary Housing Ordinance.</strong></td>
<td>Housing Affordability and Diversity Ch. III, Sec. 7</td>
<td>PH&amp;S: Housing</td>
<td>Near-term</td>
<td>Medium</td>
<td>Started (complete in Oct.)</td>
</tr>
<tr>
<td>The city will amend the ordinance to include a middle-income housing requirement in addition to the 20 percent requirement for low- and moderate-income households, add incentives for on-site units, increase the ceiling on the annual adjustment and introduce a staff-level design review.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Amend the Land Use Code for building height (up to City Charter 55-ft.) including affordable housing community benefit.</strong></td>
<td>Design Quality and Placemaking (Height), Ch. III, Sec. 1 (Policy 1.11), Sec. 2 (Policy 2.3, Building Height)</td>
<td>PH&amp;S: Planning</td>
<td>Near-term (finish July 2018)</td>
<td>Medium to High</td>
<td>Started</td>
</tr>
</tbody>
</table>
### Amend the Land Use Code for accessory dwelling units (ADU).

The city will identify incremental changes to encourage accessory dwelling units with the goal of promoting a diversity of housing opportunities in the city. The five areas include:

- Simplifying current regulations;
- Modifying the saturation requirement to increase it;
- Providing flexibility in limits to unit size;
- Removing or modifying the parking requirement;
- Exploring location-specific implementation.

Staff will engage the community prior to preparing a proposal for public hearings.

<table>
<thead>
<tr>
<th>ACTION ITEMS</th>
<th>BVCP TOPIC &amp; CHAPTER</th>
<th>LEAD DEPT.</th>
<th>TIMING</th>
<th>LEVEL OF EFFORT</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Amend the Land Use Code for accessory dwelling units (ADU).</strong></td>
<td>Housing Affordability and Diversity Ch. III, Secs. 2 (Policy 2.11) and 7 (Policy 7.06)</td>
<td>PH&amp;S: Housing with Planning</td>
<td>Near-term</td>
<td>Medium</td>
<td>Started</td>
</tr>
</tbody>
</table>

### Amend the Land Use Code, Site Review Criteria for enhanced community benefit and to achieve more affordable housing.

For land use or zoning district changes that result in increases in density or intensity of development beyond what is permitted by underlying zoning, the city will develop regulations and incentives so that new development provides benefits to the community beyond those otherwise required by the underlying zoning. Develop a scope of work that includes reference to Policy 1.11 and the benefits identified therein, addresses technical and economic analysis, and includes a process for community outreach and collaboration.

Develop regulations to ensure that when additional intensity is provided through changes to zoning or variances to zoning requirements, a larger proportion of the additional development potential for the residential use will be permanently affordable housing.

<table>
<thead>
<tr>
<th>ACTION ITEMS</th>
<th>BVCP TOPIC &amp; CHAPTER</th>
<th>LEAD DEPT.</th>
<th>TIMING</th>
<th>LEVEL OF EFFORT</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Amend the Land Use Code, Site Review Criteria for enhanced community benefit and to achieve more affordable housing.</strong></td>
<td>Design Quality and Placemaking (Community Benefit), Ch. III, Sec. 1 (Policy 1.11) Housing Affordability and Diversity Ch. III, Sec. 7</td>
<td>PH&amp;S: Planning</td>
<td>Near-term (may start with building height item but take longer to finish)</td>
<td>Medium to High</td>
<td>Not Started</td>
</tr>
</tbody>
</table>

### Prioritize and ongoing list of potential Land Use Code amendments.

The city has compiled a list of potential Land Use Code amendments based on input from staff, Planning Board, the community, and council. Many of those changes relate to aspects of the Code and regulations that are not yielding desired development outcomes, either procedures or technical provisions (e.g., parking, use tables, site review criteria beyond community benefits). In fall 2017, staff, Planning Board and Council will again evaluate proposed amendments on the list and prioritize work to be done to accomplish community goals identified through the BVCP and as part of separate efforts. The list of Proposed Changes to the Land Use Code will go to Planning Board and then council as an information packet to invite prioritization.

<table>
<thead>
<tr>
<th>ACTION ITEMS</th>
<th>BVCP TOPIC &amp; CHAPTER</th>
<th>LEAD DEPT.</th>
<th>TIMING</th>
<th>LEVEL OF EFFORT</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prioritize and ongoing list of potential Land Use Code amendments.</strong></td>
<td>Housing Affordability and Diversity, Design Quality and Placemaking</td>
<td>PH&amp;S: Planning</td>
<td>Some code changes Near-term, others Mid-term</td>
<td>High</td>
<td>Not Started</td>
</tr>
<tr>
<td>ACTION ITEMS</td>
<td>BVCP TOPIC &amp; CHAPTER</td>
<td>LEAD DEPT.</td>
<td>TIMING</td>
<td>LEVEL OF EFFORT</td>
<td>STATUS</td>
</tr>
<tr>
<td>-------------</td>
<td>----------------------</td>
<td>------------</td>
<td>--------</td>
<td>----------------</td>
<td>--------</td>
</tr>
<tr>
<td><strong>Amend the Land Use Code BR-1 &amp; BC-2 to encourage future housing opportunities in the Boulder Valley Regional Center.</strong>&lt;br&gt;The city will explore how to allow and incentivize additional diverse housing types in the Boulder Valley Regional Center while addressing other community priorities such as high quality urban design and walkable places. This work will entail additional community, business, and property owner engagement. Code amendments may address standards in these districts such as parking, open space, connections, mixed-use, mobility, community benefits and building scale for each zoning district. Amendments may include revisions to the BVRC design guidelines or potential for form-based plans and codes.</td>
<td>Housing Affordability and Diversity, Jobs/Housing Balance, Ch. III, Sec. 2 (Policy 2.18)</td>
<td>PH&amp;S: Planning with Housing</td>
<td>Mid-term</td>
<td>High</td>
<td>Not Started</td>
</tr>
<tr>
<td><strong>Amend the Land Use Code for Light Industrial Areas and General Industrial (IG) zoning district.</strong>&lt;br&gt;The city will include the public and stakeholders in a process to analyze and modify criteria to encourage residential and retail infill in IG zoning districts. Reevaluate contiguity requirements and encourage residential development in locations near services, retail and transit. Maintain existing allowed industrial uses. Allow additional limited retail and foster redevelopment into walkable mixed-use “industrial districts”. Address other standards for the IG district such as shared parking and open space. Consider modifying review procedures for any residential project in an IG zone (e.g., Site Review).</td>
<td>Housing Affordability and Diversity, Jobs/Housing Balance, Ch. III, Sec. 2 (Policy 2.21)</td>
<td>PH&amp;S: Planning</td>
<td>Mid-term</td>
<td>High</td>
<td>Not Started</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>METRICS &amp; OTHER ITEMS</th>
<th>BVCP TOPIC &amp; CHAPTER</th>
<th>LEAD DEPT.</th>
<th>TIMING</th>
<th>LEVEL OF EFFORT</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Update the BVCP Natural Ecosystems Map.</strong>&lt;br&gt;The city will assess the current data and criteria used in the Ecosystems map to determine relationship with the city’s current Ecosystem Services. Provide this information in conjunction with the Open Space Mountain Parks (OSMP) master planning process.</td>
<td>Resilience Natural Environment, &amp; Master Planning</td>
<td>PH&amp;S: planning with OSMP and others</td>
<td>Mid to Long-term</td>
<td>Low to Medium</td>
<td>Started</td>
</tr>
<tr>
<td><strong>Refine BVCP indicators.</strong>&lt;br&gt;In coordination with the city’s new online dashboard, establish a process for narrowing, measuring, and using indicators to track progress and understand when major changes to the BVCP may be needed.</td>
<td>Metrics for Plan Ch. I, BVCP Indicators</td>
<td>PH&amp;S: Planning with City Manager’s Office</td>
<td>Long-term ongoing</td>
<td>Low to Medium</td>
<td>Started with CMO</td>
</tr>
</tbody>
</table>
ATTACHMENT D - SUBCOMMUNITY AND AREA PLANNING

Council members have expressed interest in subcommunity and area planning. This white paper provides information on:

1. How Boulder currently defines subcommunity and area planning.
2. How the Boulder Valley Comprehensive Plan (BVCP) major 2015 update addresses the issue.
3. Initial research of cities and how they address area planning or neighborhood planning. (Note: more research will follow for the Jan. 4 discussion.)

1—Boulder’s Definitions and Approach to Area Planning

The BVCP provides background and guidance on the use of subcommunity and area planning in Boulder. Content from that section is summarized below; the full text can be reviewed in Ch. V, pp. 119-127.

Subcommunity and area planning bridges the gap between the broad policies of the Boulder Valley Comprehensive Plan and site-specific project review (development applications or city capital projects). Area plans typically address planning issues at a more detailed level than subcommunity plans. The planning horizon is the same as that for the Comprehensive Plan – 15 years. Such plans are prepared through a process that requires residents, neighbors, businesses and landowners and city (and sometimes county) departments to work together toward defining the vision, goals and actions for an area. The subcommunity and area planning process includes:

- Approach to Area Planning
- Identifying opportunities to address Comprehensive Plan goals;
- Developing criteria for decision-making that balance local area interests with those of the broader community;
- Involving the community;
- Identifying priorities and financing for recommendations; and
- Establishing a framework for implementing and ensuring future compliance with the plan.
Subcommunity Planning
Boulder has ten subcommunity planning areas within the Service Area: Central Boulder (north and south), Crossroads, the University of Colorado, East Boulder, Southeast Boulder, South Boulder, North Boulder, Palo Park, and Gunbarrel.

When the subcommunity and area planning program was instituted in 1990, the idea was to develop plans for all of the subcommunities. The North Boulder (NoBo) Subcommunity Plan was the first because the area had the largest amount of vacant land in the city at the time and a significant amount of change was anticipated. As the city has become more fully developed, that same type of planning at the subcommunity level has lessened, and the shift has been on area plans. If subcommunity plans were to be developed, they likely would address fewer issues than were tackled in the NoBo plan and would be prioritized according to the criteria below.

Area Planning
Area plans are developed for areas or corridors with special problems or opportunities that are not adequately addressed by comprehensive planning, subcommunity planning or existing land use regulations. Area planning is initiated as issues or opportunities arise following the criteria below. Subcommunity and area plans are evaluated as needed and monitored annually through the Capital Improvements Program (CIP) and the Boulder Valley Comprehensive Plan Action Plan.

Criteria for Selecting the Priority for Subcommunity and Area Plans
The criteria for selecting the priority for the development of subcommunity and area plans are:

- Extent to which the plan implements Boulder Valley Comprehensive Plan goals;
- Imminence of change anticipated in the area;
- Magnitude of an identified problem;
- Likelihood of addressing a recurring problem;
- Cost and time effectiveness of doing the plan; and
- Extent to which plan improves land use regulations, the development review process and the quality of public and private improvements.
Boulder’s Adopted Plans

The city has adopted the following plans shown on the map on the previous page, and with a link available on the Planning, Housing & Sustainability department webpage:

- Boulder Plaza Subarea Plan, 1992;
- North Boulder Subcommunity Plan, 1995;
- University Hill Area Plan, 1996;
- Crossroads East/Sunrise Center Area Plan, 1997;
- Gunbarrel Community Center Plan, 2004;
- Transit Village Area Plan, 2007; and
- Junior Academy Area Plan, 2009.

Each of these plans typically took about 18 months to two years to complete to adoption, involved community members, boards and council (and sometimes county) extensively. The final plans include a level of detail to convey not only vision and policy intent but also implementation strategies such as financing and necessary regulatory changes.

2—Subcommunity Planning and the BVCP Major Update

The 2015 Major Update to the BVCP included a new section entitled “Criteria for Determining a Neighborhood Planning/Infill Pilot Project” which is described below and resides on page 121 of the plan. Additionally, a staff completed work at the subcommunity level as part of the BVCP update, including:

- Includes the Subcommunity Fact Sheets and online Story Maps with existing conditions data, land use maps, historic timelines.
- Two sets of community Listening Sessions to collect input and feedback on issues of importance at the subcommunity level and priority focus topics.
- The two BVCP Surveys were cross-tabulated by subcommunity, providing another source of insight on issues and opinions at this scale.

Some additional work could be done to address other topics such as neighborhood character (e.g., areas of stability), unique assets, land use compatibility, and other service and infrastructure needs. Rather, this would be more appropriate as part of future small area or subcommunity plans that would be individually scoped for that purpose.

Criteria for Determining a Neighborhood Planning/Infill Pilot Project

Outcomes of a neighborhood infill or planning project may include but are not limited to area plans, regulations, new residential building types or other outcomes. The criteria for establishing a neighborhood planning/infill pilot include:

- A high level of interest on the part of the neighborhood residents and an organization that will work with the city and sponsor the plan or project;
- Recent trends that have created changes in the neighborhood and identified imminence of change anticipated in the future;
- Desire to address neighborhood needs and/or improvements through creative solutions;
• Agreeableness to identify solutions for communitywide goals and challenges as well as to address local needs;
• Interest in addressing risk mitigation (e.g., addressing potential hazards) and in building community capacity and the ability to be more self-sufficient and resilient; and
• Demonstrated interest on the part of the neighborhood residents and organization to test and apply innovative, contextually-appropriate residential infill including but not limited to duplex conversions, cottage courts, detached alley houses or accessory dwelling units or small mixed-use or retail projects considering areas of preservation.

BVCP Updated Policies and Action Plan – Area Planning
Certain BVCP policies also acknowledge the role of area planning. For instance, Policy 2.18, Boulder Valley Regional Center and 28th Street, and Policy 2.19, Neighborhood Centers states “the city... will pursue area planning efforts to support evolution of these centers to become mixed use places and strive to accomplish the guiding principles”... noted as part of the policy. 2.41, Enhanced Design, also references area planning as a tool.

The BVCP Action Plan also identifies “55th Street and Arapahoe Avenue” as a mid-term area planning priority and “Prioritizing other area plans” (e.g., East Walnut Area, east of 33rd/South of Pearl, Base Mar, Diagonal Plaza) as longer-term items

3—Case Studies: How Other Cities Approach Small Area and Neighborhood Planning
To help inform the treatment of subcommunity planning in the BVCP, staff has begun research on small area planning programs in other somewhat comparable cities, asking questions such as how the program is resourced; how city service units are organized; how the community prioritizes areas for planning; and how communities address their full breadth of planning needs by combining different approaches. Initially, research is focusing on communities such as:

- Asheville, NC
- Austin, TX
- Boise, ID
- Denver, CO
- Fort Collins, CO
- Lakewood, CO
- Madison, WI
- Seattle, W

In early 2018, staff will be prepared to present more information to council.
ACCESSORY DWELLING UNIT UPDATE

Background
City Council responded to community requests to encourage the creation of new Accessory Dwelling Units (ADUs) by requesting that staff bring forward a list of incremental changes to city regulations that better allow accessory units while still addressing potential neighborhood impacts. Council has identified this as a work plan item for the past several years. On Aug. 22, 2017, staff presented council with a list of potential regulatory changes that would remove some of the barriers to creating accessory units, including but not limited to, addressing standards regarding unit concentration, sizes, and parking. The project will include incremental and focused changes to the regulations, not wholesale changes.

DRAFT Why Statement
Increasing the diversity of housing opportunities is a city goal and priority as identified in the recent Boulder Valley Comprehensive Plan update, discussed during a 2012 Study of ADUs, and as part of community discussions regarding housing over the past decade or more. The current regulations regarding accessory dwelling units have resulted in a relatively small number of legal accessory dwelling units (230 as of October 2017) being constructed since the first ordinance was adopted in 1983.

DRAFT Purpose Statement
The city, in collaboration with the community, will craft a proposal for incremental changes to the relevant regulations addressing accessory dwelling units (i.e. Accessory Dwelling Units (ADUs) and Owner’s Accessory Units (OAU)) to simplify the regulations and remove apparent barriers to the construction of this housing type in ways that are compatible with neighborhoods.

The update is intended to achieve the following:
1. Provide additional flexibility to homeowners to stay in their homes by allowing for options that may either create supplemental revenue sources or allow for aging in place on the property.
2. Increase workforce and long-term rental housing opportunities while addressing potential impacts to existing neighborhoods.
Early Community Engagement
Since the council direction in August, staff has engaged community members to provide feedback in several ways.

- Online “share your ADU story” (over 230 comments have been received),
- Open Houses with staff presentation, Q&A, feedback forms (approximately 190 people attended the 2 events), and
- Meetings with groups, boards, individuals.

Feedback summaries and verbatim feedback can be found on the project website.

All of the feedback from the early phases of engagement will be documented and assessed to inform the discussion draft for community feedback early 2018.

Common themes from the input received to date:

- Generally, the in-person and written feedback has indicated strong support for ADUs as one tool to address Boulder’s housing affordability challenges and there is a high level of support for making changes to the regulations. Estimates show about 80 percent of comments either in support of ADUs or suggesting constructive changes to the code to address issues. Approximately twenty percent of comments oppose increasing ADUs.

- The concerns cited about ADUs pertain mostly to issues with rental housing in general. Many perceive rentals as a root problem of neighborhood nuisances (e.g., noise, parking, trash, upkeep, over-occupancy, etc.). Many believe the city is not doing enough to address these nuisances and enforcement needs to be strengthened. People also comment that illegal units are problematic and that if changes are considered, the city should work to help people make their units legal so there could be better enforcement.

- Many people expressed the desire to add an ADU but the requirements are currently prohibitive and confusing. While concerns have been expressed, a majority of the feedback indicates support for changes to allow more ADUs.

- Many ADU stories shared online illustrate how important ADUs are to households (e.g., housing for family members with special needs, additional income enabling them to stay in Boulder amid rising living costs, providing an option for aging in place, providing socio-economic diversity, increasing the ability to make upgrades to the property, etc.).

Responses to request for specific feedback

1. The draft purpose and why statements for the project
In-person and written comments indicate a high level of support for the purpose and why statements. Participants have suggested adding a goal to further define the
purposes of increasing the feasibility of creating ADUs (e.g., aging in place, affordability, housing inter-generational family members, etc.) Staff heard suggestions that the purpose statement does not go far enough and should include other types of units such as tiny homes. Conversely, a small segment of people is not supportive of the purpose statements expressing doubt that ADUs truly address affordability issues and will further exacerbate negative neighborhood impacts.

2. **Feedback on the list of focused code changes**
   Participants have provided a broad range of feedback on the list of potential code changes. Participants so far are overwhelmingly in favor of simplifying the regulations. Many suggest allowing a higher saturation level and making it easier to measure neighborhood saturation. Results are mixed regarding easing parking requirements ranging from “why are we more concerned with housing cars than people” to “parking is the biggest issue in my neighborhood and ADUs will only make it worse”. Similarly, the feedback option to prohibit short term rentals in ADUs in mixed. Short-term rentals are perceived as having higher neighborhood impacts but some current and future owners would like to retain the flexibility, and some financed the construction of their ADU with that additional income in mind. Keeping **owner occupancy requirements** is widely supported.

3. **Suggestions for analysis to understand potential benefits and impacts?**
   The most frequent suggestions include better understanding the number of existing unpermitted units that could be made legal; assessing demand and the potential number of new units that might be expected if code changes are approved; and understanding how adding ADUS or more ADUs in the neighborhood will affect housing prices and values.

4. **Additional factors to consider around neighborhood compatibility?** (question listed size and/or height of house, good design, sufficient yard or personal open space, parking, noise, lighting, and energy efficiency).
   Suggestions include: the degree to which the neighborhood already exhibits many of the stated objectives (e.g. inclusive of a variety of housing options); floor area ratio (FAR); setback requirements; potential increase in crime or vandalism; and vehicle speeds.
Attachment F: Building Height Modification Code Amendment Project Preliminary Input

Staff began the current phase of engagement in November with the start of a series of focus group sessions. In an effort to hear a broad range of opinions on the topic, city staff reached out to active members in the community, design professionals, developers, business owners, and neighborhood representatives. To complement these discussions, RRC Associates (the firm that conducted the 2015 and 2016 comprehensive plan surveys) conducted three additional focus group sessions. The groups organized by RRC Associates included a segment of the community not normally engaged in policy issues and included varying viewpoints (such as those with a relatively neutral position). Eight focus group sessions have been conducted, with the possibility of additional sessions in January. While more input is needed, some preliminary areas of agreement include:

Building Design/massing and Site Design
- Most participants view the design and massing of buildings and site layout as central issues. To many, the topic of building massing and site design overrode the issue of how tall a building should be.
- To some, there were concerns about the clustering of taller buildings located close to the street. It was expressed that despite some urban design principles to the contrary, taller buildings should be set back further from the street with more greenspace and amenities provided along the streetscape and that taller buildings not be located near one another.
- The code should encourage the first floor to be human scale, the materials should be high quality and the building should be contextually appropriate with the neighborhood.
- To many, viewshed protection (to the mountains) and how a project enhances residents’ quality of life are the central issues.

Location of Taller Buildings.
- There appears to be some general agreement around allowing for the possibility of additional building height in the eastern industrial areas of the city, and if adjacent neighborhoods have buy-in, some neighborhood centers like Basemar, Diagonal Plaza and Table Mesa Shopping Center may be appropriate for additional height.
- Many participants commented that subcommunity and area plans may help resolve challenging issues by identifying local solutions.
- Locations should be able to be self-mitigating for impacts (e.g., be transit-rich, have buy-in from nearby residents).

Connection to Affordable Housing
- Most agreed that affordable housing is the right priority to focus on now.
- Most participants in the development field described the current housing requirement for height modifications (i.e., 40% of floor area dedicated to affordable housing) as a roadblock to achieving more housing. These concerns were generally based on the complexities of financing mixed use projects, designing a profitable project and managing the unit inventory once built.
- Some were more concerned about the resultant building design and how the site and building could be experienced by the community rather than what uses the building might have within it to justify additional height.
Public Review Process

- A majority, if not all, participants appeared to agree that the process to consider building height modifications must be transparent and predictable.
AGENDA TITLE
Establishment of a Working Group for analysis of and recommendations to the city council concerning changes to the city of Boulder Charter and Code provisions addressing Campaign Finance, Initiative, Referendum and other Election rules and addressing other Election matters

PRIMARY STAFF CONTACT
Jane Brautigam, City Manager

REQUESTED ACTION OR MOTION LANGUAGE
Establishment of a Working Group for analysis of and recommendations to the city council concerning changes to the city of Boulder Charter and Code provisions addressing Campaign Finance, Initiative, Referendum and other Election rules and addressing other Election matters

ITEM UPDATES
Added Item 6B-Establishment of a Working Group for analysis of and recommendations to the city council concerning changes to the city of Boulder Charter and Code provisions addressing Campaign Finance, Initiative, Referendum and other Election rules and addressing other Election matters

ATTACHMENTS:
- Description
- Attachment
Establishment of a Working Group for analysis of and recommendations to the city council concerning changes to the city of Boulder Charter and Code provisions addressing Campaign Finance, Initiative, Referendum and other Election rules and addressing other Election matters

This document will set forth the charter for the working group established by the city council for analysis of the city of Boulder Charter and Code provisions related to campaign finance, initiative and referendum provisions and other election matters, with the expectation that the working group will prepare recommendations to the city council to tighten existing provisions, clarify certain requirements and simplify filing provisions.

1. The working group will be appointed by the city manager with the advice and consent of the city council. Preference will be given to members of the public with demonstrated knowledge and/or interest in election matters. Persons with strongly held opinions will be welcome to apply. The working group will endeavor to study, consider and recommend campaign finance regulations, as described in paragraph 4 below that may be permitted by the United States Constitution and the Colorado Constitution. The working group will also study, consider, and make recommendations to the council on election procedures and requirements. See paragraph 4 below for further direction on options sought by city council.

2. The working group will include, but not be limited to the following members:
   a. Representative(s) of the League of Women Voters of Boulder County, CO;
   b. Person(s) who participated in drafting the 1999 citizen initiated campaign finance reform measure for the Boulder City Charter;
   c. A person associated with Colorado Ethics Watch, a recently dissolved association focused on ethics in elections or similar organization;
   d. Person(s) who may have served on candidate or ballot measure committees in recent city of Boulder elections;
   e. Residents of the city of Boulder with a demonstrated interest in election matters. This may include persons who have been participants in the initiative process in the last three years or have other perspectives that may be helpful to the working group.

3. One person may represent multiple interests described above. Persons representing items 2(a) and 2(c) need not be residents of the city of Boulder. The working group shall have no more than 12 members, although it is preferred that the number be limited to 9.

4. It is the specific direction of the city council that the working group does not need to reach consensus on its recommendations. The council will welcome options for matters in which there is not consensus and arguments for and against any such options. In that regard, the working group is specifically directed to report to city council with the following options:
a. For campaign finance reform, propose recommended options to change the city charter or code that promote the integrity of the election process by:

   i. providing for maximum campaign finance disclosure under existing law;  
   AND

   ii. providing for maximum campaign finance disclosure in ways that have not previously been judicially recognized, considering both the objectives of election integrity and constitutional rights.

b. The working group will also study, consider, and make recommendations to the council on election procedures and requirements, including the following subject matter areas:

   i. Initiative and referendum filing dates, petition review and signatures;
   ii. Clarifying the role of the City Clerk in election contests;
   iii. Combined campaign ads and literature;
   iv. Charter amendments related to Ballot Measure 2Q on the November 2017 ballot; and
   v. Other matters such as the use of social media or technology in elections.

5. The city attorney will assign a member of the City Attorney’s Office as the project manager of the working group.

6. The city manager will retain outside legal counsel knowledgeable in election law in Colorado to assist the working group in its analysis of election laws.

7. The City Clerk or a member of the City Clerk’s staff should also attend the meetings of the working group to provide insight into the process used by the Clerk in handling petitions and other election matters.

8. The city manager will appoint a member of the city staff skilled in facilitation to be the facilitator of the working group.

9. All meetings of the working group will be open to the public and will be held only after public notice of the date, time and place.

10. The working group will provide regular updates to the city council and will prioritize time-sensitive issues, particularly any recommendations that would require the city council to place a measure or measures amending the Boulder City Charter on the November 2018 ballot. With that in mind, it is recommended that the working group provide options and recommendations to the Boulder city council in accordance with the following schedule:
a. Proposed Code amendments related to initiative and referendum shall be reported to the City council not later than March 15, 2018;
b. Proposed Charter amendments shall be reported to city council not later than April 15, 2018;
c. Proposed Code amendments related to campaign finance and other election provisions shall be reported to city council not later than June 19, 2018;
d. Other recommendations addressing election related matters such as appropriate use of social media and technology in campaigns shall be reported to city council not later than August 31, 2018.

11. Council intends that the working group will not continue to meet after it delivers its final report to the city council. This report will be delivered not later than August 31, 2018. The city council reserves the right to extend these deadlines at the request of the working group.

APPROVED this _____ day of __________________, 2018.

__________________________
Suzanne Jones, Mayor

Attest:

_____________________________
City Clerk
AGENDA TITLE
Discussion of Potential Climate Change Litigation

PRIMARY STAFF CONTACT
Tom Carr, City Attorney

REQUESTED ACTION OR MOTION LANGUAGE
Motion to direct the city manager and the city attorney to expend city resources to participate in litigation against large fossil fuel producers and/or large greenhouse gas (GHG) emitters to seek recovery of damages caused to the city by human-caused climate change.

ATTACHMENTS:
- Description
- Memo and Attachments
AGENDA TITLE
Discussion of Potential Climate Change Litigation

PRESENTERS
Jane S. Brautigam, City Manager
Tom Carr, City Attorney

EXECUTIVE SUMMARY
The purpose of this council agenda item is to seek council direction regarding the city’s potential participation in a lawsuit against large fossil fuel producers and/or large greenhouse gas emitters to compensate local governments for their climate mitigation and resilience expenses and damages caused by a changing climate. The lawsuit would be filed by a group of Colorado local governments, potentially including Boulder County.

Suggested Motion Language
Staff requests council consideration of this matter and action in the form of the following motion:

Motion to direct the city manager and the city attorney to expend city resources to participate in litigation against large fossil fuel producers and/or large greenhouse gas emitters to seek recovery of damages caused to the city by human-caused climate change.
COMMUNITY SUSTAINABILITY ASSESSMENTS AND IMPACTS

- Economic: The purpose of the litigation would be to seek to recover the additional costs that the city has incurred and will incur because of human-caused climate change.
- Environmental: Human-caused climate change is most likely the most important environmental issue facing the planet.
- Social: The entire social fabric is affected by the human-caused climate change. Locally, the city already has seen an unprecedented flood in 2013 and increased wildland fire activity. Scientists predict that such events will become more common as temperatures rise causing increased injury, dislocation and death.

OTHER IMPACTS

- Fiscal-Budgetary: Although the lawsuit will be brought by lawyers acting pro bono, the city could be at risk for attorneys’ fees in the worst case and at a minimum will need to expend staff time and resources to participate.
- Staff Time: The litigation would require support from the Chief Sustainability Officer and the Regional Sustainability Coordinator as well as from the City Attorney’s office. This work is not in the city’s work plan. Other work would need to be delayed. The individuals most likely to be required are already fully engaged in the city’s broadband initiative and the city’s sustainability efforts, including the effort to create a municipal electric utility.

BOARD AND COMMISSION FEEDBACK

None.

PUBLIC FEEDBACK

Public comment may be provided on Motions made under Matters.

BACKGROUND & ANALYSIS

Communities, businesses and local governments all have to adapt to a climate future that will include longer droughts, more frequent and intense wildfires, and flooding. A critical, and often overlooked, part of the climate debate is who should bear the costs of adapting to our climate future.

At the December 11 Council Agenda Committee meeting, the Boulder City Council directed the City Attorney to evaluate the city’s participation in litigation to be brought against specific large fossil fuel producers (with a substantial presence in Colorado) and/or large in-state greenhouse gas (GHG) emitters

A recent study attributes two-thirds of all GHG emissions since the industrial revolution to 90 entities. Many of the largest contributors on that list, like Chevron (responsible for 3.52 percent of historic GHGs) and Exxon (responsible for 3.22 percent), also knew about the
risks of excessive fossil fuel use when different energy choices could have prevented climate change. Instead of disclosing the risks of fossil fuel use, these companies accelerated production and possibly spread misinformation, obstructing public policy and consumer choices. Their conduct was (and continues to be) detrimental to local communities’ climate mitigation efforts.

It is important to bear in mind that climate change is not an “on or off” scenario. With current concentrations of GHGs, all new emissions will make climate injuries worse. At the very least, companies may be liable to the extent that they have exacerbated climate change. This approach could allow local governments to recover some of their adaptation costs. While no single company has contributed enough GHGs (by itself) to cause the climate change injuries that we are seeing, a small number of entities account for a substantial share of the excess emissions that are responsible for climate change.

The city’s action could be patterned after litigation currently pending in California. Five local governments in California have filed litigation against fossil fuel seeking to recover damages caused by climate change. There are two separate actions. One filed by San Mateo County, Marin County and the City of Imperial Beach and another filed by the City and County of San Francisco and the City of Oakland. Each jurisdiction filed its own complaint. All five complaints have been removed to federal court and are being treated as two separate cases. Copies of one complaint from each litigation, the complaint by San Mateo County and the complaint by the city and county of San Francisco, are attached as attachments A and B respectively.

In the San Mateo litigation, the governments filed complaints against over forty fossil fuel companies alleging that fossil fuel companies’ “production, promotion, marketing, and use of fossil fuel products, simultaneous concealment of the known hazards of those products, and their championing of anti-regulation and anti-science campaigns, actually and proximately caused” injuries to the plaintiff jurisdictions, including more frequent and more severe flooding and sea level rise that jeopardized infrastructure, beaches, schools, and communities. Their complaints included claims for public nuisance, strict liability for failure to warn, strict liability for design defect, private nuisance, negligence, negligent failure to warn, and trespass. The relief sought by the local governments includes compensatory damages, abatement of the alleged nuisance, attorneys’ fees, punitive damages, and disgorgement of profits.

In the San Francisco litigation, the parties sued five oil and gas companies, BP, Chevron, ConocoPhillips, Exxon, and Shell, alleging that the carbon emissions from their fossil fuel production had created an unlawful public nuisance. The complaints alleged that the defendants had produced and promoted the use of “massive amounts” of fossil fuels despite having been aware since the 1950s, based on information from the American Petroleum Institute, that emissions from fossil fuels would cause severe and even catastrophic climate change impacts. The complaints alleged that plaintiffs were already experiencing impacts from accelerated sea level rise due to climate change. The parties asked the court to require the companies to abate the nuisance by funding climate adaptation programs to build sea walls and other infrastructure necessary to protect public and private property from sea level rise and other climate impacts.
While the city of Boulder could perhaps not be more geographically different from the coastal communities in California currently litigating, and will not be affected directly by rising sea levels, the city will face distinct and serious impacts from human-caused climate change. The proposed litigation would make clear that climate change is not just an issue for coastal communities.

The challenge for the city is staff resources. The city is engaged in several labor-intensive efforts that rely on individuals who would be required to participate at some level in the proposed litigation. Although staff expects that the primary effort will be handled by outside counsel, there will be significant work required of city staff.

This would not be the first time that the city engaged in climate change litigation. In 2002, the city joined with Friends of the Earth, Greenpeace, the City of Arcata, California and the City of Oakland, California in litigation against the Overseas Private Investment Corporation and the Export-Import Bank of the United States. The lawsuit sought to compel the defendants to comply with the National Environmental Policy Act to assess domestic climate impacts of overseas projects. The litigation was settled in January 2009.

Staff requests council direction regarding next steps. If council seeks to explore participation further, staff would work with outside counsel to refine the potential claims and damages. Staff also would reach out to other jurisdictions and communities to seek additional potential plaintiffs.

ATTACHMENTS

Attachment A – San Mateo County Complaint
Attachment B – City and County of San Francisco Complaint
SHER EDLING LLP
425 California Street, Ste. 810
San Francisco, CA 94104
Tel: (628) 231-2500
Fax: (628) 231-2929

Attorneys for Plaintiff
The County of San Mateo, individually
and on behalf of the People of the State of California

SUPERIOR COURT OF THE STATE OF CALIFORNIA
IN AND FOR THE COUNTY OF SAN MATEO

THE COUNTY OF SAN MATEO, individually
and on behalf of THE PEOPLE OF THE
STATE OF CALIFORNIA,

Plaintiff,

vs.

CHEVRON CORP.; CHEVRON U.S.A. INC.;
EXXONMOBIL CORP.; BP P.L.C.; BP
AMERICA, INC.; ROYAL DUTCH SHELL
PLC; SHELL OIL PRODUCTS COMPANY
LLC; CITGO PETROLEUM CORP.;
CONOCOPHILLIPS; CONOCOPHILLIPS
COMPANY; PHILLIPS 66; PEABODY
ENERGY CORP.; TOTAL E&P USA INC.;
TOTAL SPECIALTIES USA INC.; ARCH
COAL, INC.; ENI S.p.A.; ENI OIL & GAS

Case No. 17CV03222

COMPLAINT FOR:

1. PUBLIC NUISANCE ON BEHALF
   OF THE PEOPLE OF THE STATE
   OF CALIFORNIA;
2. PUBLIC NUISANCE;
3. STRICT LIABILITY – FAILURE TO
   WARN;
4. STRICT LIABILITY – DESIGN
   DEFECT;
5. PRIVATE NUISANCE;
6. NEGLIGENCE;
7. NEGLIGENCE – FAILURE TO
   WARN; and
8. TRESPASS.

JURY TRIAL DEMANDED
INC.; RIO TINTO PLC; RIO TINTO LTD.;
RIO TINTO ENERGY AMERICA INC.; RIO
TINTO MINERALS, INC.; RIO TINTO
SERVICES INC.; STATOIL ASA;
ANADARKO PETROLEUM CORP.;
OCCIDENTAL PETROLEUM CORP.;
OCCIDENTAL CHEMICAL CORP.; REPSOL
S.A.; REPSOL ENERGY NORTH AMERICA
CORP.; REPSOL TRADING USA CORP.;
MARATHON OIL COMPANY; MARATHON
OIL CORPORATION; MARATHON
PETROLEUM CORP.; HESS CORP.; DEVON
ENERGY CORP.; DEVON ENERGY
PRODUCTION COMPANY, L.P.; ENCANA
CORP.; APACHE CORP.; and DOES 1
through 100, inclusive,

Defendants.
# TABLE OF CONTENTS

I. INTRODUCTION .................................................................................................................. 1

II. PARTIES ................................................................................................................................ 4

   A. Plaintiffs..................................................................................................................... 4

   B. Defendants ................................................................................................................. 6

III. AGENCY .............................................................................................................................. 22

IV. JURISDICTION AND VENUE ........................................................................................... 23

V. FACTUAL BACKGROUND ............................................................................................... 23

   A. Global Warming—Observed Effects and Known Cause................................................. 23

   B. Sea Level Rise—Known Causes and Observed Effects .................................................. 28

   C. Attribution ................................................................................................................ 32

   D. Defendants Went to Great Lengths to Understand the Hazards Associated with and Knew or Should Have Known of the Dangers Associated with the Extraction, Promotion and Sale of Their Fossil Fuel Products. ......................................................... 34

   E. Defendants Did Not Disclose Known Harms Associated with the Extraction, Promotion and Consumption of Their Fossil Fuel Products and Instead Affirmatively Acted to Obscure Those Harms and Engaged in a Concerted Campaign to Evade Regulation ................................................................................................................................. 47

   F. In Contrast to Their Public Statements, Defendants’ Internal Actions Demonstrate their Awareness of and Intent to Profit from the Unabated Use of Fossil Fuel Products ........................................................................................................................................ 63

   G. Defendants’ Actions Prevented the Development of Alternatives That Would Have Eased the Transition to a Less Fossil Fuel Dependent Economy. ....................................................... 65

   H. Defendants Caused Plaintiffs’ Injuries .................................................................... 72

VI. CAUSES OF ACTION ......................................................................................................... 78

   FIRST CAUSE OF ACTION
   (Public Nuisance on Behalf of the People of the State of California) ................................. 78

   SECOND CAUSE OF ACTION
   (Public Nuisance on Behalf of San Mateo County) ............................................................. 81
THIRD CAUSE OF ACTION
(Strict Liability—Failure to Warn on behalf of San Mateo County) 84

FOURTH CAUSE OF ACTION
(Strict Liability—Design Defect on behalf of San Mateo County) 86

FIFTH CAUSE OF ACTION
(Private Nuisance on behalf of San Mateo County) 90

SIXTH CAUSE OF ACTION
(Negligence on Behalf of San Mateo County) 92

SEVENTH CAUSE OF ACTION
(Negligence - Failure to Warn on Behalf of San Mateo County) 95

EIGHTH CAUSE OF ACTION
(Trespass on Behalf of San Mateo County) 96

VII. PRAYER FOR RELIEF 98

VIII. JURY DEMAND 99
I. INTRODUCTION

1. Defendants, major corporate members of the fossil fuel industry, have known for nearly a half century that unrestricted production and use of their fossil fuel products create greenhouse gas pollution that warms the planet and changes our climate. They have known for decades that those impacts could be catastrophic and that only a narrow window existed to take action before the consequences would not be reversible. They have nevertheless engaged in a coordinated, multi-front effort to conceal and deny their own knowledge of those threats, discredit the growing body of publicly available scientific evidence, and persistently create doubt in the minds of customers, consumers, regulators, the media, journalists, teachers, and the public about the reality and consequences of the impacts of their fossil fuel pollution. At the same time, Defendants have promoted and profited from a massive increase in the extraction and consumption of oil, coal, and natural gas, which has in turn caused an enormous, foreseeable, and avoidable increase in global greenhouse gas pollution and a concordant increase in the concentration of greenhouse gases, particularly carbon dioxide (“CO2”) and methane, in the Earth’s atmosphere. Those disruptions of the Earth’s otherwise balanced carbon cycle have substantially contributed to a wide range of dire climate-related effects, including global warming, rising atmospheric and ocean temperatures, ocean acidification, melting polar ice caps and glaciers, more extreme and volatile weather, and sea level rise. Plaintiffs, the People of the State of California and San Mateo County, along with the County’s residents, taxpayers, and infrastructure, suffer the consequences.

2. Defendants are vertically integrated extractors, producers, refiners, manufacturers, distributors, promoters, marketers, and sellers of fossil fuel products. Decades of scientific research show that pollution from the production and use of Defendants’ fossil fuel products plays

1 As used in this Complaint, “greenhouse gases” refers collectively to carbon dioxide, methane, and nitrous oxide. Where a source refers to a specific gas or gases, or when a process relates only to a specific gas or gases, this Complaint refers to them by name.

2 Exhibit A, attached to this Complaint, is a timeline highlighting information alleged in the paragraphs below. The timeline illustrates what the fossil fuel companies knew, when they knew it, and what they failed to do to prevent the environmental effects that are now imposing real costs on people and communities around the country. The information comes from key industry documents and other sources.

3 As used in this Complaint, “San Mateo County” refers to all areas within the geographic boundaries of the County, including incorporated towns and cities.
a direct and substantial role in the unprecedented rise in emissions of greenhouse gas pollution and increased atmospheric CO₂ concentrations since the mid-20th century. This dramatic increase in atmospheric CO₂ and other greenhouse gases is the main driver of the gravely dangerous changes occurring to the global climate.

3. Anthropogenic (human-caused) greenhouse gas pollution, primarily in the form of CO₂, is far and away the dominant cause of global warming and sea level rise. The primary source of this pollution is the extraction, production and consumption of coal, oil, and natural gas, referred to collectively in this Complaint as “fossil fuel products.”

4. The rate at which Defendants have extracted and sold fossil fuel products has exploded since the Second World War, as have emissions from those products. The substantial majority of all greenhouse gas emissions in history has occurred since the 1950s, a period known as the “Great Acceleration.” About three quarters of all industrial CO₂ emissions in history have occurred since the 1960s, and more than half have occurred since the late 1980s. The annual rate of CO₂ emissions from production, consumption and use of fossil fuels has increased by more than 60% since 1990.

5. Defendants have known for nearly 50 years that greenhouse gas pollution from their fossil fuel products has a significant impact on the Earth’s climate and sea levels. Defendants’ awareness of the negative implications of their own behavior corresponds almost exactly with the Great Acceleration, and with skyrocketing greenhouse gas emissions. With that knowledge,

---

4 See C. Le Quéré et al., Global Carbon Budget 2016, Earth Syst. Sci. Data 8, 632 (2016), [http://www.earth-syst-sci-data.net/8/605/2016/](http://www.earth-syst-sci-data.net/8/605/2016/). Cumulative emissions since the beginning of the industrial revolution to 2015 were 413 GtC attributable to fossil fuels, and 190 GtC attributable to land use change. Id. Global CO₂ emissions from fossil fuels and industry remained nearly constant at 9.9 GtC in 2015, distributed among coal (41 %), oil (34 %), gas (19 %), cement (5.6 %), and gas flaring (0.7 %). Id. at 629.
Defendants took steps to protect their own assets from these threats through immense internal investment in research, infrastructure improvements, and plans to exploit new opportunities in a warming world.

6. Instead of working to reduce the use and combustion of fossil fuel products, lower the rate of greenhouse gas emissions, minimize the damage associated with continued high use and combustion of such products, and ease the transition to a lower carbon economy, Defendants concealed the dangers, sought to undermine public support for greenhouse gas regulation, and engaged in massive campaigns to promote the ever-increasing use of their products at ever greater volumes. Thus, each Defendant’s conduct has contributed substantially to the buildup of CO₂ in the environment that drives sea level rise.

7. Defendants are directly responsible for 227.6 gigatons of CO₂ emissions between 1965 and 2015, representing 20.3% of total emissions of that potent greenhouse gas during that period. Accordingly, Defendants are directly responsible for a substantial portion of committed sea level rise (that is, sea level rise that will occur even in the absence of any future emissions) because of the consumption of their fossil fuel products.

8. Extreme flooding events will more than double in frequency on California’s Pacific coast by 2050.¹⁰ Flooding and storms will become more frequent and more severe, and average sea level will rise substantially along California’s coast, and in the San Francisco Bay Area including San Mateo County. The County, bordered on two sides by water and among the most vulnerable counties to sea level rise in California, has already spent millions of dollars to study and mitigate the effects of global warming. Sea level rise already adversely affects the County and jeopardizes San Mateo’s sewer systems, beaches, parks, roads, civil infrastructure, and essential public services, and communities.

9. Defendants’ production, promotion, marketing, and use of fossil fuel products, simultaneous concealment of the known hazards of those products, and their championing of anti-regulation and anti-science campaigns, actually and proximately caused Plaintiffs’ injuries.

10. Accordingly, the County brings claims against Defendants for Public Nuisance on behalf of the People of California as well as itself, Strict Liability for Failure to Warn, Strict Liability for Design Defect, Private Nuisance, Negligence, Negligent Failure to Warn, and Trespass.

11. By this action, the County seeks to ensure that the parties responsible for sea level rise bear the costs of its impacts on the County, rather than Plaintiffs, local taxpayers or residents.

II. PARTIES

A. Plaintiffs

12. Plaintiff, the People of the State of California (“the People”), by and through the County Counsel of San Mateo County, brings this suit pursuant to Code of Civil Procedure section 731, and Civil Code sections 3479, 3480, 3491, and 3494, to abate the nuisance caused by sea level rise in the County’s jurisdiction.

13. Plaintiff County of San Mateo (“the County” or “San Mateo”) is a political subdivision of the State of California. The County is located in the San Francisco Bay Area on the central portion of the San Francisco Peninsula, with its county seat in Redwood City.

   a. The County is bordered by water on two sides, with the San Francisco Bay to the East, and the Pacific Ocean to the West, and contains approximately 109 total miles of ocean-and bay-adjacent coastline.

   b. Sea level has already risen significantly along both the County’s ocean side and bay side. The County anticipates and is planning for significant sea level rise over 1992 levels by the year 2100,¹¹ and the State of California projects possible sea level rise well above the

County’s estimates in that same period under a “business-as-usual” emissions scenario.  

c. The sea level rise impacts on the County associated with an increase in average mean sea level height include, but are not limited to, increased inundation (permanent) and flooding (temporary) in natural and built environments with higher tides and intensified wave and storm surge events; aggravated wave impacts, including erosion, damage, and destruction of built structures, as well as natural features like cliffs, beaches and dunes, with consequent landslides; changes in sediment supply that could alter or destroy natural coastal habitats like beaches and wetlands, which would otherwise naturally mitigate sea level rise impacts; saltwater intrusion on groundwater aquifers, agricultural land, and infrastructure; and magnification of other climate change impacts, due to the superimposition on sea level rise on shifts in precipitation patterns that result in more rain and attendant flooding; increased frequency and severity of storms that cause erosion, flooding, and temporary sea level rise increases; and others. Compounding these environmental impacts are cascading social and economic impacts, which are secondary and tertiary injuries that arise out of physical sea-level rise injuries to the County.

d. Accounting for population increases over that time (by the year 2100), San Mateo is the only county on the West Coast with more than 100,000 residents at risk of three feet of sea level rise.

e. The County owns and operates civil infrastructure including, but not limited to levees, stormwater and sewage transport systems, an airport, and roads. The County owns, leases and/or controls real property within its jurisdiction. Much of the County’s infrastructure and real property is on or near the Pacific Ocean and San Francisco Bay coasts, and has already suffered damage from rising sea levels and will suffer increasing damage in the future through rising sea levels and through the exacerbation of natural climate phenomena such as coastal erosion and El Niño.
B. Defendants

14. Defendants’ are responsible for a substantial portion of the total greenhouse gases emitted between 1965 and 2015. Defendants, individually and collectively, are responsible for extracting, refining, processing, producing, promoting and marketing fossil fuel products, the normal and intended use of which has led to the emission of a substantial percentage of the total volume of greenhouse gases released into the atmosphere since 1965. Indeed, between 1965 and 2015, the named Defendants extracted from the earth enough fossil fuel materials (i.e. crude oil, coal, and natural gas) to account for more than one in every five tons of CO₂ and methane emitted worldwide. Accounting for their wrongful promotion and marketing activities, Defendants bear a dominant responsibility for global warming generally and for Plaintiffs’ injuries in particular.

15. When reference in this complaint is made to an act or omission of the Defendants, unless specifically attributed or otherwise stated, such references should be interpreted to mean that the officers, directors, agents, employees, or representatives of the Defendants committed or authorized such an act or omission, or failed to adequately supervise or properly control or direct their employees while engaged in the management, direction, operation or control of the affairs of Defendants, and did so while acting within the scope of their employment or agency.

16. **Chevron Entities**

   a. Chevron Corporation is a multi-national, vertically integrated energy and chemicals company incorporated in the State of Delaware, with its global headquarters and principal place of business in San Ramon, California.

   b. Chevron U.S.A., Inc. is a Pennsylvania Corporation with its principal place of business located in San Ramon, California. Chevron USA is a wholly owned subsidiary of Chevron Corporation.

   c. “Chevron” as used hereafter, means collectively, Defendants Chevron Corp. and Chevron U.S.A., Inc.

   d. Chevron operates through a web of U.S. and international subsidiaries at all levels of the fossil fuel supply chain. Chevron’s and its subsidiaries’ operations consist of
exploring for, developing, and producing crude oil and natural gas; processing, liquefaction, transportation, and regasification associated with liquefied natural gas; transporting crude oil by major international oil export pipelines; transporting, storage, and marketing of natural gas; refining crude oil into petroleum products; marketing of crude oil and refined products; transporting crude oil and refined products by pipeline, marine vessel, motor equipment and rail car; basic and applied research in multiple scientific fields including of chemistry, geology, and engineering; and manufacturing and marketing of commodity petrochemicals, plastics for industrial uses, and fuel and lubricant additives.

17. **ExxonMobil Corporation**

   a. ExxonMobil Corporation (“Exxon”) is a multi-national, vertically integrated energy and chemicals company incorporated in the State of New Jersey with its headquarters and principal place of business in Irving, Texas. Exxon is among the largest publicly traded international oil and gas companies in the world.

   b. Exxon consists of numerous divisions and affiliates in all areas of the fossil fuel industry, including exploration for and production of crude oil and natural gas; manufacture of petroleum products; and transportation, marketing, and sale of crude oil, natural gas, and petroleum products. Exxon is also a major manufacturer and marketer of commodity petrochemical products.

   c. Exxon does substantial fossil fuel product related business in California, and a substantial portion of its fossil fuel products are extracted, refined, transported, traded, distributed, marketed and/or sold in California. Among other operations, more than 540 Exxon-, Mobil-, or Esso-branded gas stations operate throughout the state, and Exxon owns and operates a petroleum storage and transport facility in the San Ardo Oil Field in San Ardo, Monterey County, California. From 1966 to 2016, Exxon owned and operated an oil refinery in Torrance, Los Angeles County, California. Exxon Co. USA, an ExxonMobil subsidiary, operated a petroleum refinery in Benicia, Solano County, California, from 1968 to 2000.
18. **BP Entities**

a. BP P.L.C. is a multi-national, vertically integrated energy and petrochemical public limited company, registered in England and Wales with its principal place of business in London, England. BP P.L.C. consists of three main operating segments: (1) exploration and production, (2) refining and marketing, and (3) gas power and renewables.

b. BP P.L.C. does substantial fossil-fuel related business in the United States, by marketing through licensure; franchising its petroleum products in the U.S. under the BP, ARCO and ARAL brands; and by operating oil and gas extraction and refining projects in the Gulf of Mexico, Alaska, Arkansas, Colorado, New Mexico, Oklahoma, Texas, and Wyoming.

c. BP America, Inc., is a wholly-owned subsidiary of BP P.L.C. BP America Inc. is a vertically integrated energy and petrochemical company incorporated in the State of Delaware with its headquarters and principal place of business in Houston, Texas. BP America, Inc., consists of numerous divisions and affiliates in all aspects of the fossil fuel industry, including exploration for and production of crude oil and natural gas; manufacture of petroleum products; and transportation, marketing, and sale of crude oil, natural gas, and petroleum products. BP is also a major manufacturer and marketer of commodity petrochemical products. BP America Inc. is registered to do business in the State of California and has a registered agent for service of process with the California Secretary of State.

d. Defendants BP P.L.C. and BP America, Inc. are collectively referred to herein as “BP.”

e. BP does substantial fossil fuel product-related business in California, and a substantial portion of its fossil fuel products are extracted, refined, transported, traded, distributed, marketed, and/or sold in California. Among other operations, BP operates 275 ARCO-licensed and branded gas stations in California and more than 70 compressed natural gas and liquefied natural gas fueling stations, provides natural gas used to power more than 6.9 million California households, and distributes and markets petroleum-based lubricants marketed under the “Castrol” brand name throughout the state. From 2000 to 2013, BP also owned and operated an oil refinery in Carson, Los Angeles County, California. BP’s marketing and trading business maintains an
19. **Shell Entities**
   a. Royal Dutch Shell PLC is a vertically integrated, multinational energy and petrochemical company. Royal Dutch Shell is incorporated in England and Wales, with its headquarters and principle place of business in the Hague, Netherlands. Royal Dutch Shell PLC consists of numerous divisions, subsidiaries and affiliates engaged in all aspects of the fossil fuel industry, including exploration, development, extraction, manufacturing and energy production, transport, trading, marketing and sales.
   b. Shell Oil Products Company LLC is a wholly-owned subsidiary of Royal Dutch Shell PLC. Shell Oil Products Company LLC is incorporated in the State of Delaware and maintains its principal place of business in Houston, Texas. Shell Oil Products Company LLC is registered to do business in the State of California and has a registered agent for service of process in California. Shell Oil Products Company LLC is an energy and petrochemical company involved in refining, transportation, distribution and marketing of Shell fossil fuel products.
   c. Defendants Royal Dutch Shell PLC and Shell Oil Products Company LLC are collectively referred to as “Shell.”
   d. Shell does substantial fossil fuel product-related business in California, and a substantial portion of its fossil fuel products are extracted, refined, transported, traded, distributed, marketed and/or sold in California. Among other endeavors, Shell operates a petroleum refinery in Martinez, Contra Costa County, California; operates a distribution center in Carson, California; and produces heavy oil and natural gas within the state. Shell also owned and operated a refinery in Wilmington (Los Angeles), Los Angeles County, California from 1998 to 2007, and a refinery in Bakersfield, Kern County, California from 2001 to 2005. Shell also operates hundreds of Shell-branded gas stations in California.

20. **Citgo Petroleum Corporation (“Citgo”)**
   a. Citgo is a direct, wholly owned subsidiary of PDV America, Incorporated, which is a wholly owned subsidiary of PDV Holding, Incorporated. These organizations’ ultimate
parent is Petroleos de Venezuela, S.A. ("PDVSA"), an entity wholly owned by the Republic of Venezuela that plans, coordinates, supervises and controls activities carried out by its subsidiaries.

Citgo is incorporated in the State of Delaware and maintains its headquarters in Houston, Texas.

b. Citgo and its subsidiaries are engaged in the refining, marketing, and transportation of petroleum products including gasoline, diesel fuel, jet fuel, petrochemicals, lubricants, asphalt, and refined waxes.

c. Citgo is registered to do business in the State of California and has designated an agent for service of process in California. Citgo further does substantial fossil fuel product-related business in California, and a substantial portion of its fossil fuel products are extracted, refined, transported, traded, distributed, marketed, and/or sold in California. For instance, Citgo sells significant volumes of fossil-fuel derived consumer motor oils and automobile lubricants through retail and wholesale distributors. Citgo further sells a wide variety of greases and oils for use in construction, mining, agricultural, and metalworking machinery and vehicles, and in many other industrial and commercial settings, through licensed distributors in California.

21. **ConocoPhillips Entities**

a. ConocoPhillips is a multinational energy company incorporated in the State of Delaware and with its principal place of business in Houston, Texas. ConocoPhillips consists of numerous divisions, subsidiaries, and affiliates engaged in all aspects of the fossil fuel industry, including exploration, extraction, production, manufacture, transport, and marketing.

b. ConocoPhillips Company is 100% owned by ConocoPhillips. ConocoPhillips Company is registered to do business in California and has a registered agent for service of process in California.

c. Phillips 66 is a multinational energy and petrochemical company incorporated in Delaware and with its principal place of business in Houston, Texas. It encompasses downstream fossil fuel processing, refining, transport, and marketing segments that were formerly owned and/or controlled by ConocoPhillips. Phillips 66 is registered to do business in the State of California and has a registered agent for service of process in California.

e. ConocoPhillips does substantial fossil fuel product-related business in California, and a substantial portion of its fossil fuel products are extracted, refined, transported, traded, distributed, marketed, and/or sold in California. For instance, ConocoPhillips owns and operates oil and natural gas terminals in California, owns and operates refineries in Arroyo Grande (San Luis Obispo County), Colton (San Bernardino County), and Wilmington (Los Angeles County), California, and distributes its products throughout California. Phillips 66 also owns and operates oil refineries in Rodeo (Contra Costa County), Santa Maria (Santa Barbara County), and Wilmington (Los Angeles County), California, each of which was owned and operated by ConocoPhillips and its predecessors in interest from 1997 to 2012.

22. **Peabody Energy**

a. Peabody Energy Corporation (“Peabody”) is a multi-national energy company incorporated in the State of Delaware and with its principal place of business in St. Louis, Missouri. Through a diverse web of affiliates and subsidiaries, Peabody is the world’s largest coal extractor by volume.

b. Peabody does and has done substantial fossil fuel product-related business in California, including exporting substantial volumes of coal through coal shipping terminals in California, particularly from the ports of Long Beach (Los Angeles County), Stockton (San Joaquin County), Richmond (Contra Costa County), and San Francisco. Peabody exported coal mined from its western state mining operations through the Los Angeles Export Terminal while that terminal was in operation from 1997 through 2003, and continues to export coal out of California ports.

23. **Total Entities**

a. Total E&P USA Inc. is a wholly owned subsidiary of Total S.A.—a French energy conglomerate—engaged in the North American segment of Total SA’s fossil fuel products-related business. Total E&P USA Inc. and its subsidiaries are involved in the exploration for, extraction, transportation, research, and marketing of Total S.A.’s fossil fuel products. Total E&P...
USA Inc. is registered to do business in the State of California and has designated an agent for service of process in California.

b. Total Specialties USA Inc., is a wholly owned subsidiary of Total SA, involved in the marketing and distribution of Total S.A.’s fossil fuel products. Total Specialties USA Inc. is incorporated in the State of Delaware and headquartered in Houston, Texas. Total Specialties USA Inc. is registered to do business in the State of California and has designated an agent for service of process in California. Total Specialties USA Inc. does substantial fossil fuel product-related business in California, and a substantial portion of its fossil fuel products are extracted, refined, transported, traded, distributed, marketed, and/or sold in California. For instance, Total Specialties USA Inc. maintains regular distributorship relationships with several California distributors of Total fossil fuel products, including engine oils, lubricants, greases, and industrial petroleum products.

24. **Arch Coal, Inc.**

a. Arch Coal, Inc. (“Arch Coal”) is a publicly traded company incorporated in Delaware with its principal place of business in St. Louis, Missouri. It is the second largest coal producer in the United States, selling 128 million tons of coal in 2015, almost all of which it extracted from mines owned by the company and its wholly-owned subsidiary. Arch Coal explores for, extracts, produces, markets and distributes its fossil fuel products.

b. Arch Coal’s conducts substantial fossil fuel product-related business in California, including its ownership and long-term leasing of coal land in California. Arch Coal furthermore has historically exported substantial volumes of coal mined from its western state mines through California ports including Long Beach (Los Angeles County), Stockton (San Joaquin County), Richmond (Contra Costa County), and San Francisco.

c. Arch Coal also owns a 99% stake in Arch Western Resources, LLC, which was created in a 1998 transaction under which Arch Coal absorbed all of Atlantic Ritchfield Company’s domestic coal operations. Included in that transaction, Arch Western Resources acquired a 9% ownership stake in the Los Angeles Export Terminal, a coal export terminal operation in the Port of Los Angeles from 1997 through 2003. Arch Coal and Arch Western
Resources both exported substantial volumes of coal, originating from their western state mining operations, including mines in Colorado and Utah, through the Export Terminal until its closure.

25. **Eni Entities**

a. Eni S.p.A. ("Eni") is a vertically integrated, multinational energy company focusing on petroleum and natural gas. Eni is incorporated in the Republic of Italy, with its principal place of business in Rome, Italy. With its consolidated subsidiaries, Eni engages in the exploration, development and production of hydrocarbons; in the supply and marketing of gas, liquid natural gas, and power; in the refining and marketing of petroleum products; in the production and marketing of basic petrochemicals, plastics and elastomers; in commodity trading; and in electricity marketing and generation.

b. Eni Oil & Gas Inc. is incorporated in Texas, with its principal place of business in Houston, Texas. Eni Oil & Gas Inc., is a wholly owned subsidiary of Eni America Ltd., a Delaware corporation doing business in the United States. Eni America, Ltd. Is a wholly owned subsidiary of Eni UHL Ltd., a British corporation with its registered office in London, United Kingdom. Eni UHL Ltd. Is a wholly owned subsidiary of Eni ULT, Ltd., a British corporation with its registered office on London, United Kingdom. Eni ULT, Ltd. Is a wholly owned subsidiary of Eni Lasmo Plc, a British corporation with its registered office on London, United Kingdom. Eni Investments Plc, a British corporation with its registered office in London, United Kingdom, holds a 99.9% ownership interest in Eni Lasmo Plc (the other 0.01% ownership interest is held by another Eni entity, Eni UK Ltd, a British corporation with its registered office in London, United Kingdom). Eni S.p.A owns a 99.99% interest in Eni Investments Plc. Eni UK Ltd. holds the remainder interest in Eni Investments Plc. Collectively, these entities are referred to as "Eni."

c. Eni Oil & Gas Inc. is a successor-in-interest to Golden Eagle Refining Company, Inc. ("Golden Eagle"). At times relevant to this complaint, Golden Eagle did substantial fossil fuel-related business in California. Specifically, Golden Eagle owned and/or operated oil refineries in Carson (Los Angeles County) and Martinez (Contra Costa County), California, and owned and/or operated oil pipelines in or near Long Beach (Los Angeles County), California.
26. **Rio Tinto Group**
   
   a. Rio Tinto PLC is incorporated in England and Wales, with its principal place of business in London, England. Rio Tinto Limited is incorporated in the Commonwealth of Australia with its principle place of business in Melbourne, Australia. Collectively, these Rio Tinto PLC and Rio Tinto Limited, along with their affiliates, divisions and subsidiaries, including those described below, are referred to as “Rio Tinto.”
   
   b. Rio Tinto is a dual-listed, multinational, vertically integrated metals and mining corporation. Through its vast network of affiliates and subsidiaries, Riot Tinto extracts an array of metals and other commodities. Pertinent here, Rio Tinto explores for, extracts, produces, transports and markets coal.
   
   c. Rio Tinto Energy America Inc. is a wholly owned subsidiary of Rio Tinto, incorporated in the State of Delaware, with its principal place of business in Gillette, Wyoming. Previously known as Kennecott Energy, Rio Tinto Energy America Inc. operates coal mines in Wyoming and Montana.
   
   d. Rio Tinto does substantial fossil fuel product-related business in California. In 2007, for example, Hydrogen Energy California, a joint venture of BP and Rio Tinto, invested $2.3 billion in a project to construct an experimental petroleum coke fired power plant in Kern County, California.
   
   e. In addition, Rio Tinto’s subsidiary Rio Tinto Minerals, Inc., operates the largest open pit mine in California, where it extracts approximately 30% of the world’s refined boron. Rio Tinto Minerals, Inc., has also registered substantial legislative and regulatory lobbying activities in California related to Rio Tinto’s fossil fuel products business since at least 2005, including lobbying directed at legislation and regulation regarding greenhouse gas pollution policy, air quality standards, and energy efficiency standards, as well as California’s so-called “cap-and-trade” carbon emissions program, such that the exercise of jurisdiction comports with traditional notions of fair play and substantial justice.
   
   f. Rio Tinto Services Inc. is a Rio Tinto subsidiary incorporated in Delaware and with its principal place of business in South Jordan, Utah. Rio Tinto Services, Inc. is registered...
to do business in California and has designated an agent for service of process in California.

27. **Statoil ASA**

   a. Statoil ASA (“Statoil”) is an international, vertically integrated energy company incorporated in the Kingdom of Norway and headquartered in Stavanger, Norway. The Norwegian State is the majority shareholder in Statoil. Statoil’s operations consist of multiple segments, including exploration, production, extraction, marketing, processing, and technology support of its fossil fuel products, which include both petroleum and natural gas products.

   b. Statoil has substantial contacts with California arising out of the production, marketing, and promotion of its fossil fuel products. For instance, Statoil partnered with the University of California, Berkeley (Alameda County), to review management of the company’s complex development projects; Statoil partnered on a methanol fueling station in Sacramento (Sacramento County); Statoil was involved in a business project with a California company called Quantum Technologies; and partnered with the University of California, San Diego’s (San Diego County) Scripps Institute of Oceanography.

28. **Anadarko Petroleum Corp.**

   a. Anadarko Petroleum Corporation (“Anadarko”) is incorporated in the State of Delaware and maintains its principal place of business in The Woodlands, Texas. Anadarko is a multinational, vertically integrated energy company comprised of multiple upstream and downstream segments. These include exploration, production, gathering, processing, treating, transporting, marketing, and selling fossil fuel products derived primarily from petroleum and natural gas. In the United States, Anadarko entities operate fossil fuel product exploration and production concerns in Texas, the Gulf of Mexico, Alaska, the Powder River Basin, Utah, Colorado, and the Marcellus Shale Formation. Anadarko operates fossil fuel product production and exploration activities internationally in Algeria, Ghana, Mozambique, and Columbia, among others. Anadarko Petroleum Corporation is registered to do business in California and has designated an agent for service of process in California.

   b. Anadarko Petroleum Corporation is a successor-in-interest to HS Resources Inc. (“HS”). HS was an energy company headquartered in San Francisco, San Francisco County,
California. It owned natural gas reserves in Colorado, North Dakota, South Dakota, Montana, and along the coasts of Texas and Louisiana, which it extracted and imported to California. HS was acquired by Kerr-McGee Corporation in 2001. Kerr-McGee was an energy exploration and production company owning oil and natural gas rights in the Gulf of Mexico, Colorado, and Utah, with its corporate headquarters in Oklahoma. Anadarko Petroleum Corporation acquired Kerr-McGee Corporation in 2006.

29. **Occidental Entities**

a. Occidental Petroleum Corporation is a multinational, vertically integrated energy and chemical company incorporated in the State of Delaware and with its principal place of business in Houston, Texas. Occidental’s operations consist of three segments: Occidental’s operations consist of three segments: (1) the exploration for, extraction of, and production of oil and natural gas products; (2) the manufacture and marketing of chemicals and vinyls; and (3) processing, transport, storage, purchase, and marketing of oil, natural gas, and power. Occidental Petroleum Corporation is registered to do business in the State of California and has designated an agent for service of process in the State of California.

b. Occidental Chemical Corporation, a manufacturer and marketer of petrochemicals, such as polyvinyl chloride resins, is a wholly owned subsidiary of Occidental Petroleum Corporation. Occidental Chemical Corporation is registered to do business in the State of California and has designated an agent for service of process in the State of California.

c. Defendants Occidental Petroleum Corporation and Occidental Chemical Corporation are collectively referred to as “Occidental.”

d. Occidental does substantial fossil fuel product-related business in the State of California, and a substantial portion of its fossil fuel products are extracted, refined, transported, traded, distributed, marketed and/or sold in California. For instance, Occidental extracted and transported its fossil fuel products from approximately 30,900 drilling locations within the San Joaquin, Los Angeles, Ventura, and Sacramento Basins in California.

e. In addition, Occidental conducts has conducted substantial activities in the state, including marketing and promotion; efforts to avoid or minimize regulation of greenhouse
gas pollution in and from California; and efforts to influence statutory and regulatory debate regarding fossil fuel consumption, electric power distribution, and greenhouse gas pollution policies such that the exercise of jurisdiction comports with traditional notions of fair play and substantial justice. Since 1999, Occidental Petroleum Corp. and its subsidiaries have reported more than $4.6 million in lobbying expenditures directed at numerous statutory and regulatory proposals before the California legislature and executive agencies, including the California Energy Commission, California Air Resources Board, and California Public Utilities Commission, related to its fossil fuel products business.

30. **Repsol S.A.**

a. Repsol S.A. (“Repsol”) is a vertically integrated, multinational global energy company, incorporated in the Kingdom of Spain, with its principal place of business in Madrid, Spain. Repsol is involved in multiple aspects of the fossil fuel industry, including exploration, production, marketing, and trading. Repsol engages in significant fossil fuel exploration and production activities in the United States, including in the Gulf of Mexico, the Marcellus Shale in Pennsylvania, the Eagle Ford Shale in South Texas, the Mississippi Lime in Oklahoma and Kansas, the North Slope in Alaska, and the Trenton-Black River in New York.

b. Repsol does substantial fossil fuel product-related business in the State of California, and a substantial portion of its fossil fuel products are extracted, refined, transported, traded, distributed, marketed and/or sold in California. For instance, Repsol subsidiary Repsol Energy North America Corporation, incorporated in the State of Texas and with its principal place of business in The Woodlands, Texas, is listed as a natural gas procurement, storage, transportation, scheduling, and risk management provider by Pacific Gas and Electric, a California utility. Repsol Energy North America Corporation is registered to do business in California and has designated an agent for service of process in California. Repsol subsidiary Repsol Trading USA Corporation, incorporated in the State of Texas and with its principal place of business in The Woodlands, Texas, is also registered do business in California and has designated an agent for service of process in California. Additionally, Repsol represents on its website that it is engaging in strategic opportunities involving its fossil fuel products in California, which may
consist of crude oil, gasoline, diesel, and/or jet fuel.

31. **Marathon Entities**
   
a. Marathon Oil Company is an energy company incorporated in the State of Ohio and with its principal place of business in Houston, Texas. Marathon Oil Company is registered to do business in California and has designated an agent for service of process in California. Marathon Oil Company is a corporate ancestor of Marathon Oil Corporation and Marathon Petroleum Company.

   b. Marathon Oil Company is a successor-in-interest to Husky Oil Ltd. ("Husky"), which it acquired in 1984. During times relevant to this Complaint, Husky operated oil production facilities near Santa Maria (Santa Barbara County), California, where it produced nearly 1,100 barrels per day. During the period relevant to this litigation, Husky did substantial fossil fuel product-related business in California.

   c. Marathon Oil Corporation is a multinational energy company incorporated in the State of Delaware and with its principal place of business in Houston, Texas. Marathon Oil Corporation consists of multiple subsidiaries and affiliates involved in the exploration for, extraction, production, and marketing of fossil fuel products.

   d. Marathon Petroleum Corporation is a multinational energy company incorporated in Delaware and with its principal place of business in Findlay, Ohio. Marathon Petroleum Corporation was spun off from the operations of Marathon Oil Corporation in 2011. It consists of multiple subsidiaries and affiliates involved in fossil fuel product refining, marketing, retail, and transport, including both petroleum and natural gas products.

   e. Defendants Marathon Oil Company, Marathon Oil Corporation, and Marathon Petroleum Corporation are collectively referred to as “Marathon.”

32. **Hess Corporation**
   
a. Hess Corp. (“Hess”) is a global, vertically integrated petroleum exploration and extraction company incorporated in the State of Delaware with its headquarters and principal place of business in New York, New York.

   b. Hess is engaged in the exploration, development, production,
transportation, purchase, marketing and sale of crude oil and natural gas. Its oil and gas production operations are located primarily in the United States, Denmark, Equatorial Guinea, Malaysia, Thailand, and Norway. Prior to 2014, Hess also conducted extensive retail operations in its own name and through subsidiaries. Hess owned and operated more than 1,000 gas stations throughout the United States, including in California during times relevant to this complaint. Prior to 2013, Hess also operated oil refineries in the continental United States and U.S. Virgin Islands.

33. **Devon Energy Corporation**
   a. Devon Energy Corp. is an independent energy company engaged in the exploration, development, and production of oil, and natural gas. It is incorporated in the State of Delaware and maintains its principal place of business in Oklahoma City, Oklahoma. Devon is engaged in multiple aspects of the fossil fuel industry, including exploration, development, production, and marketing of its fossil fuel products.
   b. Devon Energy Production Company, L.P. is a Devon subsidiary registered to do business in the State of California and with a designated agent for service of process in California. Devon Energy does substantial fossil fuel product-related business in California.
   c. Devon Energy Corp. is a successor-in-interest to the Pauley Petroleum Company (“Pauley”). At times relevant to this complaint, Pauley did substantial fossil-fuel related business in California. Specifically, this included owning and operating a petroleum refinery in Newhall (Los Angeles County), California from 1959 to 1989, and a refinery in Wilmington (Los Angeles, Los Angeles County), California from 1988 to 1992. Pauley merged with Hondo Oil and Gas Co. (“Hondo”) in 1987. Subsequently, Devon Energy Corp. acquired Hondo in 1992.
   d. Defendants Devon Energy Production Company, L.P. and Devon Energy Corp. are collectively referred to as “Devon.”

34. **Encana Corporation**
   a. Encana Corp. is a Canadian corporation with its principal place of business in Calgary, Alberta, Canada. Encana is an extractor and marketer of oil and natural gas and has facilities including gas plants and gas wells in Colorado, Texas, Wyoming, Louisiana, and New Mexico. By approximately 2005, Encana was the largest independent owner and operator of
natural gas storage facilities in North America.

b. Encana has done and continues to do substantial fossil fuel product-related business in California. Between 1997 and 2006, Encana owned and operated the Wild Goose Storage underground natural gas storage facility in Butte County, California. In 2003, Encana began transporting natural gas through a 25-mile pipeline from the Wild Goose Station to a Pacific Gas & Electric Co. (“PG&E”) compressor station in Colusa County, where gas entered the main PG&E pipeline. Encana invested in a 100 billion cubic foot expansion of the facility in 2004, bringing gas storage capacity at Wild Goose to 24 billion cubic feet.

35. **Apache Corporation**

a. Apache Corp. is a publicly traded Delaware corporation with its principal place of business in Houston, Texas. Apache is an oil and gas exploration and production company, with crude oil and natural gas exploration and extraction operations in the United States, Canada, Egypt, and in the North Sea.

b. During the time at issue, Apache extracted natural gas from wells developed on approximately seven million acres of land held in the Canadian provinces of British Columbia, Alberta, and Saskatchewan, and Apache did substantial fossil fuel product-related business in California. Apache transported a substantial volume of the natural gas extracted from its Canadian holdings to California, where it sold that gas to electric utilities, end-users, other fossil fuel companies, supply aggregators, and other fossil fuel marketers. Apache directed sales of its natural gas to California in addition to markets in Washington state, Chicago, and western Canada, to intentionally retain a diverse customer base and maximize profits from the differential price rates and demand levels in those respective markets.

36. **Doe Defendants**

a. The true names and capacities, whether individual, corporate, associate, or otherwise of Defendants Does 1 through 100, inclusive, are unknown to Plaintiffs, who therefore sue said Defendants by such fictitious names pursuant to California Code of Civil Procedure Section 474. Plaintiffs are informed and believe, and on that basis allege, that each of the
fictitiously named Defendants is responsible in some manner for the acts and occurrences herein alleged, and that Plaintiffs’ damages were caused by such Defendants.

37. **Relevant Non-Parties: Fossil Fuel Industry Associations**

38. As set forth in greater detail below, each Defendant had actual knowledge that its fossil fuel products were hazardous. Defendants obtained knowledge of the hazards of their products independently and through their membership and involvement in trade associations.

39. Each Defendant’s fossil fuel promotion and marketing efforts were assisted by the trade associations described below. Acting on behalf of the Defendants, the industry associations engaged in a long-term course of conduct to misrepresent, omit, and conceal the dangers of Defendants’ fossil fuel products.

a. **The American Petroleum Institute (API):** API is a national trade association representing the oil and gas industry, formed in 1919. The following Defendants and/or their predecessors in interest are and/or have been API members at times relevant to this litigation:

Chevron, ExxonMobil, Shell, ConocoPhillips, Statoil, Anadarko, Occidental, Repsol, Marathon, EnCana, and Apache.\(^{14}\)

b. **The American Coalition for Clean Coal Electricity (ACCCE):** ACCCE is a national coal industry trade association. Arch Coal and Peabody were part of the ACCCE at times relevant to this complaint.\(^{15}\)

c. **The National Mining Association (NMA):** NMA is a national trade organization that advocates for mining interests, including coal mining. Arch Coal, Inc., Peabody Energy, and Rio Tinto/Kennecott Utah Copper are all members.\(^{16}\)

d. **The Western States Petroleum Association (WSPA):** WSPA is a trade association representing oil producers in Arizona, California, Nevada, Oregon and Washington.\(^{17}\)

Its members include, and at times relevant to this Complaint, have included, BP, Chevron, Shell,

\(^{14}\) American Petroleum Institute (API), Members, http://www.api.org/membership/members (as of June 1, 2017).


\(^{16}\) National Mining Association (NMA), Members, http://nma.org/about-nma/member-list (As of June 1, 2017).

\(^{17}\) WSPA, What is WSPA, https://www.wspa.org/what-is-wspa (as of June 1, 2017).
Occidental, and ExxonMobil.  

e. **The American Fuel and Petrochemical Manufacturers (AFPM)** is a national association of petroleum and petrochemical companies. At relevant times, its members included, but were not limited to, BP Petrochemicals, BP Products North America, Chevron U.S.A. Inc., CITGO Petroleum Corporation, Exxon Mobil Corporation, Occidental Chemical Corporation, Phillips 66, Shell Chemical Company, and Total Petrochemicals & Refining USA, Inc.  

f. **The Information Council for the Environment (ICE)**: ICE was formed by coal companies and their allies, including Western Fuels Association and the National Coal Association. Associated companies included Peabody, Pittsburg and Midway Coal Mining (Chevron), and Island Creek Coal Company (Occidental).  

g. **The Global Climate Coalition (GCC)**: GCC was an industry group formed to oppose greenhouse gas emission reduction policies and the Kyoto Protocol. It was founded in 1989 shortly after the first Intergovernmental Panel on Climate Change meeting was held, and disbanded in 2001. Founding members included the National Association of Manufacturers, the National Coal Association, the Edison Electric Institute, and the United States Chamber of Commerce. The GCC’s early individual corporate members included Amoco (BP), API, Chevron, Exxon, Ford, Shell Oil, Texaco (Chevron) and Phillips Petroleum (ConocoPhillips). Over its existence other members and funders included ARCO (BP), BHP, the National Mining Association, and the Western Fuels Association. The coalition also operated for several years out of the National Association of Manufacturers’ offices.  

III. **AGENCY**  

40. At all times herein mentioned, each of the Defendants was the agent, servant, partner, aider and abettor, co-conspirator, and/or joint venturer of each of the remaining Defendants herein and was at all times operating and acting within the purpose and scope of said  

---

18 WSPA, Member List, https://www.wspa.org/member-list (as of June 1, 2017).  
20 Hereinafter, parenthetical references to Defendants indicate corporate ancestry and/or affiliation.
agency, service, employment, partnership, conspiracy, and joint venture and rendered substantial assistance and encouragement to the other Defendants, knowing that their conduct was wrongful and/or constituted a breach of duty.

IV. JURISDICTION AND VENUE

41. This court’s personal jurisdiction over Defendants named herein is proper because each Defendant maintains substantial contacts with California by and through their fossil fuel business operations in this state, as described above, and because Plaintiffs’ injuries described herein arose out of and relate to those operations and occurred in California.

42. The Superior Court of California for San Mateo County is a court of general jurisdiction and therefore has subject matter jurisdiction over this action.

43. Venue is proper in San Mateo County pursuant to Code of Civil Procedure sections 395 and 395.5 because the injury giving rise to the County’s claims occurred in San Mateo County.

V. FACTUAL BACKGROUND

A. Global Warming—Observed Effects and Known Cause

44. The Earth is warming at a rate unprecedented in human history.

45. Atmospheric and ocean temperatures have both increased substantially since the beginning of the global industrial revolution, and the rate of warming has also dramatically increased since the end of World War II.

46. In the geological short term, ocean and land surface temperatures have increased at a rapid pace during the late 20th and early 21st centuries:

a. 2016 was the hottest year on record by globally averaged surface temperatures, exceeding mid-20th century mean ocean and land surface temperatures by approximately 1.69–1.78°F.21 Eight of the twelve months in 2016 were hotter by globally averaged surface temperatures than those respective months in any previous year. October, November, and December

2016 showed the second hottest average surface temperatures for those months, second only to temperatures recorded in 2015.\textsuperscript{22}

b. The Earth’s hottest month ever recorded was February 2016, followed immediately by the second hottest month on record, March 2016.\textsuperscript{23}

c. The second hottest year on record by globally averaged surface temperatures was 2015, and the third hottest was 2014.\textsuperscript{24}

d. The ten hottest years on record by globally averaged surface temperature have all occurred since 1998, and sixteen of the seventeen hottest years have occurred since 2001.\textsuperscript{25}

e. Each of the past three decades has been warmer by average surface temperature than any preceding decade on record.\textsuperscript{26}

f. The period between 1983 and 2012 was likely the warmest 30-year period in the Northern Hemisphere since approximately 700 AD.\textsuperscript{27}

47. The average global surface and ocean temperature in 2016 was approximately 1.7°F warmer than the 20th century baseline, which is the greatest positive anomaly observed since at least 1880.\textsuperscript{28} The increase in hotter temperatures and more frequent positive anomalies during the Great Acceleration is occurring both globally and locally, including in San Mateo County. The graph below shows the increase in global land and ocean temperature anomalies since 1880, as measured against the 1910–2000 global average temperature.\textsuperscript{29}

\textsuperscript{25} Id.
\textsuperscript{27} Id.
\textsuperscript{29} Id.
48. The mechanism by which human activity causes global warming and climate change is well established: ocean and atmospheric warming is overwhelmingly caused by anthropogenic greenhouse gas emissions.\(^{30}\)

49. When emitted, greenhouse gases trap heat within the Earth’s atmosphere that would otherwise radiate into space.

50. Greenhouse gases are largely byproducts of humans’ burning fossil fuels to produce energy, and using fossil fuels to create petrochemical products.

51. Human activity, particularly greenhouse gas emissions, is the primary cause of global warming and its associated effects on Earth’s climate.

52. Prior to World War II, most anthropogenic CO\(_2\) emissions were caused by land-use practices, such as forestry and agriculture, which altered the ability of the land and global biosphere to absorb CO\(_2\) from the atmosphere; the impacts of such activities on Earth’s climate were relatively minor. Since the beginning of the Great Acceleration, however, both the annual rate and total volume of human CO\(_2\) emissions have increased enormously following the advent of major

uses of oil, gas, and coal. The graph below shows that while CO₂ emissions attributable to forestry 
and other land-use change have remained relatively constant, total emissions attributable to fossil 
fuels have increased dramatically since the 1950s.³¹

**Total Annual Carbon Dioxide Emissions by Source, 1860-2015:**

53. As human reliance on fossil fuels for industrial and mechanical processes has 
increased, so too have greenhouse gas emissions, especially of CO₂. The Great Acceleration is 
marked by a massive increase in the annual rate of fossil fuel emissions: more than half of all 
cumulative CO₂ emissions have occurred since 1988.³² The rate of CO₂ emissions from fossil fuels 
and industry, moreover, has increased threefold since the 1960s, and by more than 60% since 

---


1990. The graph below illustrates the increasing rate of global CO\(_2\) emissions since the industrial era began. 

**Cumulative Annual Anthropogenic Carbon Dioxide Emissions, 1751-2014:**

54. Because of the increased use of fossil fuel products, concentrations of greenhouse gases in the atmosphere are now at a level unprecedented in at least 800,000 years. The graph below illustrates the nearly 30% increase in atmospheric CO\(_2\) concentration above pre-Industrial levels since 1960.

---

33 C. Le Quéré et al., Global Carbon Budget 2016, Earth Syst. Sci. Data 8, 625, 630 (2016), http://www.earth-syst-sci-data.net/8/605/2016/ (“Global CO\(_2\) emissions from fossil fuels and industry have increased every decade from an average of 3.1±0.2 GtC/yr in the 1960s to an average of 9.3±0.5 GtC/yr during 2006–2015”).


B. Sea Level Rise—Known Causes and Observed Effects

55. Sea level rise is the physical consequence of (a) the thermal expansion of ocean waters as they warm; (b) increased mass loss from land-based glaciers that are melting as ambient air temperature increases; and (c) the shrinking of land-based ice sheets due to increasing ocean and air temperature.37

56. Of the increase in energy that has accumulated in the Earth’s atmosphere between 1971 and 2010, more than 90% is stored in the oceans.38

57. Anthropogenic forcing, in the form of greenhouse gas pollution largely from the production, use and combustion of fossil fuel products, is the dominant cause of global mean sea level rise since 1970, explaining at least 70% of the sea level rise observed between 1970 and 2000.39 Natural radiative forcing—that is, causes of climate change not related to human activity—“makes essentially zero contribution [to observed sea level rise] over the twentieth century (2%

over the period 1900–2005).”

58. Anthropogenic greenhouse gas pollution is the dominant factor in each of the independent causes of sea level rise, including the increase in ocean thermal expansion, in glacier mass loss, and in more negative surface mass balance from the ice sheets.

59. There is a well-defined relation between cumulative emissions of CO₂ and committed global mean sea level. This relation, moreover, holds proportionately for committed regional sea level rise.

60. Nearly 100% of the sea level rise from any projected greenhouse gas emissions scenario will persist for at least 10,000 years. This owes to the long residence time of CO₂ in the atmosphere that sustains temperature increases, and inertia in the climate system.

61. Anthropogenic greenhouse gas pollution caused the increased frequency and severity of extreme sea level events (temporary sea level height increases due to storm surges or extreme tides, exacerbated by elevated baseline sea level) observed during the Great Acceleration. The incidence and magnitude of extreme sea level events has increased globally since 1970. The impacts of such events, which generally occur with large storms, high tidal events, offshore low-pressure systems associated with high winds, or the confluence of any of these factors, are exacerbated with higher average sea level, which functionally raises the baseline for the destructive impact of extreme weather and tidal events. Indeed, the magnitude and

---

41 Id.
42 Id.
43 Peter U. Clark et al., Consequences of Twenty-First-Century Policy for Multi-Millennial Climate and Sea-Level Change, Nature Climate Change Vol. 6, 365 (2016).
44 Peter U. Clark et al., Consequences of Twenty-First-Century Policy for Multi-Millennial Climate and Sea-Level Change, Nature Climate Change Vol. 6, 361 (2016).
45 Peter U. Clark et al., Consequences of Twenty-First-Century Policy for Multi-Millennial Climate and Sea-Level Change, Nature Climate Change Vol. 6, 360 (2016).
48 Id.
frequency of extreme sea level events can occur in the absence of increased intensity of storm events, given the increased average elevation from which flooding and inundation events begin. These effects, and others, significantly and adversely affect Plaintiffs, with increased severity in the future.

62. Historical greenhouse gas emissions alone through 2000 will cause a global mean sea level rise of at least 7.4 feet. Additional greenhouse gas emissions from 2001–2015 have caused approximately 10 additional feet of committed sea level rise. Even immediate and permanent cessation of all additional anthropogenic greenhouse gas emissions would not prevent the eventual inundation of land at elevations between current average mean sea level and 17.4 feet of elevation in the absence of adaptive measures.

63. The relationship between anthropogenic CO$_2$ emissions and committed sea level rise is nearly linear and always positive. For emissions, including future emissions, from the year 2001, the relation is approximately 0.25 inches of committed sea level rise per 1 GtCO$_2$ released. For the period 1965 to 2000, the relation is approximately 0.05 inches of committed sea level rose per 1 GtCO$_2$ released. For the period 1965 to 2015, normal use of Defendants’ fossil fuel products caused a substantial portion of committed sea level rise. Each and every additional unit of CO2 emitted from the use of Defendants’ fossil fuel products will add to the sea level rise already committed to the geophysical system.

64. Projected onshore impacts associated with rising sea temperature and water level include increases in flooding and erosion; increases in the occurrence, persistence, and severity of storm surges; infrastructure inundation; public and private property damage; and pollution associated with damaged control and waste infrastructure, and the lack thereof. All of these effects significantly and adversely affect Plaintiffs.

65. Sea level rise has already taken grave tolls on inhabited coastlines. For instance, the U.S. National Oceanic and Atmospheric Administration (“NOAA”) estimates that nuisance

---

floods occurs from 300% to 900% more frequently within U.S. coastal communities today than just 50 years ago.\textsuperscript{50} 

66. Nationwide, more than three quarters (76%) of flood days caused by high water levels from sea level rise between 2005 and 2014 (2,505 of the 3,291 flood days) would not have happened but for human-caused climate change. More than two-thirds (67%) of flood days since 1950 would not have happened without the sea level rise caused by increasing greenhouse gas emissions.\textsuperscript{51} 

67. Regional expressions of sea level rise will differ from the global mean, and are especially influenced by changes in ocean and atmospheric dynamics, as well as the gravitational, deformational, and rotational effects of the loss of glaciers and ice sheets.\textsuperscript{52} Due to these effects, San Mateo County will experience significantly greater absolute committed sea level rise than the global mean.\textsuperscript{53} 

68. The County’s assessments show that the San Francisco Bay Area and San Mateo County are “particularly vulnerable to sea level rise and changes in salinity, temperature, and runoff.”\textsuperscript{54} This is because San Mateo’s topography, geography, and land use patterns make it particularly susceptible to injuries from sea level rise; and because the California coast South of Cape Mendocino, including San Mateo, is projected, due to its geophysical characteristics, to experience a higher rate of sea level rise and a greater absolute amount of sea level rise than the global mean.\textsuperscript{55} 

69. Given an emissions scenario in which the current rate of greenhouse gas pollution

---

\textsuperscript{52} Peter U. Clark et al., Consequences of Twenty-First-Century Policy for Multi-Millennial Climate and Sea-Level Change, Nature Climate Change Vol. 6, 364, (2016). 
\textsuperscript{53} See id., Figure 3(c). 
\textsuperscript{55} Global sea level rise is projected to be 82.7 cm (32.6 inches) above 2000 levels by 2100. See National Research Council, Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past Present and Future (2012) at page 107 at Table 5.2; page 117 at Table 5.3. The San Francisco Bay Area sea level rise is projected to be 91.9 cm (36.2 inches) over 2000 by 2100. Id.
continues unabated, sea level in the San Francisco Bay Area, including San Mateo County, will rise significantly by the year 2100.56

70. San Mateo County’s sea level rise vulnerability analyses anticipate extreme sea level rise events equivalent to a 1% annual-chance flood of 42-inches over and above expected changes to the mean sea level height along the County.57 Such an event, even with the minimum anticipated sea level rise, would inundate thousands of acres of County land,58 breach flood protection infrastructure,59 and swamp San Francisco International Airport60 (located within the County), among other impacts.

71. Without Defendants’ fossil fuel-related greenhouse gas pollution, current sea level rise would have been far less than the observed sea level rise to date.61 Similarly, committed sea level rise that will occur in the future would also be far less.62

C. Attribution

72. “Carbon factors” analysis, devised by the International Panel on Climate Change (IPCC), the United Nations International Energy Agency, and the U.S. Environmental Protection Agency, quantifies the amount of CO₂ emissions attributable to a unit of raw fossil fuel extracted from the Earth.63 Emissions factors for oil, coal, liquid natural gas, and natural gas are different for each material but are nevertheless known and quantifiable for each.64 This analysis accounts for the use of Defendants’ fossil fuel products, including non-combustion purposes that sequester

58 See id. at page 82-3.
59 See id. at page 97.
60 See id. at page 102.
64 See, e.g., id.
CO₂ rather than emit it (e.g., production of asphalt).

73. Defendants’ historical and current fossil fuel extraction and production records are publicly available in various fora. These include university and public library collections, company websites, company reports filed with the U.S. Securities and Exchange Commission, company histories, and other sources. The cumulative CO₂ and methane emissions attributable to Defendants’ fossil fuel products were calculated by reference to such publicly available documents.

74. While it is possible to distinguish CO₂ derived from fossil fuels from other sources, it is not possible to determine the source of any particular individual molecule of CO₂ in the atmosphere attributable to anthropogenic sources because such greenhouse gas molecules do not bear markers that permit tracing them to their source, and because greenhouse gasses quickly diffuse and come into the atmosphere. However, cumulative carbon analysis allows an accurate calculation of net annual CO₂ and methane emissions attributable to each Defendant by quantifying the amount and type of fossil fuels products each Defendant extracted and placed into the stream of commerce, and multiplying those quantities by each fossil fuel product’s carbon factor.

75. Defendants, through their extraction, promotion, marketing, and sale of their fossil fuel products, caused approximately 20% of global fossil fuel product-related CO₂ between 1965 and 2015, with contributions currently continuing unabated. This constitutes a substantial portion of all such emissions in history, and the attendant historical, projected, and committed sea level rise associated therewith.

76. Total cumulative emissions increased from 470 GtC in 2000 to 600 GtC gigatons through 2015, representing an almost 30% increase in total emissions in only sixteen years.65

77. By quantifying CO₂ and methane pollution attributable to Defendants by and through their fossil fuel products, ambient air and ocean temperature and sea level responses to those emissions are also calculable, and can be attributed to Defendants on an individual and aggregate basis. Individually and collectively, Defendants’ extraction, sale, and promotion of their

fossil fuel products are responsible for substantial increases in ambient (surface) temperature, ocean temperature, sea level, extreme storm events, and other adverse impacts on Plaintiffs described herein.

78. Anthropogenic CO₂ emissions through 2015 have caused approximately 17.4 feet of committed mean global sea level rise. Defendants, through their extraction, promotion, marketing, and sale of their fossil fuel products, caused a substantial portion of both those emissions and the attendant historical, projected, and committed sea level rise.

79. As explained above, this analysis considers only the volume of raw material actually extracted from the Earth by these Defendants. Many of these Defendants actually are responsible for far greater volumes of emissions because they also refine, manufacture, produce, market, promote, and sell more fossil fuel derivatives than they extract themselves by purchasing fossil fuel products extracted by independent third parties.

80. In addition, considering the Defendants’ lead role in promoting, marketing, and selling their fossil fuels products between 1965 and 2015; their efforts to conceal the hazards of those products from consumers; their promotion of their fossil fuel products despite knowing the dangers associate with those products; their dogged campaign against regulation of those products based on falsehoods, omissions, and deceptions; and their failure to pursue less hazardous alternatives available to them, Defendants, individually and together, have substantially and measurably contributed to the Plaintiffs’ sea level rise-related injuries.

D. Defendants Went to Great Lengths to Understand the Hazards Associated with and Knew or Should Have Known of the Dangers Associated with the Extraction, Promotion and Sale of Their Fossil Fuel Products.

81. By 1965, concern about the risks of anthropogenic greenhouse gas emissions reached the highest level of the United States’ scientific community. In that year, President Lyndon B. Johnson’s Science Advisory Committee Panel on Environmental Pollution reported that by the year 2000, anthropogenic CO₂ emissions would “modify the heat balance of the atmosphere to

---

such an extent that marked changes in climate . . . could occur.” 67

President Johnson announced in a special message to Congress that “[t]his generation has altered the composition of the atmosphere on a global scale through . . . a steady increase in carbon dioxide from the burning of fossil fuels.” 68

82. These statements from the Johnson Administration, at a minimum, put Defendants on notice of the potentially substantial dangers to people, communities, and the planet associated with unabated use of their fossil fuel products. Moreover, Defendants had amassed a considerable body of knowledge on the subject through their own independent efforts.

83. In 1968, a Stanford Research Institute (SRI) report commissioned by the American Petroleum Institute (“API”) and made available to all of its members, concluded, among other things:

If the Earth’s temperature increases significantly, a number of events might be expected to occur including the melting of the Antarctic ice cap, a rise in sea levels, warming of the oceans and an increase in photosynthesis. . . .

It is clear that we are unsure as to what our long-lived pollutants are doing to our environment; however, there seems to be no doubt that the potential damage to our environment could be severe. . . . [T]he prospect for the future must be of serious concern. 69

84. In 1969, Shell memorialized an on-going 18-month project to collect ocean data from oil platforms to develop and calibrate environmental forecasting theories related to predicting wave, wind, storm, sea level, and current changes and trends. 70 Several Defendants and/or their predecessors in interest participated in the project, including Esso Production Research Company (ExxonMobil), Mobil Research and Development Company (ExxonMobil), Pan American Petroleum Corporation (BP), Gulf Oil Corporation (Chevron), Texaco Inc. (Chevron), and the Chevron Oil Field Research Company.
85. In 1972, API members, including Defendants, received a status report on all environmental research projects funded by API. The report summarized the 1968 SRI report describing the impact of Defendants’ fossil fuel products on the environment, including global warming and sea level rise. Industry participants who received this report include: American Standard of Indiana (BP), Asiatic (Shell), Ashland (Marathon), Atlantic Richfield (BP), British Petroleum (BP), Chevron Standard of California (Chevron), Cities Service (Citgo), Continental (ConocoPhillips), Dupont (former owner of Conoco), Esso Research (ExxonMobil), Ethyl (formerly affiliated with Esso, which was subsumed by ExxonMobil), Getty (Lukoil/ExxonMobil), Gulf (Chevron, among others), Humble Standard of New Jersey (ExxonMobil/Chevron/BP), Marathon, Mobil (ExxonMobil), Pan American (BP), Phillips (ConocoPhillips), Shell, Standard of Ohio (BP), Texaco (Chevron), Union (Chevron), Edison Electric Institute (representing electric utilities), Bituminous Coal Research (coal industry research group), Mid-Continent Oil & Gas Association (presently the U.S. Oil & Gas Association, a national trade association), Western Oil & Gas Association, National Petroleum Refiners Association (presently the American Fuel and Petrochemical Manufacturers Association, a national trade association), Champlin (Anadarko), Skelly (Lukoil/ExxonMobil), Colonial Pipeline (ownership has included BP, Citgo, ExxonMobil, ConocoPhillips, Chevron entities, among others) and Caltex (Chevron), among others.71

86. In a 1977 presentation and again in a 1978 briefing, Exxon scientists warned the Exxon Corporation Management Committee that CO₂ concentrations were building in the Earth’s atmosphere at an increasing rate, that CO₂ emissions attributable to fossil fuels were retained in the atmosphere, and that CO₂ was contributing to global warming.72 The report stated:

There is general scientific agreement that the most likely manner in which mankind is influencing the global climate is through carbon dioxide release from the burning of fossil fuels . . . [and that] Man has a time window of five to ten years before the

---

need for hard decisions regarding changes in energy strategies might become critical.\textsuperscript{73}

87. Thereafter, Exxon engaged in a research program to study the environmental fate of fossil fuel-derived greenhouse gases and their impacts, which included publication of peer-reviewed research by Exxon staff scientists and the conversion of a supertanker into a research vessel to study the greenhouse effect and the role of the oceans in absorbing anthropogenic CO\textsubscript{2}. Much of this research was shared in a variety of fora, symposia, and shared papers through trade associations and directly with other Defendants.

88. Exxon scientists made the case internally for using company resources to build corporate knowledge about the impacts of the promotion, marketing, and consumption of Defendants’ fossil fuel products. Exxon climate researcher Henry Shaw wrote in 1978: “The rationale for Exxon’s involvement and commitment of funds and personnel is based on our need to assess the possible impact of the greenhouse effect on Exxon business. Exxon must develop a credible scientific team that can critically evaluate the information generated on the subject and be able to carry bad news, if any, to the corporation.”\textsuperscript{74} Moreover, Shaw emphasized the need to collaborate with universities and government to more completely understand what he called the “CO\textsubscript{2} problem.”\textsuperscript{75}

89. In 1979, API and its members, including Defendants, convened a Task Force to monitor and share cutting edge climate research among the oil industry. The group was initially called the CO\textsubscript{2} and Climate Task Force, but changed its name to the Climate and Energy Task Force in 1980 (hereinafter referred to as “API CO\textsubscript{2} Task Force”). Membership included senior scientists and engineers from nearly every major U.S. and multinational oil and gas company, including Exxon, Mobil (ExxonMobil), Amoco (BP), Phillips (ConocoPhillips), Texaco (Chevron), Shell, Sunoco, Sohio (BP) as well as Standard Oil of California (BP) and Gulf Oil.

\textsuperscript{73}\textit{Id.}
\textsuperscript{74}Henry Shaw, \textit{Memo to Edward David Jr. on the “Greenhouse Effect”}, Exxon Research and Engineering Company (December 7, 1978).
\textsuperscript{75}\textit{Id.}
(Chevron, among others). The Task Force was charged with assessing the implications of emerging science on the petroleum and gas industries and identifying where reductions in greenhouse gas emissions from Defendants’ fossil fuel products could be made.76

90. In 1979, API sent its members a background memo related to the API CO2 and Climate Task Force’s efforts, stating that CO2 concentrations were rising steadily in the atmosphere, and predicting when the first clear effects of climate change might be felt.77

91. Also in 1979, Exxon scientists advocated internally for additional fossil fuel industry-generated atmospheric research in light of the growing consensus that consumption of fossil fuel products was changing the Earth’s climate:

“We should determine how Exxon can best participate in all these [atmospheric science research] areas and influence possible legislation on environmental controls. It is important to begin to anticipate the strong intervention of environmental groups and be prepared to respond with reliable and credible data. It behooves [Exxon] to start a very aggressive defensive program in the indicated areas of atmospheric science and climate because there is a good probability that legislation affecting our business will be passed. Clearly, it is in our interest for such legislation to be based on hard scientific data. The data obtained from research on the global damage from pollution, e.g., from coal combustion, will give us the needed focus for further research to avoid or control such pollutants.”78

92. That same year, Exxon Research and Engineering reported that: “The most widely held theory [about increasing CO2 concentration] is that the increase is due to fossil fuel combustion, increasing CO2 concentration will cause a warming of the earth’s surface, and the present trend of fossil fuel consumption will cause dramatic environmental effects before the year

---

Further, the report stated that unless fossil fuel use was constrained, there would be “noticeable temperature changes” associated with an increase in atmospheric CO2 from about 280 parts per million before the Industrial Revolution to 400 parts per million by the year 2010. Those projections proved remarkably accurate—atmospheric CO2 concentrations surpassed 400 parts per million in May 2013, for the first time in millions of years. In 2015, the annual average CO2 concentration rose above 400 parts per million, and in 2016 the annual low surpassed 400 parts per million, meaning atmospheric CO2 concentration remained above that threshold all year.

In 1980, API’s CO2 Task Force members discussed the oil industry’s responsibility to reduce CO2 emissions by changing refining processes and developing fuels that emit less CO2. The minutes from the Task Force’s February 29, 1980, meeting included a summary of a presentation on “The CO2 Problem” given by Dr. John Laurmann, which identified the “scientific consensus on the potential for large future climatic response to increased CO2 levels” as a reason for API members to have concern with the “CO2 problem” and informed attendees that there was “strong empirical evidence that rise [in CO2 concentration was] caused by anthropogenic release of CO2, mainly from fossil fuel combustion.” Moreover, Dr. Laurmann warned that the amount of CO2 in the atmosphere could double by 2038, which he said would likely lead to a 2.5°C (4.5°F) rise in global average temperatures with “major economic consequences.” He then told the Task Force that models showed a 5°C (9°F) rise by 2067, with “globally catastrophic effects.” A taskforce member and representative of Texaco leadership present at the meeting posited that the API CO2 Task Force should develop ground rules for energy release of fuels and the cleanup of fuels as they relate to CO2 creation.

80 Id.
82 Id.
84 Id.
94. In 1980, the API CO₂ Task Force also discussed a potential area for investigation: alternative energy sources as a means of mitigating CO₂ emissions from Defendants’ fossil fuel products. These efforts called for research and development to “Investigate the Market Penetration Requirements of Introducing a New Energy Source into World Wide Use.” Such investigation was to include the technical implications of energy source changeover, research timing, and requirements.⁸⁵

95. By 1980, Exxon’s senior leadership had become intimately familiar with the greenhouse effect and the role of CO₂ in the atmosphere. In that year, Exxon Senior Vice President and Board member George Piercy questioned Exxon researchers on the minutiae of the ocean’s role in absorbing atmospheric CO₂, including whether there was a net CO₂ flux out of the ocean into the atmosphere in certain zones where upwelling of cold water to the surface occurs, because Piercy evidently believed that the oceans could absorb and retain higher concentrations of CO₂ than the atmosphere.⁸⁶ This inquiry aligns with Exxon supertanker research into whether the ocean would act as a significant CO₂ sink that would sequester atmospheric CO₂ long enough to allow unabated emissions without triggering dire climatic consequences. As described below, Exxon eventually scrapped this research before it produced enough data from which to derive a conclusion.⁸⁷

96. Also in 1980, Imperial Oil (ExxonMobil) reported to Esso and Exxon managers and environmental staff that increases in fossil fuel usage aggravates CO₂ in the atmosphere. Noting that the United Nations was encouraging research into the carbon cycle, Imperial reported that “[t]echnology exists to remove CO₂ from [fossil fuel power plant] stack gases but removal of only 50% of the CO₂ would double the cost of power generation.” Imperial also reported that its coordination department had been internally evaluating its and Exxon’s products to determine

---

⁸⁵ Id.
whether disclosure of a human health hazard was necessary. The report notes that Section (8e) of the Toxic Substances Control Act, 55 U.S.C. §§ 1601 et seq., requires that anyone who discovers that a material or substance in commercial use is or may be a significant risk to human health must report such findings to the Environmental Protection Agency within 15 days. Although greenhouse gases are human health hazards (because they have serious consequences in terms of global food production, disease virulence, and sanitation infrastructure, among other impacts), neither Imperial, Exxon, nor any other Defendant has ever filed a disclosure with the U.S. Environmental Protection Agency pursuant to the Toxic Substances Control Act. Exxon scientist Roger Cohen warned his colleagues in a 1981 internal memorandum that “future developments in global data gathering and analysis, along with advances in climate modeling, may provide strong evidence for a delayed CO2 effect of a truly substantial magnitude,” and that under certain circumstances it would be “very likely that we will unambiguously recognize the threat by the year 2000.”

Cohen had expressed concern that the memorandum mischaracterized potential effects of unabated CO2 emissions from Defendants’ fossil fuel products: “...it is distinctly possible that the...[Exxon Planning Division’s] scenario will produce effects which will indeed be catastrophic (at least for a substantial fraction of the world’s population).”

97. In 1981, Exxon’s Henry Shaw, the company’s lead climate researcher at the time, prepared a summary of Exxon’s current position on the greenhouse effect for Edward David Jr., president of Exxon Research and Engineering, stating in relevant part:

- “Atmospheric CO2 will double in 100 years if fossil fuels grow at 1.4%/ a2.
- 3°C global average temperature rise and 10°C at poles if CO2 doubles.
  - Major shifts in rainfall/agriculture
  - Polar ice may melt”

89 Id.
98. In 1982, another report prepared for API by scientists at the Lamont-Doherty Geological Observatory at Columbia University recognized that atmospheric CO₂ concentration had risen significantly compared to the beginning of the industrial revolution from about 290 parts per million to about 340 parts per million in 1981 and acknowledged that despite differences in climate modelers’ predictions, all models indicated a temperature increase caused by anthropogenic CO₂ within a global mean range of 4º C (7.2° F). The report advised that there was scientific consensus that “a doubling of atmospheric CO₂ from [] pre-industrial revolution value would result in an average global temperature rise of (3.0 ± 1.5)°C [5.4 ± 2.7° F].” It went further, warning that “[s]uch a warming can have serious consequences for man’s comfort and survival since patterns of aridity and rainfall can change, the height of the sea level can increase considerably and the world food supply can be affected.”

99. Also in 1982, Exxon’s Environmental Affairs Manager distributed a primer on climate change to a “wide circulation [of] Exxon management . . . intended to familiarize Exxon personnel with the subject.” The primer also was “restricted to Exxon personnel and not to be distributed externally.” The primer compiled science on climate change available at the time, and confirmed fossil fuel combustion as a primary anthropogenic contributor to global warming. The report estimated a CO₂ doubling around 2090 based on Exxon’s long-range modeled outlook. The author warned that the melting of the Antarctic ice sheet could result in global sea level rise

---

94 Id.
of five feet which would “cause flooding on much of the U.S. East Coast, including the State of
Florida and Washington, D.C.” Indeed, it warned that “there are some potentially catastrophic
events that must be considered,” including sea level rise from melting polar ice sheets. It noted
that some scientific groups were concerned “that once the effects are measurable, they might not
be reversible.”

100. In a summary of Exxon’s climate modeling research from 1982, Director of
Exxon’s Theoretical and Mathematical Sciences Laboratory Roger Cohen wrote that “the time
required for doubling of atmospheric CO₂ depends on future world consumption of fossil fuels.”
Cohen concluded that Exxon’s own results were “consistent with the published predictions of more
complex climate models” and “in accord with the scientific consensus on the effect of increased
atmospheric CO₂ on climate.”

101. At the fourth biennial Maurice Ewing Symposium at the Lamont-Doherty
Geophysical Observatory in October 1982, attended by members of API, Exxon Research and
Engineering Company president E.E. David delivered a speech titled: “Inventing the Future:
Energy and the CO₂ Greenhouse Effect.” His remarks included the following statement: “[F]ew
people doubt that the world has entered an energy transition away from dependence upon fossil
fuels and toward some mix of renewable resources that will not pose problems of CO₂
accumulation.” He went on, discussing the human opportunity to address anthropogenic climate
change before the point of no return:

It is ironic that the biggest uncertainties about the CO₂ buildup are not in predicting
what the climate will do, but in predicting what people will do. . . . [I]t appears we
still have time to generate the wealth and knowledge we will need to invent the
transition to a stable energy system.

---

95 Id.
96 Id.
97 Roger W. Cohen, Exxon Memo summarizing findings of research in climate modeling, Exxon Research and
98 E. E. David, Jr., Inventing the Future: Energy and the CO₂ Greenhouse Effect: Remarks at the Fourth Annual
102. Throughout the early 1980s, at Exxon’s direction, Exxon climate scientist Henry Shaw forecasted emissions of CO2 from fossil fuel use. Those estimates were incorporated into Exxon’s 21st century energy projections and were distributed among Exxon’s various divisions. Shaw’s conclusions included an expectation that atmospheric CO2 concentrations would double in 2090 per the Exxon model, with an attendant 2.3–5.6°F average global temperature increase. Shaw compared his model results to those of the U.S. EPA, the National Academy of Sciences, and the Massachusetts Institute of Technology, indicating that the Exxon model predicted a longer delay than any of the other models, although its temperature increase prediction was in the mid-range of the four projections.99

103. During the 1980s, many Defendants formed their own research units focused on climate modeling. The API, including the API CO2 Task Force, provided a forum for Defendants to share their research efforts and corroborate their findings related to anthropogenic greenhouse gas emissions.100

104. During this time, Defendants’ statements express an understanding of their obligation to consider and mitigate the externalities of unabated promotion, marketing, and sale of their fossil fuel products. For example, in 1988, Richard Tucker, the president of Mobil Oil, presented at the American Institute of Chemical Engineers National Meeting, the premier educational forum for chemical engineers, where he stated:

[H]umanity, which has created the industrial system that has transformed civilities, is also responsible for the environment, which sometimes is at risk because of unintended consequences of industrialization. . . . Maintaining the health of this life-support system is emerging as one of the highest priorities. . . . [W]e must all be environmentalists.

The environmental covenant requires action on many fronts…the low-atmosphere ozone problem, the upper-atmosphere ozone problem and the greenhouse effect,


to name a few. . . . Our strategy must be to reduce pollution before it is ever
generated – to prevent problems at the source.

Prevention means engineering a new generation of fuels, lubricants and chemical
products. . . . Prevention means designing catalysts and processes that minimize
or eliminate the production of unwanted byproducts. . . . Prevention on a global
scale may even require a dramatic reduction in our dependence on fossil fuels—
and a shift towards solar, hydrogen, and safe nuclear power. It may be possible
that—just possible—that the energy industry will transform itself so completely
that observers will declare it a new industry. . . . Brute force, low-tech responses
and money alone won’t meet the challenges we face in the energy industry.\textsuperscript{101}

105. In 1989, Esso Resources Canada (ExxonMobil) commissioned a report on the
impacts of climate change on existing and proposed natural gas facilities in the Mackenzie River
Valley and Delta, including extraction facilities on the Beaufort Sea and a pipeline crossing
Canada’s Northwest Territory.\textsuperscript{102} It reported that “large zones of the Mackenzie Valley could be
affected dramatically by climatic change” and that “the greatest concern in Norman Wells [oil
town in North West Territories, Canada] should be the changes in permafrost that are likely to
occur under conditions of climate warming.” The report concluded that, in light of climate models
showing a “general tendency towards warmer and wetter climate,” operation of those facilities
would be compromised by increased precipitation, increase in air temperature, changes in
permafrost conditions, and significantly, sea level rise and erosion damage.\textsuperscript{103} The authors
recommended factoring these eventualities into future development planning and also warned that
“a rise in sea level could cause increased flooding and erosion damage on Richards Island.”

106. In 1991, Shell produced a film called “Climate of Concern.” The film advises that
while “no two [climate change projection] scenarios fully agree . . . [they] have each prompted the
same serious warning. A warning endorsed by a uniquely broad consensus of scientists in their
report to the UN at the end of 1990.” The warning was an increasing frequency of abnormal
weather, and of sea level rise of about one meter over the coming century. Shell specifically

(November 30, 1988), https://hdl.handle.net/2027/pur1.32754074119482?urlappend=%3Bseq=522.}

\textsuperscript{102}\textsuperscript{Stephen Lonergan and Kathy Young, An Assessment of the Effects of Climate Warming on Energy
Developments in the Mackenzie River Valley and Delta, Canadian Arctic, Energy Exploration & Exploitation, Vol.

\textsuperscript{103}\textsuperscript{Id.}
described the impacts of anthropogenic sea level rise on tropical islands, “barely afloat even now ... [f]irst made uninhabitable and then obliterated beneath the waves. Wetland habitats destroyed by intruding salt. Coastal lowlands suffering pollution of precious groundwater.” It warned of “greenhouse refugees,” people who abandoned homelands inundated by the sea, or displaced because of catastrophic changes to the environment. The video concludes with a stark admonition: “Global warming is not yet certain, but many think that the wait for final proof would be irresponsible. Action now is seen as the only safe insurance.”

107. In the mid-1990s, ExxonMobil, Shell and Imperial Oil (ExxonMobil) jointly undertook the Sable Offshore Energy Project in Nova Scotia. The project’s own Environmental Impact Statement declared: “The impact of a global warming sea-level rise may be particularly significant in Nova Scotia. The long-term tide gauge records at a number of locations along the N.S. coast have shown sea level has been rising over the past century . . . . For the design of coastal and offshore structures, an estimated rise in water level, due to global warming, of 0.5 m [1.64 feet] may be assumed for the proposed project life (25 years).”

108. Climate change research conducted by Defendants and their industry associations frequently acknowledged uncertainties in their climate modeling—those uncertainties, however, were merely with respect to the magnitude and timing of climate impacts resulting from fossil fuel consumption, not that significant changes would eventually occur. The Defendants’ researchers and the researchers at their industry associations harbored little doubt that climate change was occurring and that fossil fuel products were, and are, the primary cause.

109. Despite the overwhelming information about the threats to people and the planet posed by continued unabated use of their fossil fuel products, Defendants failed to act as they reasonably should have to mitigate or avoid those dire adverse impacts. Defendants instead adopted the position, as described below, that the absence of meaningful regulations on the...
consumption of their fossil fuel products was the equivalent of a social license to continue the
unfettered pursuit of profits from those products. This position was an abdication of Defendants’
responsibility to consumers and the public, including Plaintiffs, to act on their unique knowledge
of the reasonably foreseeable hazards of unabated production and consumption of their fossil
fuel products.

E. Defendants Did Not Disclose Known Harms Associated with the Extraction,
Promotion and Consumption of Their Fossil Fuel Products and Instead
Affirmatively Acted to Obscure Those Harms and Engaged in a Concerted
Campaign to Evade Regulation.

110. By 1988, Defendants had amassed a compelling body of knowledge about the role
of anthropogenic greenhouse gases, and specifically those emitted from the normal use of
Defendants’ fossil fuel products, in causing global warming and sea level rise and the attendant
consequences for human communities and the environment. On notice that their products were
causing global climate change and dire effects on the planet, Defendants were faced with the
decision of whether to take steps to limit the damages their fossil fuel products were causing and
would continue to cause for virtually every one of Earth’s inhabitants, including the People of the
State of California, and the County of San Mateo and its citizens.

111. Defendants at any time before or thereafter could and should reasonably have taken
any of a number of steps to mitigate the damages caused by their fossil fuel products, and their
own comments reveal an awareness of what some of these steps may have been. Defendants should
have made reasonable warnings to consumers, the public, and regulators of the dangers known to
Defendants of the unabated consumption of their fossil fuel products, and they should have taken
reasonable steps to limit the potential greenhouse gas emissions arising out of their fossil
fuel products.

112. But several key events during the period 1988–1992 appear to have prompted
Defendants to change their tactics from general research and internal discussion on climate change
to a public campaign aimed at evading regulation of their fossil fuel products and/or emissions
therefrom. These include:
a. In 1988, National Aeronautics and Space Administration (NASA) scientists confirmed that human activities were actually contributing to global warming. On June 23 of that year, NASA scientist James Hansen’s presentation of this information to Congress engendered significant news coverage and publicity for the announcement, including coverage on the front page of the New York Times.

b. On July 28, 1988, Senator Robert Stafford and four bipartisan co-sponsors introduced S. 2666, “The Global Environmental Protection Act,” to regulate CO₂ and other greenhouse gases. Four more bipartisan bills to significantly reduce CO₂ pollution were introduced over the following ten weeks, and in August, U.S. Presidential candidate George H.W. Bush pledged that his presidency would “combat the greenhouse effect with the White House effect.” Political will in the United States to reduce anthropogenic greenhouse gas emissions and mitigate the harms associated with Defendants’ fossil fuel products was gaining momentum.

c. In December 1988, the United Nations formed the Intergovernmental Panel on Climate Change (IPCC), a scientific panel dedicated to providing the world’s governments with an objective, scientific analysis of climate change and its environmental, political, and economic impacts.

d. In 1990, the IPCC published its First Assessment Report on anthropogenic climate change, in which it concluded that (1) “there is a natural greenhouse effect which already keeps the Earth warmer than it would otherwise be,” and (2) that

emissions resulting from human activities are substantially increasing the atmospheric concentrations of the greenhouse gases carbon dioxide, methane, chlorofluorocarbons (CFCs) and nitrous oxide. These increases will enhance the greenhouse effect, resulting on average in an additional warming of the Earth's surface. The main greenhouse gas, water vapour, will increase in response to global warming and further enhance it.109

The IPCC reconfirmed these conclusions in a 1992 supplement to the First Assessment report.110

e. The United Nations began preparation for the 1992 Earth Summit in Rio de Janeiro, Brazil, a major, newsworthy gathering of 172 world governments, of which 116 sent their heads of state. The Summit resulted in the United Nations Framework Convention on Climate Change (UNFCCC), an international environmental treaty providing protocols for future negotiations aimed at “stabiliz[ing] greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.”111

113. These world events marked a shift in public discussion of climate change, and the initiation of international efforts to curb anthropogenic greenhouse emissions – developments that had stark implications for, and would have diminished the profitability of, Defendants’ fossil fuel products.

114. But rather than collaborating with the international community by acting to forestall, or at least decrease, their fossil fuel products’ contributions to global warming, sea level rise, and injuries to San Mateo and other coastal communities, Defendants embarked on a decades-long campaign designed to maximize continued dependence on their products and undermine national and international efforts like the Kyoto Protocol to rein in greenhouse gas emissions.

115. Defendants’ campaign, which focused on concealing, discrediting, and/or misrepresenting information that tended to support restricting consumption of (and thereby decreasing demand for) Defendants’ fossil fuel products, took several forms. The campaign enabled Defendants to accelerate their business practice of exploiting fossil fuel reserves, and concurrently externalize the social and environmental costs of their fossil fuel products. These activities stood in direct contradiction to Defendants’ own prior recognition that the science of anthropogenic climate change was clear and that the greatest uncertainties involved responsive human behavior, not scientific understanding of the issue.

116. Defendants took affirmative steps to conceal, from Plaintiffs and the general public, the foreseeable impacts of the use of their fossil fuel products on the Earth’s climate and associated harms to people and communities. Defendants embarked on a concerted public relations campaign to cast doubt on the science connecting global climate change to fossil fuel products and greenhouse gas emissions, in order to influence public perception of the existence of anthropogenic global warming and sea level rise. The effort included promoting their hazardous products through advertising campaigns and the initiation and funding of climate change denialist organizations, designed to influence consumers to continue using Defendants’ fossil fuel products irrespective of those products’ damage to communities and the environment.

117. For example, in 1988, Joseph Carlson, an Exxon public affairs manager, described the “Exxon Position,” which included among others, two important messaging tenets: (1) “[e]mphasize the uncertainty in scientific conclusions regarding the potential enhanced Greenhouse Effect;” and (2) “[r]esist the overstatement and sensationalization [sic] of potential greenhouse effect which could lead to noneconomic development of non-fossil fuel resources.”

118. In 1991, for example, the Information Council for the Environment (“ICE”), whose members included affiliates, predecessors and/or subsidiaries of Defendants, including Peabody, Ohio Valley Coal Company (Murray Energy), Pittsburg and Midway Coal Mining (Chevron), and Island Creek Coal Company (Occidental), launched a national climate change science denial...
campaign with full-page newspaper ads, radio commercials, a public relations tour schedule, “mailers,” and research tools to measure campaign success. Included among the campaign strategies was to “reposition global warming as theory (not fact).” Its target audience included older less-educated males who are “predisposed to favor the ICE agenda, and likely to be even more supportive of that agenda following exposure to new info” as well as younger, lower-income women likely to be “green” consumers but who “are also most likely to soften their support for federal legislation after hearing new information on global warming.” The effort focused on a few select cities for their test marketing; these cities were selected on the basis that the majority of their electricity came from coal, they were home to members of the U.S. House of Representatives Energy and Commerce or Ways and Means committees, and they had low media costs.

119. An implicit goal of ICE’s advertising campaign was to change public opinion and avoid regulation. A memo from Richard Lawson, president of the National Coal Association asked members to contribute to the ICE campaign with the justification that “policymakers are prepared to act [on global warming]. Public opinion polls reveal that 60% of the American people already believe global warming is a serious environmental problem. Our industry cannot sit on the sidelines in this debate.”

120. The following images are examples of ICE-funded print advertisements challenging the validity of climate science and intended to obscure the scientific consensus on anthropogenic climate change and induce political inertia to address it.


114 Id.

121. In 1996, Exxon released a publication called “Global Warming: Who’s Right? Facts about a debate that’s turned up more questions than answers.” In the publication’s preface, Exxon CEO Lee Raymond stated that “taking drastic action immediately is unnecessary since many scientists agree there’s ample time to better understand the climate system.” The subsequent article described the greenhouse effect as “unquestionably real and definitely a good thing,” while ignoring the severe consequences that would result from the influence of the increased CO₂ concentration on the Earth’s climate. Instead, it characterized the greenhouse effect as simply “what makes the earth’s atmosphere livable.” Directly contradicting their own internal reports and peer-reviewed science, the article ascribed the rise in temperature since the late 19th century to “natural fluctuations that occur over long periods of time” rather than to the anthropogenic emissions that Exxon and other scientists had confirmed were responsible. The article also falsely challenged the computer models that projected the future impacts of unabated fossil fuel product consumption, including those developed by Exxon’s own employees, as having been “proved to be inaccurate.” The article contradicted the numerous reports circulated among Exxon’s staff, and by the API, by stating that “the indications are that a warmer world would be far more benign than many imagine . . . moderate warming would reduce mortality rates in the US, so a slightly warmer climate would be more healthful.” Raymond concluded his preface by attacking advocates for limiting the use of his company’s fossil fuel products as “drawing on bad science, faulty logic, or
unrealistic assumptions”—despite the important role that Exxon’s own scientists had played in compiling those same scientific underpinnings.117

122. In a speech presented at the World Petroleum Congress in Beijing in 1997 at which many of the Defendants were present, Exxon CEO Lee Raymond reiterated these views. This time, he presented a false dichotomy between stable energy markets and abatement of the marketing, promotion, and sale of fossil fuel products known to Defendants to be hazardous. He stated:

Some people who argue that we should drastically curtail our use of fossil fuels for environmental reasons…my belief [is] that such proposals are neither prudent nor practical. With no readily available economic alternatives on the horizon, fossil fuels will continue to supply most of the world’s and this region’s energy for the foreseeable future.

Governments also need to provide a stable investment climate…They should avoid the temptation to intervene in energy markets in ways that give advantage to one competitor over another or one fuel over another.

We also have to keep in mind that most of the greenhouse effects comes from natural sources . . . . Leaping to radically cut this tiny sliver of the greenhouse pie on the premise that it will affect climate defies common sense and lacks foundation in our current understanding of the climate system.

Let’s agree there’s a lot we really don’t know about how climate will change in the 21st century and beyond. . . . It is highly unlikely that the temperature in the middle of the next century will be significantly affected whether policies are enacted now or 20 years from now. It’s bad public policy to impose very costly regulations and restrictions when their need has yet to be proven.118

123. Imperial Oil CEO Robert Peterson falsely denied the established connection between Defendants’ fossil fuel products and anthropogenic climate change in the Summer 1998 Imperial Oil Review, “A Cleaner Canada”:

[T]his issue [referring to climate change] has absolutely nothing to do with pollution and air quality. Carbon dioxide is not a pollutant but an essential ingredient of life on this planet. . . . [T]he question of whether or not the trapping

of ‘greenhouse gases will result in the planet’s getting warmer…has no connection whatsoever with our day-to-day weather.

There is absolutely no agreement among climatologists on whether or not the planet is getting warmer, or, if it is, on whether the warming is the result of man-made factors or natural variations in the climate. . . . I feel very safe in saying that the view that burning fossil fuels will result in global climate change remains an unproved hypothesis.\textsuperscript{119}

124. Mobil (ExxonMobil) paid for a series of “advertorials,” advertisements located in the editorial section of the New York Times and meant to look like editorials rather than paid ads. These ads discussed various aspects of the public discussion of climate change and sought to undermine the justifications for tackling greenhouse gas emissions as unsettled science. The 1997 advertorial below\textsuperscript{120} argued that economic analysis of emissions restrictions was faulty and inconclusive and therefore a justification for delaying action on climate change.


When facts don't square with the theory, throw out the facts

That seems to characterize the administration's attitude on two of its own studies which show that international efforts to curb global warming could spark a big run-up in energy prices.

For months, the administration—playing its cards close to the vest—has promised to provide details of the emission reduction plan it will put on the table at the climate change meeting in Kyoto, Japan, later this year. It also promised to evaluate the economics of that policy and measure its impact. Those results are important because the proposals submitted by other countries thus far would be disruptive and costly to the U.S. economy.

Yet, when the results from its own economic models were finally generated, the administration started distancing itself from the findings and models that produced them. The administration's top economic advisor said that economic models can't provide a "definitive answer" on the impact of controlling emissions. The effort, she said, was "futile." At best, the models can only provide a "range of potential impacts."

Frankly, we're puzzled. The White House has promised to lay the economic facts before the public. Yet, the administration's top advisor said such an analysis won't be based on models and it will "preclude...detailed numbers." If you don't provide numbers and don't rely on models, what kind of rigorous economic examination can Congress and the public expect?

We're also puzzled by ambivalence over models. The administration downplays the utility of economic models to forecast cost impacts 10-15 years from now, yet its negotiators accept as gospel the 50-100-year predictions of global warming that have been generated by climate models—many of which have been criticized as seriously flawed.

The second study, conducted by Argonne National Laboratory under a contract with the Energy Department, examined what would happen if the U.S. had to commit to higher energy prices under the emission reduction plans that several nations had advanced last year. Such increases, the report concluded, would result in "significant reductions in output and employment" in six industries—aluminum, cement, chemical, paper and pulp, petroleum refining and steel.

Hit hardest, the study noted, would be the chemical industry, with estimates that up to 30 percent of U.S. chemical manufacturing capacity would move offshore to developing countries. Job losses could amount to some 200,000 in that industry, with another 100,000 in the steel sector. And despite the substantial loss of U.S. jobs and manufacturing capacity, the net emission reduction could be insignificant since developing countries will not be bound by the emission targets of a global warming treaty.

Downplaying Argonne's findings, the Energy Department noted that the study used outdated energy prices (mid-1996), didn't reflect the gains that would come from international emissions trading and failed to factor in the benefits of accelerated developments in energy efficiency and low-carbon technologies.

What it failed to mention is just what these new technologies are and when we can expect their benefits to kick in. As for emissions trading, many economists have theorized about the role they could play in reducing emissions, but few have grappled with the practicality of implementing and policing such a scheme.

We applaud the goals the U.S. wants to achieve in these upcoming negotiations—namely, that a final agreement must be "flexible, cost-effective, realistic, achievable and ultimately global in scope." But until we see the details of the administration's policy, we are concerned that plans are being developed in the absence of rigorous economic analysis. Too much is at stake to simply ignore facts that don't square with preconceived theories.
125. In 1998, API, on behalf of Defendants, among other fossil fuel companies and organizations supported by fossil fuel corporate grants, developed a Global Climate Science Communications Plan that stated that unless “climate change becomes a non-issue . . . there may be no moment when we can declare victory for our efforts.” Rather, API proclaimed that “[v]ictory will be achieved when . . . average citizens ‘understand’ (recognize) uncertainties in climate science; [and when] recognition of uncertainties becomes part of the ‘conventional wisdom.’”

The multi-million-dollar, multi-year proposed budget included public outreach and the dissemination of educational materials to schools to “begin to erect a barrier against further efforts to impose Kyoto-like measures in the future”—a blatant attempt to disrupt international efforts, pursuant to the UNFCCC, to negotiate a treaty that curbed greenhouse gas emissions.

126. Soon after, API distributed a memo to its members identifying public agreement on fossil fuel role in climate change as its highest priority issue. The memorandum illuminates API’s and Defendants’ concern over the potential regulation of Defendants’ fossil fuel products: “Climate is at the center of the industry’s business interests. Policies limiting carbon emissions reduce petroleum product use. That is why it is API’s highest priority issue and defined as ‘strategic.’” Further, the API memo stresses many of the strategies that Defendants individually and collectively utilized to combat the perception of their fossil fuel products as hazardous. These included:

a. Influencing the tenor of the climate change “debate” as a means to establish that greenhouse gas reduction policies like the Kyoto Protocol were not necessary to responsibly address climate change;

---

124 Id.
b. Maintaining strong working relationships between government regulators and communications-oriented organizations like the Global Climate Coalition, the Heartland Institute, and other groups carrying Defendants’ message minimizing the hazards of the unabated use of their fossil fuel products and opposing regulation thereof;

c. Building the case for (and falsely dichotomizing) Defendants’ positive contributions to a “long-term approach” (ostensibly for regulation of their products) as a reason for society to reject short term fossil fuel emissions regulations, and engaging in climate change science uncertainty research; and

d. Presenting Defendants’ positions on climate change in domestic and international forums, including by preparing rebuttals to IPCC reports.

127. Additionally, Defendants mounted a campaign against regulation of their business practices in order to continue placing their fossil fuel products into the stream of commerce, despite their own knowledge and the growing national and international scientific consensus about the hazards of doing so. These efforts came despite Defendants’ recent recognition that “risks to nearly every facet of life on Earth . . . could be avoided only if timely steps were taken to address climate change.”125

128. The Global Climate Coalition (GCC), on behalf of Defendants and other fossil fuel companies, funded advertising campaigns and distributed material to generate public uncertainty around the climate debate, with the specific purpose of preventing U.S. adoption of the Kyoto Protocol, despite the leading role that the U.S. had played in the Protocol negotiations.126 Despite an internal primer stating that various “contrarian theories” [i.e., climate change skepticism] do

---


not “offer convincing arguments against the conventional model of greenhouse gas emission-
induced climate change.” GCC excluded this section from the public version of the backgrounder
and instead funded efforts to promote some of those same contrarian theories over subsequent
years.127

129. The efforts by the Defendants and other fossil fuel interests to sow uncertainty and
prevent regulation have been successful. GCC and its cohorts staved off greenhouse gas regulation
in the U.S., as indicated by U.S. Undersecretary of State Paula Dobriansky’s talking points
compiled before a 2001 meeting with GCC representatives: “POTUS [President of the United
States] rejected Kyoto, in part, based on [GCC’s] input.”128 When GCC disbanded later that year,
it commemorated the occasion on its website by stating that “the industry voice on climate change
has served its purpose by contributing to a new national approach to global warming.”129

130. A key strategy in Defendants’ efforts to discredit scientific consensus on climate
change and the IPCC was to bankroll scientists who, although accredited, held fringe opinions that
were even more questionable given the sources of their research funding. These scientists obtained
part or all of their research budget from Defendants directly or through Defendant-funded
organizations like API,130 but they frequently failed to disclose their fossil fuel industry
underwriters.131

131. Creating a false sense of disagreement in the scientific community (despite the
consensus that its own scientists, experts, and managers had previously acknowledged) has had an
evident impact on public opinion. A 2007 Yale University-Gallup poll found that while 71% of

127 Gregory J. Dana, Memo to AIAM Technical Committee Re: Global Climate Coalition (GCC) – Primer on
Climate Change Science – Final Draft, Association of International Automobile Manufacturers (January 18, 1996),
128 Ken Brill, Briefing Memorandum to Under Secretary Dobriansky, Your Meeting with members of the Global
Climate Coalition, June 21, 2001, 9:10 – 9:50 a.m., United States Department of State (June 20, 2001),
129 Global Climate Coalition, A Voice for Business in the Global Warming Debate (April 3, 2001)
130 Willie Soon and Sallie Baliunas, Proxy Climatic and Environmental Changes of the Past 1000 Years, Climate
131 Newsdesk, Smithsonian Statement: Dr. Wei-Hock (Willie) Soon, Smithsonian (February 26, 2015),
Americans personally believed global warming was happening, only 48% believed that there was a consensus among the scientific community, and 40% believed there was a lot of disagreement among scientists over whether global warming was occurring.132

132. 2007 was the same year the IPCC published its Fourth Assessment Report, in which it concluded that “there is very high confidence that the net effect of human activities since 1750 has been one of warming.”133 The IPCC defined “very high confidence” as at least a 9 out of 10 chance.134

133. Defendants borrowed pages out of the playbook of prior denialist campaigns. A “Global Climate Science Team” (“GCST”) was created that mirrored a front group created by the tobacco industry, known as The Advancement of Sound Science Coalition, whose purpose was to sow uncertainty about the fact that cigarette smoke is carcinogenic. The GCST’s membership included Steve Milloy (a key player on the tobacco industry’s front group), Exxon’s senior environmental lobbyist; an API public relations representative; and representatives from Chevron and Southern Company that drafted API’s 1998 Communications Plan. There were no scientists on the “Global Climate Science Team.” GCST developed a strategy to spend millions of dollars manufacturing climate change uncertainty. Between 2000 and 2004, Exxon donated $110,000 to Milloy’s efforts and another organization, the Free Enterprise Education Institute and $50,000 to the Free Enterprise Action Institute, both registered to Milloy’s home address.135

134. Defendants by and through their trade association memberships, worked directly, and often in a deliberately obscured manner, to evade regulation of the emissions resulting from use of their fossil fuel products. For instance, the American Coalition for Clean Coal Electricity

134 Id.
(ACCCE), on behalf of Defendants, hired a lobbying firm, which posed as various nonprofits and
sent letters to persuade members of Congress to vote against the American Clean Energy and
Security Act of 2009, which would have imposed a carbon cap and trade program in the U.S.136
Instead, the letters falsely and misleadingly purported to come from groups representing local
minority communities, including a local NAACP chapter and a Latino advocacy group.137

135. The same year, in 2009, a leaked email revealed a campaign by API to organize
“grass roots” rallies of “energy citizens” to coincide with the United States Congress’s August
recess, to oppose the Clean Energy and Security Act, the climate change bill that had just passed
the House and was headed to the Senate for debate.138 Ostensibly intended to “allow people to
voice their concerns” and opposing the need for concerted efforts to combat climate change, emails
from API to its members state that “it’s important our views be heard,” and that “success for these
events will be the diversity of the participants expressing the same message,” which was ultimately
misleading and contrary to the acknowledged scientific consensus.139 The purpose of the events
was to “put a human face” on the industry’s misleading and unsupported position and to reinforce
that misleading position in the minds of the public. The same emails to API members stated that
“our messages on [similar] legislation work extremely well and are very persuasive with the
general public and policy influentials.” Moreover, the email stated that API would “provide the
up-front resources to ensure logistical issues do not become a problem,” but insisted that member
companies “provide significant attendance.”140

136. Emails between American Fuel & Petrochemical Manufacturers (“AFPM”), a
national lobbying group, and the office of then-Oklahoma Attorney General Scott Pruitt evidence

136 Union of Concerned Scientists, Deception Dossier #4: American Coalition for Clean Coal Electricity Forged
forged-letters.pdf.
137 Brian McNeill, Lobbying letters to Perriello found to be fakes, Richmond Times-Dispatch (Aug. 1, 2009)
http://www.richmond.com/news/lobbying-letters-to-perriello-found-to-be-fakes/article_3f8f5a2b-cf38-54d9-98f7-
ba21c4eb51f1.html.
139 Phil Radford, Letter to Jack Gerard, President & CEO of API, Greenpeace (August 2009)
140 Id.

137. A 2014 presentation revealed that the Western States Petroleum Association, on behalf of Defendants, among other fossil fuel companies, funded dozens of supposedly grassroots organizations to block progressive energy regulation.\footnote{WSPA Priority Issues, Western States Petroleum Association (November 11, 2014) https://www.indybay.org/uploads/2014/12/12/washington_research_council_-_cathy_reheis-boyd.pdf.} This practice is called “astroturfing”: astroturf is meant to look like grass, but it is fake. Similarly, large companies and corporate organizations like WSPA fund fake grassroots movements to gain credibility from the public, who does not know the true source of the propaganda.

138. Beyond direct interference, Defendants have funded dozens of think tanks, front groups, lobbyists, and dark money foundations pushing climate change denial. These include the Competitive Enterprise Institute, the Heartland Institute, Frontiers for Freedom, Committee for a Constructive Tomorrow, and Heritage Foundation. From 1998 to 2014 ExxonMobil spent almost $31 million funding numerous organizations misrepresenting the scientific consensus that Defendants’ fossil fuel products were causing climate change, sea level rise, and injuries to San Mateo, among other coastal communities.\footnote{ExxonSecrets.org, ExxonMobil Climate Denial Funding 1998–2014 http://exxonsecrets.org/html/index.php.} Several Defendants have been linked to other groups that undermine the scientific basis linking Defendants’ fossil fuel products to climate change and sea level rise, including the Energy & Environment Legal Institute (Arch Coal\footnote{Seth Shulman et al. Smoke, Mirrors & Hot Air: How ExxonMobil Uses Big Tobacco’s Tactics to Manufacture Uncertainty on Climate Science, Union of Concerned Scientists, 19 (January 2007), http://www.ucsusa.org/sites/default/files/legacy/assets/documents/global_warming/exxon_report.pdf.} and the Frontiers of Freedom Institute, the George C. Marshall Institute, and the Center for the Study of Carbon Dioxide and Global Change (Peabody Energy).\footnote{In re: Peabody Energy Corporation, et al., (E.D. Mo.), Certificate of Service, Doc. Number 602, 140 (May 27, 2016), https://www.documentcloud.org/documents/2859772.}
139. Exxon acknowledged its own previous success in sowing uncertainty and slowing mitigation through funding of climate denial groups. In its 2007 Corporate Citizenship Report, Exxon declared: “In 2008, we will discontinue contributions to several public policy research groups whose position on climate change could divert attention from the important discussion on how the world will secure the energy required for economic growth in an environmentally responsible manner.” Despite this pronouncement, Exxon remained financially associated with several such groups after the report’s publication.

140. Defendants could have contributed to the global effort to mitigate the impacts of greenhouse gas emissions by, for example delineating practical policy goals and regulatory structures that would have allowed them to continue their business ventures while reducing greenhouse gas emissions and supporting a transition to a lower carbon future. Instead, Defendants undertook a momentous effort to evade international and national regulation of greenhouse gas emissions to enable them to continue unabated fossil fuel production.

141. As a result of Defendants’ tortious, false and misleading conduct, reasonable consumers of Defendants’ fossil fuel products and policy-makers, have been deliberately and unnecessarily deceived about: the role of fossil fuel products in causing global warming and sea level rise; the acceleration of global warming since the mid-20th century and the continuation thereof; and about the fact that the continued increase in fossil fuel product consumption that creates severe environmental threats and significant economic costs for coastal communities, including San Mateo County. Reasonable consumers and policy makers have also been deceived about the depth and breadth of the state of the scientific evidence on anthropogenic climate change, and in particular on the strength of the scientific consensus demonstrating the role of fossil fuels in causing both climate change and a wide range of potentially destructive impacts, including sea level rise.

F. In Contrast to Their Public Statements, Defendants’ Internal Actions Demonstrate their Awareness of and Intent to Profit from the Unabated Use of Fossil Fuel Products.

142. In contrast to their public-facing efforts challenging the validity of the scientific consensus about anthropogenic climate change, Defendants’ acts and omissions evidence their internal acknowledgement of the reality of sea level rise and its likely consequences. These actions include, but are not limited to, making multi-billion-dollar infrastructure investments for their own operations that acknowledge the reality of coming anthropogenic climate-related change. These investments included (among others), raising offshore oil platforms to protect against sea level rise; reinforcing offshore oil platforms to withstand increased wave strength and storm severity; and developing and patenting designs for equipment intended to extract crude oil and/or natural gas in areas previously unreachable because of the presence of polar ice sheets.147

143. For example, in 1973 Exxon obtained a patent for a cargo ship capable of breaking through sea ice148 and for an oil tanker149 designed specifically for use in previously unreachable areas of the Arctic.

144. In 1974, Chevron obtained a patent for a mobile arctic drilling platform designed to withstand significant interference from lateral ice masses,150 allowing for drilling in areas with increased ice floe movement due to elevated temperature.

145. That same year, Texaco (Chevron) worked toward obtaining a patent for a method and apparatus for reducing ice forces on a marine structure prone to being frozen in ice through natural weather conditions,151 allowing for drilling in previously unreachable Arctic areas that would become seasonally accessible.

147 Amy Lieberman and Suzanne Rust, Big Oil braced for global warming while it fought regulations, L.A. Times (December 31, 2015) http://graphics.latimes.com/oil-operations/.
146. Shell obtained a patent similar to Texaco’s (Chevron) in 1984.\textsuperscript{152}

147. In 1989, Norske Shell, Royal Dutch Shell’s Norwegian subsidiary, altered designs for a natural gas platform planned for construction in the North Sea to account for anticipated sea level rise. Those design changes were ultimately carried out by Shell’s contractors, adding substantial costs to the project.\textsuperscript{153}

   a. The Troll field, off the Norwegian coast in the North Sea, was proven to contain large natural oil and gas deposits in 1979, shortly after Norske Shell was approved by Norwegian oil and gas regulators to operate a portion of the field.

   b. In 1986, the Norwegian parliament granted Norske Shell authority to complete the first development phase of the Troll field gas deposits, and Norske Shell began designing the “Troll A” gas platform, with the intent to begin operation of the platform in approximately 1995. Based on the very large size of the gas deposits in the Troll field, the Troll A platform was projected to operate for approximately 70 years.

   c. The platform was originally designed to stand approximately 100 feet above sea level—the amount necessary to stay above waves in a once-in-a-century strength storm.

   d. In 1989, Shell engineers revised their plans to increase the above-water height of the platform by 3–6 feet, specifically to account for higher anticipated average sea levels and increased storm intensity due to global warming over the platform’s 70-year operational life.\textsuperscript{154}

   e. Shell projected that the additional 3–6 feet of above-water construction would increase the cost of the Troll A platform by as much as $40 million.

\textsuperscript{152} Patents, Arctic offshore platform, Shell Oil Company (January 24, 1984) https://www.google.com/patents/US4427320.


\textsuperscript{154} Id.; Amy Lieberman and Suzanne Rust, Big Oil braced for global warming while it fought regulations, L.A. Times (December 31, 2015), http://graphics.latimes.com/oil-operations/.
G. Defendants’ Actions Prevented the Development of Alternatives That Would Have Eased the Transition to a Less Fossil Fuel Dependent Economy.

148. The harms and benefits of Defendants’ conduct can be balanced in part by weighing the social benefit of extracting and burning a unit of fossil fuels against the costs that a unit of fuel imposes on society, known as the “social cost of carbon” or “SCC.”

149. Because climatic responses to atmospheric temperature increases are non-linear, and because greenhouse gas pollution accumulates in the atmosphere, some of which does not dissipate for potentially thousands of years (namely CO₂), there is broad agreement that SCC increases as emissions rise, and as the climate warms. Relatedly, as atmospheric CO₂ levels and surface temperature increase, the costs of remediating any individual environmental injury—for example infrastructure to mitigate sea level rise, and changes to agricultural processes—also increases. In short, each additional ton of CO₂ emitted into the atmosphere will have a greater net social cost as emissions increase, and each additional ton of CO₂ will have a greater net social cost as global warming accelerates.

150. A critical corollary of the non-linear relationship between atmospheric CO₂ concentrations and SCC is that delayed efforts to curb those emissions have increased environmental harms and will increase the magnitude and cost to remediate harms that have already occurred or are locked in by previous emissions. Therefore, Defendants’ campaign to obscure the science of climate change and to expand the extraction and use of fossil fuels greatly increased and continues to increase the harms and rate of harms suffered by the County and the People.

151. The consequences of delayed action on climate change, exacerbated by Defendants’ actions, has already drastically increased the cost of mitigating further harm. Had concerted action begun even as late as 2005, an annual 3.5% reduction in CO₂ emissions to lower atmospheric CO₂ to 350 ppm by the year 2100 would have restored earth’s energy balance¹⁵⁵ and halted future global

¹⁵⁵ “Climate equilibrium” is the balance between Earth’s absorption of solar energy and its own energy radiation. Earth is currently out of equilibrium due to the influence of anthropogenic greenhouse gases, which prevent radiation of energy into space. Earth therefore warms and move back toward energy balance. Reduction of global
warming, although such efforts would not forestall committed sea level rise already locked in.  If efforts do not begin until 2020, however, a 15% annual reduction will be required to restore the Earth’s energy balance by the end of the century. Earlier steps to reduce emissions would have led to smaller—and less disruptive—measures needed to mitigate the impacts of fossil fuel production.

152. The costs of inaction and the opportunities to confront anthropogenic climate change and sea level rise caused by normal consumption of their fossil fuel products, were not lost on Defendants. In a 1997 speech by John Browne, Group Executive for BP America, at Stanford University, Browne described Defendants’ and the entire fossil fuel industry’s responsibility and opportunities to reduce use of fossil fuel products, reduce global CO₂ emissions, and mitigate the harms associated with the use and consumption of such products:

A new age demands a fresh perspective of the nature of society and responsibility.

We need to go beyond analysis and to take action. It is a moment for change and for a rethinking of corporate responsibility. . . .

There is now an effective consensus among the world's leading scientists and serious and well informed people outside the scientific community that there is a discernible human influence on the climate, and a link between the concentration of carbon dioxide and the increase in temperature.

The prediction of the IPCC is that over the next century temperatures might rise by a further 1 to 3.5 degrees centigrade [1.8º – 6.3º F], and that sea levels might rise by between 15 and 95 centimetres [5.9 and 37.4 inches]. Some of that impact is probably unavoidable, because it results from current emissions. . . .

It would be unwise and potentially dangerous to ignore the mounting concern.

The time to consider the policy dimensions of climate change is not when the link CO₂ concentrations to 350 ppm is necessary to re-achieve energy balance, if the aim is to stabilize climate without further global warming and attendant sea level rise. See James Hansen et al., Assessing “Dangerous Climate Change”: Required Reduction of Carbon Emissions to Protect Young People, Future Generations and Nature, 8 PLOS ONE 1, 4-5 (December 3, 2013), http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0081648.

between greenhouse gases and climate change is conclusively proven . . . but when
the possibility cannot be discounted and is taken seriously by the society of which
we are part. . . .

We [the fossil fuel industry] have a responsibility to act, and I hope that through
our actions we can contribute to the much wider process which is desirable and
necessary.

BP accepts that responsibility and we're therefore taking some specific steps.

To control our own emissions.

To fund continuing scientific research.

To take initiatives for joint implementation.

To develop alternative fuels for the long term.

And to contribute to the public policy debate in search of the wider global answers
to the problem.**158

153. Despite Defendants’ knowledge of the foreseeable, measurable harms associated
with the unabated consumption and use of their fossil fuel products, and despite the existence and
Defendants’ knowledge of technologies and practices that could have helped to reduce the
foreseeable dangers associated with their fossil fuel products, Defendants continued to market and
promote heavy fossil fuel use, dramatically increasing the cost of abatement. At all relevant times,
Defendants were deeply familiar with opportunities to reduce the use of their fossil fuel products,
reduce global CO₂ emissions associated therewith, and mitigate the harms associated with the use
and consumption of such products. Examples of that recognition include, but are not limited to the
following:

a. In 1963, Esso (Exxon) obtained multiple patents on technologies for fuel
cells, including on the design of a fuel cell and necessary electrodes,**159 and
on a process for increasing the oxidation of a fuel, specifically methanol, to

158 John Browne, BP Climate Change Speech to Stanford, Climate Files (May 19, 1997),
159 Patents, Fuel cell and fuel cell electrodes, Exxon Research Engineering Co. (December 31, 1963)
produce electricity in a fuel cell.\textsuperscript{160}

b. In 1970, Esso (ExxonMobil) obtained a patent for a “low-polluting engine and drive system” that used an interburner and air compressor to reduce pollutant emissions, including CO\textsubscript{2} emissions, from gasoline combustion engines (the system also increased the efficiency of the fossil fuel products used in such engines, thereby lowering the amount of fossil fuel product necessary to operate engines equipped with this technology).

154. Defendants could have made major inroads to mitigate Plaintiffs’ injuries through technology by developing and employing technologies to capture and sequester greenhouse gases emissions associated with conventional use of their fossil fuel products. Defendants had knowledge dating at least back to the 1960s, and indeed, internally researched and perfected many such technologies. For instance:

a. The first patent for enhanced oil recovery technology, a process by which CO\textsubscript{2} is captured and reinjected into oil deposits, was granted to an ARCO (BP) subsidiary in 1952.\textsuperscript{162} This technology could have been further developed as a carbon capture and sequestration technique;

b. Phillips Petroleum Company (ConocoPhillips) obtained a patent in 1966 for a “Method for recovering a purified component from a gas” outlining a process to remove carbon from natural gas and gasoline streams;\textsuperscript{163} and

c. In 1973, Shell was granted a patent for a process to remove acidic gases, including CO\textsubscript{2}, from gaseous mixtures.


155. Despite this knowledge, Defendants’ later forays into the alternative energy sector were largely pretenses. For instance, in 2001, Chevron developed and shared a sophisticated information management system to gather greenhouse gas emissions data from its explorations and production to help regulate and set reduction goals. Beyond this technological breakthrough, Chevron touted “profitable renewable energy” as part of its business plan for several years and launched a 2010 advertising campaign promoting the company’s move towards renewable energy. Despite all this, Chevron rolled back its renewable and alternative energy projects in 2014.

156. Similarly, ConocoPhillips’ 2012 Sustainable Development report declared developing renewable energy a priority in keeping with their position on sustainable development and climate change. Their 10-K filing from the same year told a different story: “As an independent E&P company, we are solely focused on our core business of exploring for, developing and producing crude oil and natural gas globally.”

157. Likewise, while Shell orchestrated an entire public relations campaign around energy transitions towards net zero emissions, a fine-print disclaimer in its 2016 net-zero pathways report reads: “We have no immediate plans to move to a net-zero emissions portfolio over our investment horizon of 10–20 years.”

158. BP, appearing to abide by the representations Lord Browne made in his 1997 speech described above, engaged in a rebranding campaign to convey an air of environmental stewardship and renewable energy to its consumers. This included renouncing its membership in the GCC in 2007, changing its name from “British Petroleum” to “BP” while adopting the slogan...

---

“Beyond Petroleum,” and adopting a conspicuously green corporate logo. However, BP’s self-touted “alternative energy” investments during this turnaround included investments in natural gas, a fossil fuel, and in 2007 the company reinvested in Canadian tar sands, a particularly high-carbon source of oil. The company ultimately abandoned its wind and solar assets in 2011 and 2013, respectively, and even the “Beyond Petroleum” moniker in 2013.

159. After posting a $10 billion quarterly profit, Exxon in 2005 stated that “We’re an oil and gas company. In times past, when we tried to get into other businesses, we didn’t do it well. We’d rather re-invest in what we know.”

160. Even if Defendants did not adopt technological or energy source alternatives that would have reduced use of fossil fuel products, reduced global greenhouse gas pollution, and/or mitigated the harms associated with the use and consumption of such products, Defendants could have taken other practical, cost-effective steps to reduce the use of their fossil fuel products, reduce global greenhouse gas pollution associated therewith, and mitigate the harms associated with the use and consumption of such products. These alternatives could have included, among other measures:

a. Accepting scientific evidence on the validity of anthropogenic climate change and the damages it will cause people and communities, including Plaintiffs, and the environment. Mere acceptance of that information would have altered the debate from whether to combat climate change and sea level rise to how to combat it; and avoided much of the public confusion that has ensued over nearly 30 years, since at least 1988;

b. Forthrightly communicating with Defendants’ shareholders, banks, insurers, the public, regulators and Plaintiffs about the global warming and sea level rise hazards of Defendants’ fossil fuel products that were known...
to Defendants, would have enabled those groups to make material, informed
decisions about whether and how to address climate change and sea level
rise vis-à-vis Defendants’ products;

c. Refraining from affirmative efforts, whether directly, through coalitions, or
through front groups, to distort public debate, and to cause many consumers
and business and political leaders to think the relevant science was far less
certain that it actually was;

d. Sharing their internal scientific research with the public, and with other
scientists and business leaders, so as to increase public understanding of the
scientific underpinnings of climate change its relation to Defendants’ fossil
fuel products;

e. Supporting and encouraging policies to avoid dangerous climate change,
and demonstrating corporate leadership in addressing the challenges of
transitioning to a low-carbon economy;

f. Prioritizing alternative sources of energy through sustained investment
and research on renewable energy sources to replace dependence on
Defendants’ inherently hazardous fossil fuel products;

g. Adopting their shareholders’ concerns about Defendants’ need to protect
their businesses from the inevitable consequences of profiting from their
fossil fuel products. Over the period of 1990-2015, Defendants’
shareholders proposed hundreds of resolutions to change Defendants’
policies and business practices regarding climate change. These included
increasing renewable energy investment, cutting emissions, and performing
carbon risk assessments, among others.

161. Despite their knowledge of the foreseeable harms associated with the consumption
of Defendants’ fossil fuel products, and despite the existence and fossil fuel industry knowledge
of opportunities that would have reduced the foreseeable dangers associated with those products,
Defendants wrongfully and falsely promoted, campaigned against regulation of, and concealed the hazards of use of their fossil fuel products.

**H. Defendants Caused Plaintiffs’ Injuries**

162. Defendants individually and collectively extracted a substantial percentage of all raw fossil fuels extracted globally since 1965.

163. CO₂ emissions that are attributable to fossil fuels that Defendants extracted from the Earth and injected into the market are responsible for a substantial percentage of greenhouse gas pollution since 1965.

164. Defendants’ individual and collective conduct, including, but not limited to, their extraction, refining, and/or formulation of fossil fuel products; their introduction of fossil fuel products into the stream of commerce; their wrongful promotion of their fossil fuel products and concealment of known hazards associated with use of those products; and their failure to pursue less hazardous alternatives available to them; is a substantial factor in causing the increase in global mean temperature and consequent increase in global mean sea surface height since 1965.

165. Defendants have actually and proximately caused the sea levels to rise, increased the destructive impacts of storm surges, increased coastal erosion, exacerbated the onshore impact of regular tidal ebb and flow, caused saltwater intrusion, and caused consequent social and economic injuries associated with the aforementioned physical and environmental impacts, among other impacts, resulting in inundation, destruction, and/or other interference with Plaintiffs’ property and citizenry.

166. Plaintiffs have already incurred, and will foreseeably continue to incur, injuries and damages because of sea level rise caused by Defendants’ conduct.

167. But for Defendants’ conduct, Plaintiffs would have suffered no or far less injuries and damages than they have, and will foreseeably endure, due to expected anthropogenic sea level rise.

168. San Mateo County has experienced significant sea level rise over the last half century attributable to Defendants’ conduct.
169. The San Francisco Bay Area, including San Mateo County, has experienced significant sea level rise over the last half century attributable to Defendants’ conduct. San Mateo County will experience additional, significant, and dangerous sea level rise by 2100, and the increases will continue and accelerate. Additionally, San Mateo County will experience greater committed sea level rise due to the “locked in” greenhouse gases already emitted. The County will suffer greater overall sea level rise than the global average.

170. In addition to weather and climate changes already observed, the County is at an increased risk of suffering extreme injuries in the future. For example, there is a 93% chance that the County experiences a devastating three-foot flood before the year 2050, and a 50% chance that such a flood occurs before 2030. Average sea level rise along the County’s shores are expected to rise by almost three feet by the year 2100, causing multiple, predictable impacts, and exacerbating the impacts of extreme events.

171. San Mateo County published a Sea Level Rise Vulnerability Analysis on April 5, 2017. The Assessment is the County’s first analysis of its overall vulnerability to sea level rise and its impacts from permanent inundation, temporary flooding caused by storm events, erosion, and saltwater intrusion. The Assessment formally identifies actual risks to the County expected with three feet of sea level rise, and the consequences associated with taking no action to prevent or mitigate the harms associated with those expected impacts.

172. Areas of the County that already experience regular flooding and that will suffer further due to elevated sea level include, but are not limited to, Pescadero (especially near Pescadero and Butano Creeks), Half Moon Bay (especially near Denniston Creek), East Palo Alto, and


175. Global sea level rise is projected to be 82.7 cm (32.6 inches) above 2000 levels by 2100. See National Research Council, Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past Present and Future (2012) at page 107 at Table 5.2; page 117 at Table 5.3. The San Francisco Bay Area sea level rise is projected to be 91.9 cm (36.2 inches) over 2000 by 2100. Id.
Menlo Park, and the Bayshore communities that adjoin the Bayfront and Highline Canals, the
Atherton Channel, and Belmont, San Mateo, Colma, San Francisquito and San Bruno Creeks.176

a. Among other County-owned facilities threatened by the rising water level,
San Mateo owns and operates the Coyote Point Recreation Area and Coyote
Point Marina, in the City of San Mateo on the shore of San Francisco Bay.
The recreation area includes a beach with swimming and wind-surfing
areas; several areas for picnicking; a youth playground; a Merchant Marine
Memorial; and houses a riflery range, a Wildlife Center, and the Coyote
Point Yacht club. The recreation area and Marina are at sea level, and the
recreation area is almost entirely flat, such that it is highly vulnerable to
inundation in the event of flooding.

b. In addition, the County operates the James V. Fitzgerald Marine Reserve on
the Pacific Coast in the town of Moss Beach. The Fitzgerald Marine Reserve
covers three miles of shoreline, and encompasses a fragile, rocky intertidal
ecosystem featuring seaweed, crabs, sponges, anemones, sea stars,
mollusks, seals, and fish. The Reserve is a popular and scientifically and
ecologically important feature of the County, both for its residents and as
an attraction for visitors. Because the Reserve is an intertidal habitat and
includes partially submerged reefs, it is extremely sensitive to sea level
change, and could be permanently destroyed by inundation and flooding.

c. The County further owns and operates critical civil infrastructure that will
be threatened with flooding and other harm from increase sea level rise,
including the County Center and Hall of Justice, a county animal shelter,
the San Carlos Airport, the Maple Street Shelter (a transitional and
emergency housing center), two county jails, and unincorporated residential
regions including portions of North Fair Oaks, and unincorporated mobile

176 See County of San Mateo, Sea Level Rise Vulnerability Assessment, Public Draft, p. 66(April 2017),
home parks near Redwood City. Indeed, the unincorporated Harbor Industrial Area adjacent to the City of Belmont is already vulnerable to flooding today.

173. Areas of the county that are already erosion hot spots and that will suffer further erosion due to sea level rise include, but are not limited to, Middle and South Ocean Beach, Middle and Lower Daly City, Manor District, Beach Boulevard, Sharp Park, Rockaway Cove, Linda Mar, Princeton and the Pillar Point Harbor, El Granada County Beach, Mirada Road in Half Moon Bay, and Año Nuevo State Park.  

177 See County of San Mateo, Sea Level Rise Vulnerability Assessment, Public Draft, p. 71, Figure 3A.2 (April 2017), http://seachangesmc.com/current-efforts/vulnerability-assessment/.
174. The following figure depicts the average high tide level on a daily basis with 1, 2, and 3 feet of sea level rise. With different storm scenarios, much more area could be inundated. As the image shows, much of the County, including some of its most critical infrastructure and valuable Bay-front property, will be submerged at one foot of sea level rise.\textsuperscript{178} Importantly, the figure does not include inundation from storms or increased erosion; it shows only inundation threats under average daily clear-weather high tides based on existing shoreline measurements.

175. As a direct and proximate result of the acts and omissions of the Defendants’ alleged herein, Plaintiffs have incurred millions of dollars of expenses related to planning for and predicting future sea level rise injuries to its real property, improvements thereon, civil infrastructure, and citizens, to preemptively mitigate and/or prevent such injuries. This includes performing a Sea Level Vulnerability Assessment in 2017 at significant expense to the County, which found that parcels of real property valued at a total of $23 billion situated on Plaintiff’s San Francisco Bay shoreline will be threatened with serious or permanent inundation, and a need for $910 million of infrastructural repair on its ocean coastline. Expected injuries include erosion of ocean- and bay-adjacent public land, erosion and/or inundation of privately owned properties and displacement of residents within the County.

176. As a direct and proximate result of Defendants’ acts and omissions alleged herein, Plaintiffs have incurred sea level rise-related injuries and damages. These include infrastructural repair and reinforcement of roads and beach access.

177. As a direct and proximate result of Defendants’ acts and omissions alleged herein, Plaintiff’s real property has been inundated by sea water, causing injury and damages thereto and to improvements thereon, and preventing free passage on, use of, and normal enjoyment of that real property, or permanently destroying it. By way of example, Surfer’s Beach, one of Plaintiff’s public beach properties near the city of Half Moon Bay, has lost 140 feet of accessible beach since 1964 due to erosion, which has been exacerbated and substantially contributed to by sea level rise and increased extreme weather.¹⁷⁹

178. Defendants’ conduct as described herein is therefore an actual, substantial, and proximate cause of Plaintiffs’ sea level rise-related injuries.

VI. CAUSES OF ACTION

FIRST CAUSE OF ACTION

(Public Nuisance on Behalf of the People of the State of California)

(Against All Defendants)

179. The People incorporate by reference each and every allegation contained above, as though set forth herein in full.

180. Defendants, and each of them, by their affirmative acts and omissions, have created, contributed to, and assisted in creating, a condition in San Mateo County, and permitted that condition to persist, which constitutes a nuisance by, *inter alia*, increasing local sea level, increasing the frequency and intensity of flooding, and increasing the intensity and frequency of storms and storm-related damage to the County and its residents.

181. Defendants specifically created, contributed to, and/or assisted, and/or were a substantial contributing factor in the creation of the public nuisance, by, *inter alia*:

a. extracting raw fossil fuel products, including crude oil, coal, and natural gas from the Earth, and placing those fossil fuel products into the stream of commerce;

b. affirmatively and knowingly promoting the sale and use of fossil fuel products which Defendants knew to be hazardous and knew would lead to global warming, sea level rise, more frequent and more intense flooding, and more frequent and more intense storm surges;

c. affirmatively and knowingly concealing the hazards that Defendants knew would result from the normal use of their fossil fuel products by misrepresenting and casting doubt on the integrity of scientific information related to climate change;

d. disseminating and funding the dissemination of information intended to mislead customers, consumers, elected officials and regulators regarding known and foreseeable risk of climate change and its consequences, which
follow from the normal, intended use and foreseeable misuse of
Defendants’ fossil fuel products;

e. affirmatively and knowingly campaigning against the regulation of their
fossil fuel products, despite knowing the hazards associated with the normal
use of those products, in order to continue profiting from use of those
products by externalizing those known costs onto people, the environment,
and communities, including the People; and failing to warn the public about
the hazards associated with the use of fossil fuel products.

182. The condition created by Defendants substantially and negatively affects the
interests of the public at large. In particular, higher sea level, increased storm frequency and
intensity, and increased flooding: (1) are harmful and dangerous to human health; (2) are indecent
and offensive to the senses of the ordinary person; (3) obstruct and threaten to obstruct the free use
of the People’s property so as to interfere with the comfortable enjoyment of life and property; and
(4) obstruct and threaten to obstruct the free passage and use of navigable lakes, rivers, bays,
streams, canals, basins, public parks, squares, streets, and/or highways within San Mateo County.

183. The People of the State of California have a common right to be free from the
increased severity of these hazards due to climate change and sea level rise.

184. The seriousness of rising sea levels and increased weather volatility and flooding
is extremely grave, and outweighs the social utility of Defendants’ conduct because, inter alia,

a. interference with the public’s rights as described above is expected to
become so regular and severe that it will cause permanent inundation;

b. the ultimate nature of the harm is the destruction of real and personal
property, rather than mere annoyance;

c. the interference borne is the loss of property and infrastructure within San
Mateo County, which will actually be borne by Plaintiff’s citizens as loss
of use of public property and infrastructure and diversion of tax dollars
away from other public services to sea level rise;
d. Plaintiff’s coastal property, which serves myriad uses including industrial, residential, infrastructural, commercial and ecological, is not suitable for regular inundation;

e. the social benefit of placing fossil fuels into the stream of commerce is outweighed by the availability of other sources of energy that could have been placed into the stream of commerce that would not have caused sea level rise; Defendants, and each of them, knew of the external costs of placing their fossil fuel products into the stream of commerce, and rather than striving to mitigate those externalities, Defendants instead acted affirmatively to obscure them from public consciousness;

f. the cost to society of each ton of greenhouse gases emitted into the atmosphere increases as total global emissions increase, so that unchecked extraction and consumption of fossil fuel products is more harmful and costly than moderated extraction and consumption; and

g. it was practical for Defendants, and each of them, in light of their extensive knowledge of the hazards of placing fossil fuel products into the stream of commerce and extensive scientific engineering expertise, to develop better technologies and to pursue and adopt known, practical, and available technologies, energy sources, and business practices that would have mitigated their greenhouse gas pollution and eased the transition to a lower carbon economy.

185. This public nuisance affects and/or interferes with the rights of an entire community and/or the rights of a considerable number of persons in the State of California to health, safety, peace, comfort, and convenience.

186. Defendants’ wrongful conduct was oppressive, malicious, and fraudulent, in that their conduct was willful, intentional, and in conscious disregard for the rights of others. Defendants’ conduct was so vile, base, and contemptible that it would be looked down upon and despised by reasonable people, justifying an award of punitive and exemplary damages in an
amount subject to proof at trial, and justifying equitable disgorgement of all profits Defendants
obtained through their unlawful and outrageous conduct.

187. As a direct and proximate result of Defendants’ conduct, as set forth above, the
common rights enjoyed by the People of the State of California and by the general public in the
County of San Mateo have been unreasonably interfered with because Defendants knew or should
have known that their conduct would create a continuing problem with long-lasting significant
negative effects on the rights of the public.

188. Defendants’ actions are a direct and legal cause of the public nuisance.

189. The People of the State of California, acting through the County of San Mateo, have
a clearly ascertainable right to have the public nuisance created by Defendants abated.

190. Defendants’ acts and omissions as alleged herein are indivisible causes of Plaintiff
the People of the State of California’s injuries as alleged herein.

191. Wherefore, the People of the State of California pray for relief as set forth below.

SECOND CAUSE OF ACTION

(Public Nuisance on Behalf of San Mateo County)

(Against All Defendants)

192. Plaintiff San Mateo County incorporates by reference each and every allegation
contained above, as though set forth herein in full.

193. Defendants, and each of them, by their acts and omission, have created a condition
and permitted that condition to persist, which constitutes a nuisance by increasing sea level,
increasing the frequency and intensity of flooding, and increasing the intensity and frequency of
storms, all of which have resulted in, and will continue to result in, injury to Plaintiff.

194. The condition created by Defendants substantially and negatively affects the
interests of the public at large. In particular, higher sea level, increased storm frequency and
intensity, and increased flooding: (1) are harmful and dangerous to human health; (2) are indecent
and offensive to the senses of the ordinary person; (3) obstruct and threaten to obstruct the free use
of property within the County so as to interfere with the comfortable enjoyment of life and
property; and (4) obstruct and threaten to obstruct the free passage and use of navigable lakes,
rivers, bays, streams, canals, basins, public parks, squares, streets, and/or highways within San Mateo County.

195. Plaintiff San Mateo County includes coastal communities with substantial numbers of residents and citizens living on and near the coast, and substantial numbers of businesses and amenities on or near the coast; the condition created by Defendants therefore affects substantial numbers of people in Plaintiff’s communities at the same time.

196. The seriousness of rising sea levels and increased weather volatility and flooding is extremely grave, and outweighs the social utility of Defendants’ conduct. The seriousness of the harm to Plaintiff San Mateo County outweighs the benefit of Defendants’ and each of their conduct, because

a. the interference with Plaintiff’s property is expected to become so regular and severe as to be a permanent inundation;

b. the nature of the harm is the destruction of Plaintiff’s property, rather than mere annoyance;

c. the interference borne by Plaintiff is the loss of its property and infrastructure, which will actually be borne by Plaintiff’s citizens as loss of use of public property and infrastructure and diversion of tax dollars away from other public services to sea level rise;

d. Plaintiff’s coastal public and private property, which serves myriad uses including industrial, residential, infrastructural, commercial and ecological, is not suitable for regular inundation;

e. the burden on Plaintiff to mitigate and prevent the interference with its property is significant and severe, as costs associated with addressing sea level rise caused by Defendants are projected to be in the billions of dollars over the next several decades;

f. the social benefit of placing fossil fuels into the stream of commerce, if any, is outweighed by the availability of other sources of energy that could have been placed into the stream of commerce that would not have caused sea
level rise; Defendants, and each of them, knew of the external costs of placing their fossil fuel products into the stream of commerce, and rather than striving to mitigate those externalities, instead acted affirmatively to obscure them from public consciousness;

g. the social cost of each ton of CO₂ emitted into the atmosphere increases as total global emissions increase, so that unchecked extraction and consumption of fossil fuel products is more harmful and costly than moderated extraction and consumption; and

h. it was practical for Defendants, and each of them, in light of their extensive knowledge of the hazards of placing fossil fuel products into the stream of commerce and extensive scientific engineering expertise, to develop better technologies and to pursue and adopt known, practical, and available technologies, energy sources, and business practices that would have mitigated their greenhouse gas pollution and eased the transition to a lower carbon economy.

197. In addition to the harms suffered by the public at large, Plaintiff has suffered special injuries different in kind. Among other harms,

a. Plaintiff has been forced to spend or set aside significant funds to assess, plan for, and enact infrastructure changes needed to mitigate rising sea levels on Plaintiff’s publicly owned beaches and other public coastal property;

b. Plaintiff has had to plan for and provide additional emergency and other public services in response to more frequent and more intense flooding and storm surges on both properties owned by Plaintiff, and properties owned, leased, and utilized by residents, citizens, and visitors to Plaintiff’s communities.

198. Defendants’ wrongful conduct was oppressive, malicious, and fraudulent, in that their conduct was willful, intentional, and in conscious disregard for the rights of others.
Defendants’ conduct was so vile, base, and contemptible that it would be looked down upon and despised by reasonable people, justifying an award of punitive and exemplary damages in an amount subject to proof at trial, and justifying equitable disgorgement of all profits Defendants obtained through their unlawful and outrageous conduct.

199. As a direct and proximate result of Defendants’ conduct, as set forth above, the County of San Mateo has been unreasonably interfered with because Defendants knew or should have known that their conduct would create a continuing problem with long-lasting significant negative effects on the rights of the public.

200. Defendants’ actions are a direct and legal cause of the public nuisance.

201. Defendants’ acts and omissions as alleged herein are indivisible causes of Plaintiff San Mateo County’s injuries as alleged herein.

202. Wherefore, Plaintiff prays for relief as set forth below.

THIRD CAUSE OF ACTION

(Strict Liability—Failure to Warn on behalf of San Mateo County)

(Against All Defendants)

203. Plaintiff San Mateo County incorporates by reference each and every allegation contained above, as though set forth herein in full.

204. Defendants, and each of them, extracted raw fossil fuel products, including crude oil, coal, and natural gas from the Earth, and placed those fossil fuel products into the stream of commerce.

205. Defendants, and each of them, extracted, refined, formulated, designed, packaged, distributed, tested, constructed, fabricated, analyzed, recommended, merchandised, advertised, promoted and/or sold fossil fuel products, which were intended by Defendants, and each of them, to be burned for energy, refined into petrochemicals, and refined and/or incorporated into petrochemical products including fuels and plastics.

206. Defendants, and each of them, heavily marketed, promoted, and advertised fossil fuel products and their derivatives, which were sold or used by their respective affiliates and subsidiaries. Defendants received direct financial benefit from their affiliates’ and subsidiaries’
sales of fossil fuel products. Defendants’ role as promoter and marketer was integral to their respective businesses and a necessary factor in bringing fossil fuel products and their derivatives to the consumer market, such that Defendants had control over, and a substantial ability to influence, the manufacturing and distribution processes of their affiliates and subsidiaries.

207. Throughout the times at issue, Defendants individually and collectively knew or should have known, in light of the scientific knowledge generally accepted at the time, that fossil fuel products, whether used as intended or misused in a foreseeable manner, release greenhouse gases into the atmosphere that inevitably cause inter alia global warming, sea level rise, increased intensity and frequency of nuisance flooding, and increased intensity and frequency of storm surges.

208. Throughout the times at issue and continuing today, fossil fuel products presented and still present a substantial risk of injury to Plaintiff through the climate effects described above, whether used as intended or misused in a reasonably foreseeable manner.

209. Throughout the times at issue, the ordinary consumer would not recognize that the use or foreseeable misuse of fossil fuel products causes global and localized changes in climate, including those effects described herein.

210. Throughout the times at issue, Defendants individually and in concert widely disseminated marketing materials, refuted the scientific knowledge generally accepted at the time, and advanced pseudo-scientific theories of their own, and developed public relations campaigns and materials that prevented reasonable consumers from recognizing the risk that fossil fuel products would cause grave climate changes, including those described herein.

211. Defendants, and each of them, failed to adequately warn customers, consumers, elected officials and regulators of known and foreseeable risk of climate change and the consequences that inevitably follow from the normal, intended use and foreseeable misuse of Defendants’ fossil fuel products.

212. Defendants’ wrongful conduct was oppressive, malicious, and fraudulent, in that their conduct was willful, intentional, and in conscious disregard for the rights of others. Defendants’ conduct was so vile, base, and contemptible that it would be looked down upon and
despised by reasonable people, justifying an award of punitive and exemplary damages in an amount subject to proof at trial, and justifying equitable disgorgement of all profits Defendants obtained through their unlawful and outrageous conduct.

213. As a direct and proximate result of the defects previously described, fossil fuel products caused Plaintiff San Mateo County to sustain the injuries and damages set forth in this Complaint, including damage to publicly owned infrastructure and real property, and the creation and maintenance of a nuisance that interferes with the rights of the County, its residents, and of the People.

214. Defendants’ acts and omissions as alleged herein are indivisible causes of Plaintiff San Mateo County’s injuries as alleged herein.

215. Wherefore, Plaintiff prays for relief as set forth below.

FOURTH CAUSE OF ACTION

(Strict Liability—Design Defect on behalf of San Mateo County)

(Against All Defendants)

216. Plaintiff San Mateo County incorporates by reference each and every allegation contained above, as though set forth herein in full.

217. Defendants, and each of them, extracted raw fossil fuel products, including crude oil, coal, and natural gas from the Earth and placed those fossil fuel products into the stream of commerce.

218. Defendants, and each of them, extracted, refined, formulated, designed, packaged, distributed, tested, constructed, fabricated, analyzed, recommended, merchandised, advertised, promoted and/or sold fossil fuel products, which were intended by Defendants, and each of them, to be burned for energy, refined into petrochemicals, and refined and/or incorporated into petrochemical products including but not limited to fuels and plastics.

219. Defendants, and each of them, heavily marketed, promoted, and advertised fossil fuel products and their derivatives, which were sold or used by their respective affiliates and subsidiaries. Defendants’ received direct financial benefit from their affiliates’ and subsidiaries’ sales of fossil fuel products. Defendants role as promoter and marketer was integral to their
respective businesses and a necessary factor in bringing fossil fuel products and their derivatives
to the consumer market, such that Defendants had control over, and a substantial ability to
influence, the manufacturing and distribution processes of their affiliates and subsidiaries.

220. Throughout the time at issue, fossil fuel products have not performed as safely as
an ordinary consumer would expect them to because greenhouse gas emissions from their use
cause numerous global and local changes to Earth’s climate. In particular, ordinary consumers did
not expect that:

a. fossil fuel products are the primary cause of global warming since the dawn
of the industrial revolution, and by far the primary cause of global warming
acceleration in the 20th and 21st centuries;

b. fossil fuel products are the primary cause of accelerating sea level rise since
the beginning of the 20th century;

c. unmitigated use of fossil fuel products causes increased frequency and
intensity of nuisance flooding in coastal communities;

d. fossil fuel products cause increased frequency and intensity of storm surges
in coastal communities;

e. by increasing sea level rise, nuisance flooding, and storm surges, fossil fuel
products cause damage to publicly and privately owned coastal
infrastructure and buildings, including homes;

f. the social cost of each ton of CO₂ emitted into the atmosphere increases as
total global emissions increase, so that unchecked extraction and
consumption of fossil fuel products is more harmful and costly than
moderated extraction and consumption; and

g. for these reasons and others, the unmitigated use of fossil fuel products
present significant threats to the environment and human health and
welfare, especially in coastal communities.

221. Throughout the times at issue, Defendants individually and in concert widely
disseminated marketing materials, refuted the scientific knowledge generally accepted at the time,
advanced pseudo-scientific theories of their own, and developed public relations materials, among
other public messaging efforts, that prevented reasonable consumers from forming an expectation
that fossil fuel products would cause grave climate changes, including those described herein.

222. Additionally, and in the alternative, Defendants’ fossil fuel products are defective
because the risks they pose to consumers and to the public, including and especially to Plaintiff,
outweigh their benefits.

a. the gravity of the potential harms caused by fossil fuel products is extreme;
global warming and its attendant consequences are guaranteed to occur
following the use or foreseeable misuse of fossil fuel products because fossil
fuel products inherently release greenhouse gases into the atmosphere; and
global warming would continue to occur for decades even if all greenhouse
gas emissions ceased.

b. the social benefit of the purpose of placing fossil fuels into the stream of
commerce is overshadowed by the availability of other sources of energy
that could have been placed into the stream of commerce that would not
have caused sea level rise and accordingly Plaintiff’s injuries; Defendants,
and each of them, knew of the external costs of placing their fossil fuel
products into the stream of commerce, and rather than striving to mitigate
those externalities, instead acted affirmatively to obscure them from public
consciousness.

c. Defendants’ campaign of disinformation regarding global warming and the
climatic effects of fossil fuel products prevented customers, consumers,
regulators, and the general public from taking steps to mitigate the
inevitable consequences of fossil fuel consumption, and incorporating those
consequences into either short-term decisions or long-term planning.

d. the cost to society of each ton of CO₂ emitted into the atmosphere increases
as total global emissions increase so that unchecked extraction and
consumption of fossil fuel products is more harmful and costly than moderated extraction and consumption.

e. it was practical for Defendants, and each of them, in light of their extensive knowledge of the hazards of placing fossil fuel products into the stream of commerce, to pursue and adopt known, practical, and available technologies, energy sources, and business practices that would have mitigated their greenhouse gas pollution and eased the transition to a lower carbon economy, reduced global CO₂ emissions, and mitigated the harms associated with the use and consumption of such products.

223. Defendants’ individual and aggregate fossil fuel products were used in a manner for which they were intended to be used, or misused in a manner foreseeable to Defendants and each of them, by individual and corporate consumers, the result of which was the addition of CO₂ emissions to the global atmosphere with attendant global and local consequences.

224. As a direct and proximate result of the defects in fossil fuel products described herein, Plaintiff sustained the injuries and damages set forth in this Complaint, including damage to publicly and privately owned infrastructure and real property.

225. Defendants’ wrongful conduct was oppressive, malicious, and fraudulent, in that their conduct was willful, intentional, and in conscious disregard for the rights of others. Defendants’ conduct was so vile, base, and contemptible that it would be looked down upon and despised by reasonable people, justifying an award of punitive and exemplary damages in an amount subject to proof at trial, and justifying equitable disgorgement of all profits Defendants obtained through their unlawful and outrageous conduct.

226. Defendants’ acts and omissions as alleged herein are indivisible causes of Plaintiff San Mateo County’s injuries and damage as alleged herein.

227. Wherefore, Plaintiff prays for relief as set forth below.
FIFTH CAUSE OF ACTION

(Private Nuisance on behalf of San Mateo County)

(Against All Defendants)

228. Plaintiff San Mateo County incorporates by reference each and every allegation contained above, as though set forth herein in full.

229. Plaintiff owns and manages extensive property within San Mateo County borders that has been injured and will be injured by rising sea levels.

230. Defendants, and each of them, by their acts and omission, have created a condition on Plaintiff's property, and permitted that condition to persist, which constitutes a nuisance by increasing sea level, increasing the frequency and intensity of flooding, and increasing the intensity and frequency of storms.

231. The condition created by Defendants substantially and negatively affects Plaintiff’s interest in its own coastal real property. In particular, higher sea level, increased storm frequency and intensity, and increased flooding are:

a. harmful and dangerous to human health;

b. indecent and offensive to the senses of the ordinary person;

c. threatening to obstruct the free use of Plaintiff’s property and property owned by Plaintiff’s residents and citizens, so as to interfere with the comfortable enjoyment of life and property; and

d. threatening to obstruct the free passage and use of navigable lakes, rivers, bays, streams, canals, basins, public parks, squares, streets, and/or highways within Plaintiff’s communities.

232. The condition described above created by Defendants’ conduct substantially interferes with Plaintiff’s use and quiet enjoyment of its coastal properties.

233. Plaintiff has not consented to Defendants’ conduct in creating the condition that has led to sea level rise and its associated harms.

234. The ordinary person, and the ordinary city or county in Plaintiff’s position, would be reasonably annoyed and disturbed by Defendants’ conduct and the condition created thereby,
because, *inter alia*, it infringes on Plaintiff’s ability to provide public space to residents and 
visitors, and has forced Plaintiff to plan for and provide additional emergency and other public 
services in response to more frequent and more intense flooding and storm surges on properties 
owned by Plaintiff.

235. The seriousness of rising sea levels and increased weather volatility and flooding 
is extremely grave, and outweighs the social utility of Defendants’ conduct. The seriousness of the 
harm to Plaintiff outweighs the benefit of Defendants’ and each of their conduct, because:

a. the interference with Plaintiff’s property is expected to become so regular 
and severe as to be a permanent inundation;

b. the nature of the harm is the destruction of Plaintiff’s public and private real 
and personal property, rather than mere annoyance;

c. the interference borne by Plaintiff is the loss of its private and public 
property and infrastructure, which will actually be borne by Plaintiff’s 
citizens as loss of use of public property and infrastructure and diversion of 
tax dollars away from other public services to sea level rise;

d. Plaintiff’s coastal public and private property, which serves myriad uses 
including industrial, residential, infrastructural, commercial and ecological, 
is not suitable for regular inundation;

e. the burden on Plaintiff to mitigate and prevent the interference with its 
property is significant and severe, as costs associated with addressing sea 
level rise caused by Defendants are projected to be in the billions of dollars 
over the next several decades;

f. the social benefit of the purpose of placing fossil fuels into the stream of 
commerce is overshadowed by the availability of other sources of energy 
that could have been placed into the stream of commerce that would not 
have caused sea level rise; Defendants, and each of them, knew of the 
external costs of placing their fossil fuel products into the stream of 
commerce, and rather than striving to mitigate those externalities,
Defendants acted affirmatively to obscure those costs from public consciousness;

g. the social cost each ton of CO₂ emitted into the atmosphere increases as total global emissions increase, so that unchecked extraction and consumption of fossil fuel products is more harmful and costly than moderated extraction and consumption;

h. Defendants’ campaign of disinformation regarding global warming and the climatic effects of fossil fuel products prevented customers, consumers, regulators, and the general public from staking steps to mitigate the inevitable consequences of fossil fuel consumption, and incorporating those consequences into either short-term decisions or long-term planning; and

i. It was practical for Defendants, and each of them, in light of their extensive knowledge of the hazards of placing fossil fuel products into the stream of commerce, to pursue and adopt known, practical, and available technologies, energy sources, and business practices that would have mitigated their greenhouse gas pollution and eased the transition to a lower carbon economy, reduced global CO₂ emissions, and mitigated the harms associated with the use and consumption of such products.

236. Defendants’ conduct was a direct and proximate cause of Plaintiff’s injuries, and a substantial factor in the harms suffered by Plaintiff as described in this Complaint.

237. Defendants’ acts and omissions as alleged herein are indivisible causes of Plaintiff San Mateo County’s injuries and damage as alleged herein.

238. Wherefore, Plaintiff prays for relief as set forth below.

SIXTH CAUSE OF ACTION

(Negligence on Behalf of San Mateo County)

(Against All Defendants)

239. Plaintiff San Mateo County incorporates by reference each and every allegation contained above, as though set forth herein in full.
240. Defendants knew or should have known of the climate effects inherently caused by the normal use and operation of their fossil fuel products, including the likelihood and likely severity of global and local sea level rise and its consequences, and including Plaintiff’s injuries and damages described herein.

241. Defendants, collectively and individually, had a duty to use due care in developing, designing, testing, inspecting and distributing their fossil fuel products. That duty obligated Defendants collectively and individually to, inter alia, prevent defective products from entering the stream of commerce, and prevent reasonably foreseeable harm that could have resulted from the ordinary use or reasonably foreseeable misuse of Defendants’ products.

242. Defendants, and each of them, breached their duty of due care by, inter alia:

a. allowing fossil fuel products to enter the stream of commerce, despite knowing them to be defective due to their inevitable propensity to cause sea level rise and its consequences;

b. failing to act on the information and warnings they received from their own internal research staff, as well as from the international scientific community, that the unabated extraction, promotion and sale of their fossil fuel products would result in material dangers to the public, including San Mateo County;

c. failing to take actions including but not limited to pursuing and adopting known, practical, and available technologies, energy sources, and business practices that would have mitigated their greenhouse gas pollution and eased the transition to a lower carbon economy; shifting to non-fossil fuel products, and researching and/or offering technologies to mitigate CO2 emissions in conjunction with sale and distribution of their fossil fuel products; and pursuing other available alternatives that would have prevented or mitigated the injuries to Plaintiff caused by sea level rise that Defendants, and each of them, knew or should have foreseen would inevitably result from use of Defendants’ fossil fuel products;
d. engaging in a campaign of disinformation regarding global warming and the climatic effects of fossil fuel products that prevented customers, consumers, regulators, and the general public from staking steps to mitigate the inevitable consequences of fossil fuel consumption, and incorporating those consequences into either short-term decisions or long-term planning.

243. Defendants individual and collective acts and omissions were actual, substantial causes of sea level rise and its consequences, including Plaintiff’s injuries and damages set forth herein, as sea levels would not have risen to the levels that caused Plaintiff’s injuries but for Defendants introduction of their fossil fuel products into the stream of commerce.

244. Defendants individual and collective acts and omissions were proximate causes of sea level rise and its consequences, including Plaintiff’s injuries and damages set forth herein. No other act, omission, or natural phenomenon intervened in the chain of causation between Defendants’ conduct and Plaintiff’s injuries and damages, or superseded Defendants’ breach of their duties’ substantiality in causing Plaintiff’s injuries and damages.

245. As a direct and proximate result of Defendants’ and each of their acts and omissions, Plaintiff sustained injuries and damages as set forth herein.

246. Defendants’ acts and omissions as alleged herein are indivisible causes of Plaintiff San Mateo County’s injuries and damage as alleged herein.

247. Defendants’ wrongful conduct was oppressive, malicious, and fraudulent, in that their conduct was willful, intentional, and in conscious disregard for the rights of others. Defendants’ conduct was so vile, base, and contemptible that it would be looked down upon and despised by reasonable people, justifying an award of punitive and exemplary damages in an amount subject to proof at trial, and justifying equitable disgorgement of all profits Defendants obtained through their unlawful and outrageous conduct.

248. Wherefore, Plaintiff prays for relief as set forth below.
SEVENTH CAUSE OF ACTION

(Negligence - Failure to Warn on Behalf of San Mateo County)

(Against All Defendants)

249. Plaintiff San Mateo County incorporates by reference each and every allegation contained above, as though set forth herein in full.

250. Defendants knew or should have known, based on information passed to them from their internal research divisions and affiliates and/or from the international scientific community, of the climate effects inherently caused by the normal use and operation of their fossil fuel products, including the likelihood and likely severity of global warming, global and local sea level rise, and their associated consequences, including Plaintiff’s injuries and damages described herein.

251. Defendants knew or should have known, based on information passed to them from their internal research divisions and affiliates and/or from the international scientific community, that the climate effects described above rendered their fossil fuel products dangerous, or likely to be dangerous, when used as intended or misused in a reasonably foreseeable manner.

252. Throughout the times at issue, Defendants failed to adequately warn any consumers or any other party of the climate effects that inevitably flow from the use or foreseeable misuse of their fossil fuel products.

253. Throughout the times at issue, Defendants individually and in concert widely disseminated marketing materials, refuted the scientific knowledge generally accepted at the time, advanced pseudo-scientific theories of their own, and developed public relations materials that prevented reasonable consumers from recognizing the risk that fossil fuel products would cause grave climate changes, undermining and rendering ineffective any warnings that Defendants may have also disseminated.

254. Given the grave dangers presented by the climate effects that inevitably flow from the normal use or foreseeable misuse of fossil fuel products, a reasonable extractor, manufacturer, formulator, seller, or other participant responsible for introducing fossil fuel products into the stream of commerce, would have warned of those known, inevitable climate effects.
255. Defendants’ conduct was a direct and proximate cause of Plaintiff’s injuries and a substantial factor in the harms suffered by Plaintiff as described in this Complaint.

256. Defendants’ acts and omissions as alleged herein are indivisible causes of Plaintiff San Mateo County’s injuries and damage as alleged herein.

257. Defendants’ wrongful conduct was oppressive, malicious, and fraudulent, in that their conduct was willful, intentional, and in conscious disregard for the rights of others. Defendants’ conduct was so vile, base, and contemptible that it would be looked down upon and despised by reasonable people, justifying an award of punitive and exemplary damages in an amount subject to proof at trial, and justifying equitable disgorgement of all profits Defendants obtained through their unlawful and outrageous conduct.

258. Wherefore, Plaintiff prays for relief as set forth below.

EIGHTH CAUSE OF ACTION

(Trespass on Behalf of San Mateo County)

(Against All Defendants)

259. Plaintiff San Mateo County incorporates by reference each and every allegation contained above, as though set forth herein in full.

260. Plaintiff San Mateo County owns, leases, occupies, and/or controls real property within Plaintiff’s county boundaries and within communities located within the County.

261. Defendants, and each of them, have intentionally, recklessly, or negligently caused ocean waters to enter Plaintiff San Mateo County’s property, by extracting, refining, formulating, designing, packaging, distributing, testing, constructing, fabricating, analyzing, recommending, merchandising, advertising, promoting, marketing, and/or selling fossil fuel products, knowing those products in their normal operation and use or foreseeable misuse would cause global and local sea levels to rise, cause flooding to become more frequent and more intense, and cause storm surges to become more frequent and more intense.

262. Plaintiff San Mateo County did not give permission for Defendants, or any of them, to cause ocean water to enter its property.
263. Plaintiff San Mateo County has been and continues to be actually injured and continues to suffer damages as a result of Defendants and each of their having caused ocean water to enter their real property, by *inter alia* permanently submerging real property owned by Plaintiff, causing flooding which have invaded and threatens to invade real property owned by Plaintiff and rendered it unusable, and causing storm surges which have invaded and threatened to invade real Property owned by Plaintiff and rendered it unusable.

264. Defendants’ and each Defendant’s introduction of their fossil fuel products into the stream of commerce was a substantial factor in causing the injuries and damages to Plaintiff’s public and private real property.

265. Defendants’ acts and omissions as alleged herein are indivisible causes of Plaintiff San Mateo County’s injuries and damage as alleged herein.

266. Defendants’ wrongful conduct was oppressive, malicious, and fraudulent, in that their conduct was willful, intentional, and in conscious disregard for the rights of others. Defendants’ conduct was so vile, base, and contemptible that it would be looked down upon and despised by reasonable people, justifying an award of punitive and exemplary damages in an amount subject to proof at trial, and justifying equitable disgorgement of all profits Defendants obtained through their unlawful and outrageous conduct.

267. Wherefore, Plaintiff prays for relief as set forth below.
VII. PRAYER FOR RELIEF

1. Compensatory damages in an amount according to proof;
2. Equitable relief to abate the nuisances complained of herein;
3. Reasonable attorneys’ fees pursuant to California Code of Civil Procedure 1021.5 or otherwise;
4. Punitive damages;
5. Disgorgement of profits;
6. Costs of suit; and
7. For such and other relief as the court may deem proper.

Dated: July 17, 2017

OFFICE OF THE COUNTY COUNSEL
COUNTY OF SAN MATEO

By: 

JOHN C. BEIERS, County Counsel
PAUL A. OKADA, Chief Deputy
DAVID A. SILBERMAN, Chief Deputy
MARGARET V. TIDES, Deputy

SHER EDLING LLP

VICTOR M. SHER
MATTHEW K. EDLING
TIMOTHY R. SLOANE
MARTIN D. QUIÑONES

Attorneys for The County of San Mateo, individually and on behalf of the People of the State of California
VIII. JURY DEMAND

Plaintiff San Mateo County demands a jury trial on all issues so triable.

Dated: July 17, 2017

OFFICE OF THE COUNTY COUNSEL
COUNTY OF SAN MATEO

By:

JOHN C. BEIERS, County Counsel
PAUL A. OKADA, Chief Deputy
DAVID A. SILBERMAN, Chief Deputy
MARGARET V. TIDES, Deputy

SHER EDLING LLP

VICTOR M. SHER
MATTHEW K. EDLING
TIMOTHY R. SLOANE
MARTIN D. QUIÑONES

Attorneys for The County of San Mateo, individually and on behalf of the People of the State of California
**Truth or CO$_2$nsequences**

Major fossil fuel companies have known the truth for nearly 50 years: their oil, gas, and coal products create greenhouse gas pollution that warms the planet and changes our climate. They’ve known for decades that the consequences could be catastrophic and that only a narrow window of time existed to take action before the damage might not be reversible. They have nevertheless engaged in a coordinated, multi-front effort to conceal and contradict their own knowledge of these threats, discredit the growing body of publicly available scientific evidence, and persistently create doubt in the minds of customers, consumers, regulators, the media, journalists, teachers, and the general public about the reality and consequences of climate change.

This timeline highlights information, alleged in the Complaints filed by San Mateo County, Marin County, and Imperial Beach, that comes from key industry documents and other sources. It illustrates what the industry knew, when they knew it, and what they didn’t do to prevent the impacts that are now imposing real costs on people and communities around the country. While the early warnings from the industry’s own scientists and experts often acknowledged the uncertainties in their projections, those uncertainties were typically about the timing and magnitude of the climate change impacts – not about whether those impacts would occur or whether the industry’s oil, gas, and coal were the primary cause. On those latter points, as these documents show, they were quite certain.

<table>
<thead>
<tr>
<th>DATE</th>
<th>DOCUMENT</th>
<th>TEXT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOV. 5, 1965</td>
<td>“RESTORING THE QUALITY OF OUR ENVIRONMENT,” REPORT OF THE ENVIRONMENTAL POLLUTION PANEL, PRESIDENT’S SCIENCE ADVISORY COMMITTEE</td>
<td>President Lyndon Johnson’s Science Advisory Committee finds that “Pollutants have altered on a global scale the carbon dioxide content of the air” and “Man is unwittingly conducting a vast geophysical experiment” by burning fossil fuels that are injecting CO2 into the atmosphere. The committee concludes that by the year 2000, we could see “measurable and perhaps marked changes in climate, and will almost certainly cause significant changes in the temperature and other properties of the stratosphere.”</td>
</tr>
</tbody>
</table>
| FEB. 1968   | “SOURCES, ABUNDANCE, AND FATE OF GASEOUS ATMOSPHERIC POLLUTANTS,” REPORT PREPARED BY STANFORD RESEARCH INSTITUTE SCIENTISTS ELMER ROBINSON AND R.C. ROBBINS FOR THE AMERICAN PETROLEUM INSTITUTE (API) | The American Petroleum Institute commissions a report finding that:  

- “Although there are other possible sources for the additional CO2 now being observed in the atmosphere, none seems to fit the presently observed situation as well as the fossil fuel emanation theory.”  
- “Significant temperature changes are almost certain to occur by the year 2000, and these could bring about climatic changes.”  
- “There seems to be no doubt that the potential damage to our environment could be severe.”  
- “What is lacking, however, is an application of these CO2 data to air pollution technology and work toward systems in which CO2 emissions would be brought under control.” |
<p>| JUNE 6, 1978 | PRESENTATION SHARED WITH EXXON MANAGEMENT COMMITTEE FROM EXXON RESEARCH AND ENGINEERING SCIENCE ADVISOR, JAMES BLACK | Exxon Science Advisor James Black tells the company’s Management Committee that “[T]here is general scientific agreement that the most likely manner in which mankind is influencing the global climate is through carbon dioxide release from the burning of fossil fuels” and that “[M]an has a time window of five to ten years before the need for hard decisions regarding changes in energy strategy might become critical.” |
| SEPT. 17, 1978 | CONGRESS PASSES NATIONAL CLIMATE POLICY ACT | Congress passes the National Climate Policy Act to help “the Nation and the world to understand and respond to natural and man-induced climate processes and their implications.” |</p>
<table>
<thead>
<tr>
<th>Date</th>
<th>Document</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEC. 7, 1978</td>
<td>CO2 RESEARCH PROPOSAL FROM EXXON RESEARCH AND ENGINEERING’S ENVIRONMENTAL AREA MANAGER, HENRY SHAW</td>
<td>Exxon scientist Henry Shaw proposes that the company initiate a comprehensive research program “to assess the possible impact of the greenhouse effect on Exxon business.” He argues that the company needs “a credible scientific team that can critically evaluate the information generated on the subject and be able to carry bad news, if any, to the corporation.”</td>
</tr>
</tbody>
</table>
| OCT. 16, 1979 | “CONTROLLING THE CO2 CONCENTRATION IN THE ATMOSPHERE,” STUDY BY EXXON EMPLOYEE STEVE KNISELY | An Exxon internal study finds that:
- “The present trend of fossil fuel consumption will cause dramatic environmental effects before the year 2050.”
- “[R]ecognizing the uncertainty, there is a possibility that an atmospheric CO2 buildup will cause adverse environmental effects in enough areas of the world to consider limiting the future use of fossil fuels as major energy sources.”
- “The potential problem is great and urgent.” |
| FEB. 29, 1980 | MEETING MINUTES FROM THE AMERICAN PETROLEUM INSTITUTE’S (API’S) CO2 AND CLIMATE TASK FORCE: PRESENTATION BY DR. J. LAURMAN | Dr. J. Laurman tells API’s Climate Task Force that “there is a scientific consensus on the potential for large future climatic response to increased CO2 levels” and that “remedial actions will take a long time to become effective.” |
| AUG. 6, 1980 | “REVIEW OF ENVIRONMENTAL PROTECTION ACTIVITIES FOR 1978-1979,” IMPERIAL OIL REPORT | An internal “Review of Environmental Protection Activities for 1978-1979” by Imperial Oil, which was distributed widely to Exxon/Esso Corporate Managers, finds that “[T]echnology exists to remove CO2 from stack gases but removal of only 50% of the CO2 would double the cost of power generation.” |
| AUG. 18, 1981 | MEMO FROM ROGER COHEN, DIRECTOR OF EXXON’S THEORETICAL AND MATHEMATICAL SCIENCE LABORATORY, TO SCIENTIST WERNER GLASS | Exxon Strategic Planning Manager Roger Cohen comments on an internal assessment of CO2 emissions and the greenhouse effect that is prepared at the request of Senior VP and Director Morey O’Loughlin:
- “[I]t is very likely that we will unambiguously recognize the threat by the year 2000 because of advances in climate modeling and the beginning of real experimental confirmation of the CO2 effect.”
- “Whereas I can agree with the statement that our best guess is that observable effects in the year 2030 will be ‘well short of catastrophic’, it is distinctly possible that the [Planning Division’s] scenario will later produce effects that will indeed be catastrophic (at least for a substantial fraction of the earth’s population).” |
<p>| APRIL 1, 1982 | “CO2 ‘GREENHOUSE’ EFFECT,” INTERNALLY DISTRIBUTED SUMMARY BY EXXON MANAGER M.B. GLASER OF A TECHNICAL REVIEW PREPARED BY EXXON RESEARCH AND ENGINEERING COMPANY’S COORDINATION AND PLANNING DIVISION | An internal Exxon “CO2 ‘Greenhouse Effect’ Summary” finds that “[T]here is concern among some scientific groups that once the effects are measurable, they might not be reversible and little could be done to correct the situation in the short term” and that “[M]itigation of the ‘greenhouse effect’ could require major reductions in fossil fuel combustion.” |</p>
<table>
<thead>
<tr>
<th>Date</th>
<th>Document</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEPT. 2, 1982</td>
<td>MEMO FROM ROGER COHEN, DIRECTOR OF EXXON'S THEORETICAL AND MATHEMATICAL</td>
<td>The Director of Exxon’s Theoretical and Mathematical Sciences Laboratory, Roger Cohen, summarizes the findings of their research in climate modeling:</td>
</tr>
<tr>
<td></td>
<td>LABORATORY TO EXXON MANAGEMENT INCLUDING PRESIDENT OF EXXON CORPORATION'S</td>
<td>• “[O]ver the past several years a clear scientific consensus has emerged regarding the expected climatic effects of increased atmospheric CO2.”</td>
</tr>
<tr>
<td></td>
<td>RESEARCH AND ENGINEERING, E. E. DAVID JR.</td>
<td>• “It is generally believed that the first unambiguous CO2-induced temperature increase will not be observable until around the year 2000.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• “[T]he results of our research are in accord with the scientific consensus on the effect of increased atmospheric CO2 on climate.”</td>
</tr>
<tr>
<td></td>
<td>DAVID JR. REMARKS AT THE FOURTH ANNUAL EWING SYMPOSIUM, TENAFLY, NJ</td>
<td>• “It is ironic that the biggest uncertainties about the CO2 buildup are not in predicting what the climate will do, but in predicting what people will do. . .[I]t appears we still have time to generate the wealth and knowledge we will need to invent the transition to a stable energy system.”</td>
</tr>
<tr>
<td>SUMMER 1988</td>
<td>PUBLIC AWARENESS OF THE GREENHOUSE EFFECT AND EFFORTS TO COMBAT IT RAMP</td>
<td>The summer of 1988 sees a flurry of activity around climate change policy:</td>
</tr>
<tr>
<td></td>
<td>UP</td>
<td>• Dr. James Hansen, Director of NASA’s Goddard Institute for Space Studies, tells Congress that the Institute’s greenhouse effect research shows “the global warming is now large enough that we can ascribe with a high degree of confidence a cause and effect relationship with the greenhouse effect.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• At least four bipartisan bills are introduced in Congress, three championed by Republicans, to regulate greenhouse gas emissions.</td>
</tr>
<tr>
<td>AUG. 3, 1988</td>
<td>“THE GREENHOUSE EFFECT,” DRAFT WRITTEN BY JOSEPH M. CARLSON, AN EXXON</td>
<td>Despite declaring the Greenhouse Effect “one of the most significant environmental issues for the 1990s,” Carlson writes that Exxon’s position should be to “emphasize the uncertainty in scientific conclusions regarding the potential enhanced Greenhouse Effect.”</td>
</tr>
<tr>
<td></td>
<td>PUBLIC AFFAIRS MANAGER</td>
<td>Vice President George H.W. Bush, in a speech while running for President, says “[T]hose who think we are powerless to do anything about the greenhouse effect forget about the ‘White House effect’, as President, I intend to do something about it.”</td>
</tr>
<tr>
<td>AUG. 31, 1988</td>
<td>VICE PRESIDENT GEORGE H.W. BUSH CAMPAIGN SPEECH IN MICHIGAN</td>
<td>The IPCC is formed in December 1988 by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) to provide policymakers with regular assessments of the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation.</td>
</tr>
<tr>
<td>DEC. 6, 1988</td>
<td>THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (IPCC) IS FORMED</td>
<td>A New York Times article reports: “In what is considered the first major project that takes account of the changes the greenhouse effect is expected to bring, [Shell] engineers are designing a huge platform that anticipates rising water in the North Sea by raising the platform from the standard 30 meters - the height now thought necessary to stay above the waves that come in a once-a-century storm - to 31 or 32 meters.”</td>
</tr>
<tr>
<td>DEC. 20, 1989</td>
<td>“GREENHOUSE EFFECT: SHELL ANTICIPATES A SEA CHANGE,” ARTICLE IN THE NEW</td>
<td></td>
</tr>
<tr>
<td>DATE</td>
<td>DOCUMENT</td>
<td>TEXT</td>
</tr>
<tr>
<td>------------</td>
<td>---------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1991</td>
<td>&quot;CLIMATE OF CONCERN,&quot; DOCUMENTARY PRODUCED AND DISTRIBUTED BY SHELL</td>
<td>Shell releases a 30-minute educational video warning of climate change’s negative consequences ranging from sea level rise and wetland destruction to “greenhouse refugees.” It concludes: “Global warming is not yet certain, but many think that the wait for final proof would be irresponsible. Action now is seen as the only safe insurance.”</td>
</tr>
<tr>
<td>MAY 1991</td>
<td>INFORMATION COUNCIL FOR THE ENVIRONMENT (ICE) PR CAMPAIGN</td>
<td>The Information Council for the Environment (ICE), formed by the coal industry, launches a national climate change science denial campaign with data collection, full-page newspaper ads, radio commercials, a PR tour, and mailers.</td>
</tr>
<tr>
<td>DEC. 1995</td>
<td>“PREDICTING FUTURE CLIMATE CHANGE: A PRIMER,” GLOBAL CLIMATE COALITION’S (GCC) INTERNAL PRIMER DRAFT, PREPARED BY GCC’S SCIENCE TECHNICAL ADVISORY COMMITTEE V. THEIR PUBLICLY DISTRIBUTED BACKGROUNDER, “SCIENCE AND GLOBAL CLIMATE CHANGE: WHAT DO WE KNOW? WHAT ARE THE UNCERTAINTIES?”</td>
<td>The Global Climate Coalition (GCC), a fossil fuel industry group, drafts an internal primer analyzing “contrarian theories” and concluding that they do not “offer convincing arguments against the conventional model of greenhouse gas emission-induced climate change.” However, a publicly distributed version excluded this section while focusing on scientific disagreement and uncertainty by citing some of those same contrarian scientists.</td>
</tr>
<tr>
<td>FALL 1996</td>
<td>&quot;GLOBAL WARMING: WHO’S RIGHT? FACTS ABOUT A DEBATE THAT’S TURNED UP MORE QUESTIONS THAN ANSWERS,” PUBLICATION FROM EXXON CORPORATION</td>
<td>An eight-page Exxon publication questions the negative impact the greenhouse effect might have and plays up the uncertainty. The introductory statement by Lee Raymond, Exxon’s chairman and CEO, claims that “[Scientific evidence remains inconclusive as to whether human activities affect global climate.”</td>
</tr>
<tr>
<td>APRIL 3, 1998</td>
<td>“GLOBAL SCIENCE COMMUNICATIONS ACTION PLAN,” DRAFT BY THE AMERICAN PETROLEUM INSTITUTE (API)</td>
<td>The American Petroleum Institute develops a multi-million dollar communications and outreach plan to ensure that “climate change becomes a non-issue.” It maintains that “[Victory will be achieved when...uncertainties in climate science [become] part of the ‘conventional wisdom.’”</td>
</tr>
<tr>
<td>DEC. 11, 2000</td>
<td>LETTER FROM LLOYD KEIGWIN, SENIOR SCIENTIST AT THE WOODS HOLE OCEANOGRAPHIC INSTITUTION, TO PETER ALTMAN, NATIONAL CAMPAIGN COORDINATOR FOR EXXONMOBIL</td>
<td>A senior scientist at Woods Hole Oceanographic Institution, Lloyd Keigwin, sends a letter to Exxon’s Peter Altman, summarizing their email and phone conversations regarding Exxon’s misleading use of Keigwin’s study results. “The sad thing is that a company with the resources of ExxonMobil is exploiting the data for political purposes when they could actually get much better press by supporting research into the role of the ocean in climate change.”</td>
</tr>
<tr>
<td>JUNE 20, 2001</td>
<td>“YOUR MEETING WITH MEMBERS OF THE GLOBAL CLIMATE COALITION,” US DEPARTMENT OF STATE MEMO AND TALKING POINTS</td>
<td>Talking points for State Department Undersecretary Paula Dobriansky’s meeting with the Global Climate Coalition at API’s headquarters: “POTUS rejected Kyoto, in part, based on input from you.”</td>
</tr>
<tr>
<td>DATE</td>
<td>DOCUMENT</td>
<td>TEXT</td>
</tr>
<tr>
<td>------------</td>
<td>---------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>SEPT. 26, 2002</td>
<td>LETTER FROM MICHAEL MACCRACKEN, RETIRING SENIOR SCIENTIST FROM THE OFFICE OF THE US GLOBAL CHANGE RESEARCH PROGRAM, TO EXXON CEO LEE RAYMOND: “RE: WITH REGARD TO THE EXXONMOBIL FACSIMILE ON FEBRUARY 6, 2001 FROM DR. AG RANDOL TO MR. JOHN HOWARD OF THE COUNCIL ON ENVIRONMENTAL QUALITY”</td>
<td>Michael MacCracken, the former director of the National Assessment Coordination Office of the US Global Change Research Program, writes to Exxon CEO Lee Raymond in response to ExxonMobil’s criticism of a US climate change assessment: “In my earlier experience, arguing for study of adaptation had been a position of industry, but now when this was attempted, ExxonMobil argued this was premature. Roughly, this is equivalent to turning your back on the future and putting your head in the sand—with this position, it is no wonder ExxonMobil is the target of environmental and shareholder critics...Certainly, there are uncertainties, but decisions are made under uncertainty all the time—that is what executives are well paid to do. In this case, ExxonMobil is on the wrong side of the international scientific community, the wrong side of the findings of all the world’s leading academies of science, and the wrong side of virtually all of the world’s countries as expressed, without dissent, in the IPCC reports...To call ExxonMobil’s position out of the mainstream is thus a gross understatement. There can be all kinds of perspectives about what one might or might not do to start to limit the extent of the change, but to be in opposition to the key scientific findings is rather appalling for such an established and scientific organization.”</td>
</tr>
<tr>
<td>OCT. 21, 2002</td>
<td>MARKUPS BY PHILIP COONEY, CHIEF OF STAFF FOR THE WHITE HOUSE COUNCIL ON ENVIRONMENTAL QUALITY, ON A DRAFT STRATEGIC PLAN FOR THE CLIMATE CHANGE SCIENCE PROGRAM</td>
<td>Philip Cooney, Chief of Staff for the White House Council of Environmental Quality and a former lawyer and lobbyist for the American Petroleum Institute with no scientific credentials, edits a Draft Strategic Plan for the US Climate Change Science Program to introduce uncertainty about global warming and its impacts. In 2005, Cooney resigns after being accused of doctoring scientific reports and is hired by Exxon. A Union of Concerned Scientists report published samples of Cooney’s edits (p.56).</td>
</tr>
<tr>
<td>JUNE 11, 2009</td>
<td>“THE PROPORTIONALITY OF GLOBAL WARMING TO CUMULATIVE CARBON EMISSIONS,” PUBLICATION BY DAMON MATTHEWS PUBLISHED IN NATURE</td>
<td>Damon Matthews publishes seminal research in the peer-reviewed Nature journal showing a linear relationship between greenhouse gas emissions and increasing global temperatures.</td>
</tr>
<tr>
<td>AUG. 12, 2009</td>
<td>EMAIL FROM API CEO JACK GERARD TO API’S MEMBERSHIP REGARDING A SERIES OF “ENERGY CITIZEN” RALLIES IN 20 STATES DURING THE END OF THE CONGRESSIONAL RECESS</td>
<td>The American Petroleum Institute’s CEO, Jack Gerard, emails API’s membership promising “up front resources” and encouraging turnout for “Energy Citizen” rallies in about 20 states. Gerard says they are “collaborating closely with the allied oil and natural gas associations” in order to “aim a loud message at those states’ U.S. Senators to avoid the mistakes embodied in the House climate bill.”</td>
</tr>
<tr>
<td>NOV. 22, 2013</td>
<td>“TRACING ANTHROPOGENIC CARBON DIOXIDE AND METHANE EMISSIONS TO FOSSIL FUEL AND CEMENT PRODUCERS, 1854-2010,” PUBLICATION BY RICK HEede PUBLISHED IN CLIMATIC CHANGE</td>
<td>Rick Heede, co-founder and director of the Climate Accountability Institute, authors a peer-reviewed study revealing that 90 producers of oil, natural gas, coal, and cement – the “carbon majors” – are responsible for 63 percent of cumulative industrial CO2 and methane emissions worldwide between 1751 and 2010. Just 28 companies are responsible for 25 percent of all emissions since 1965.</td>
</tr>
<tr>
<td>DATE</td>
<td>DOCUMENT</td>
<td>TEXT</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>NOV. 11, 2014</td>
<td>“WSPA PRIORITY ISSUES,” PRESENTATION BY WESTERN STATES PETROLEUM ASSOCIATION, PRESIDENT CATHERINE REHEIS-BOYD</td>
<td>The Western States Petroleum Association, a top lobbying and trade association for the oil industry, describes in a presentation the “campaigns and coalitions [it has] activated that have contributed to WSPA's advocacy goals and continue to respond to aggressive anti-oil initiatives in the West,” including investment “in several coalitions that are best suited to drive consumer and grassroots messages to regulators and policymakers.”</td>
</tr>
<tr>
<td>SEPT. 2016</td>
<td>“2016 CITY OF IMPERIAL BEACH SEA LEVEL RISE ASSESSMENT”</td>
<td>The City of Imperial Beach, California, releases a report that assesses the city's vulnerability to sea level rise and identifies adaptation strategies, along with estimated costs, to address those impacts.</td>
</tr>
<tr>
<td>APRIL 2017</td>
<td>STATE OF CALIFORNIA, MARIN COUNTY, AND SAN MATEO COUNTY SEA LEVEL RISE ASSESSMENT REPORTS</td>
<td>The State of California, along with San Mateo and Marin Counties, release separate reports that assess the impacts of sea level rise on their communities, detailing the substantial monetary losses, infrastructure and property damage, and decrease in quality of life residents will face.</td>
</tr>
<tr>
<td>JUNE 26, 2017</td>
<td>“THE INCREASING RATE OF GLOBAL MEAN SEA-LEVEL RISE DURING 1993-2014,” CHEN, ET.AL., PUBLISHED IN NATURE CLIMATE CHANGE</td>
<td>A new peer-reviewed study confirms that the rate of sea level rise is accelerating and concludes that, for coastal communities, it “highlights the importance and urgency of mitigating climate change and formulating coastal adaptation plans to mitigate the impacts of ongoing sea level rise.”</td>
</tr>
</tbody>
</table>
DENNIS J. HERRERA, State Bar #139669  
City Attorney  
RONALD P. FLYNN, State Bar #184186  
Chief Deputy City Attorney  
YVONNE R. MÉRÉ, State Bar #173594  
Chief of Complex and Affirmative Litigation  
ROBB W. KAPLA, State Bar #238896  
MATTHEW D. GOLDBERG, State Bar #240776  
Deputy City Attorneys  

City Hall, Room 234  
1 Dr. Carlton B. Goodlett Place  
San Francisco, California 94102-4602  
Telephone: (415) 554-4748  
Facsimile: (415) 554-4715  
Email: brittany.feitelberg@sfgov.org  

Attorneys for Plaintiff  
PEOPLE OF THE STATE OF CALIFORNIA,  
acting by and through San Francisco City Attorney  
DENNIS J. HERRERA  

[Other Counsel Listed on Signature Page]  

SUPERIOR COURT OF THE STATE OF CALIFORNIA  
COUNTY OF SAN FRANCISCO  
UNLIMITED JURISDICTION  

THE PEOPLE OF THE STATE OF  
CALIFORNIA, acting by and through the San  
Francisco City Attorney DENNIS J.  
HERRERA,  

Plaintiff and Real Party in Interest,  

vs.  

BP P.L.C., a public limited company of  
England and Wales, CHEVRON  
CORPORATION, a Delaware corporation,  
CONOCOPHILLIPS COMPANY, a Delaware  
corporation, EXXON MOBIL  
CORPORATION, a New Jersey corporation,  
ROYAL DUTCH SHELL PLC, a public limited  
company of England and Wales, and DOES 1  
through 10,  

Defendants.
# TABLE OF CONTENTS

I. INTRODUCTION ................................................................................................. 1

II. JURISDICTION AND VENUE ....................................................................... 5

III. PARTIES ........................................................................................................... 6
  A. Plaintiff ......................................................................................................... 6
  B. Defendants .................................................................................................. 6
  C. Defendants’ Connections To California ......................................................... 10

IV. FOSSIL FUELS ARE THE PRIMARY CAUSE OF GLOBAL WARMING .......... 12

V. DEFENDANTS HAVE PRODUCED MASSIVE QUANTITIES OF FOSSIL FUELS AND HAVE CONTINUED TO DO SO EVEN AS GLOBAL WARMING HAS BECOME GRAVELY DANGEROUS .............................................. 16

VI. DEFENDANTS HAVE PRODUCED MASSIVE AMOUNTS OF FOSSIL FUELS DESPITE HAVING FULL KNOWLEDGE FROM THEIR IN-HOUSE SCIENTIFIC STAFF, OR FROM THE API, THAT FOSSIL FUELS WOULD CAUSE GLOBAL WARMING ...................................................................... 18

VII. DESPITE THEIR EARLY KNOWLEDGE THAT GLOBAL WARMING WAS REAL AND POSED GRAVE THREATS, DEFENDANTS PROMOTED FOSSIL FUELS FOR PERVASIVE USE WHILE DOWNPLAYING THE REALITY AND RISKS OF GLOBAL WARMING .................................................................... 23
  A. Defendants Borrowed The Big Tobacco Playbook In Order To Promote Their Products ................................................................................. 24
  B. Defendants’ Direct Promotion Of Fossil Fuels ........................................... 28

VIII. SAN FRANCISCO WILL INCUR SERIOUS CLIMATE CHANGE INJURIES THAT WILL REQUIRE BILLIONS IN EXPENDITURES TO ABATE THE GLOBAL WARMING NUISANCE ........................................................................ 31

IX. CAUSE OF ACTION: PUBLIC NUISANCE ON BEHALF OF THE PEOPLE ......................................................................................................................... 37

X. RELIEF REQUESTED ....................................................................................... 39
Plaintiff, the People of the State of California ("the People"), by and through San Francisco City Attorney Dennis J. Herrera, brings this action against Defendants BP p.l.c. ("BP"), Chevron Corporation ("Chevron"), ConocoPhillips Company ("ConocoPhillips"), Exxon Mobil Corporation ("Exxon"), and Royal Dutch Shell plc ("Shell") (collectively, "Defendants"), and alleges as follows:

I. INTRODUCTION

1. Global warming is here and it is harming San Francisco now. Global warming causes accelerated sea level rise through thermal expansion of ocean water and melting of land-based ice. Sea levels are rising at rates unprecedented in the history of human civilization due to global warming.¹ Global warming-induced sea level rise is already causing flooding of low-lying areas of San Francisco, increased shoreline erosion, and salt water impacts to San Francisco’s water treatment system.² The rapidly rising sea level along the Pacific coast and in San Francisco Bay, moreover, poses an imminent threat of catastrophic storm surge flooding because any storm would be superimposed on a higher sea level.³ This threat to human safety and to public and private property is becoming more dire every day as global warming reaches ever more dangerous levels and sea level rise accelerates. The City and County of San Francisco ("San Francisco" or "City") must take abatement action now to protect public and private property from this looming threat by building sea walls and other sea level rise adaptation infrastructure. Exhibits 1 and 2⁴ to

---


this Complaint, showing flood events’ projected intrusion into San Francisco as a result of global
warming, demonstrate just how stark the threat is.

2. This egregious state of affairs is no accident. Rather, it is an unlawful public
nuisance of the first order. Defendants are the five largest investor-owned fossil fuel corporations
in the world as measured by their historic production of fossil fuels. The use of fossil fuels – oil,
natural gas and coal – is the primary source of the greenhouse gas pollution that causes global
warming, a point that scientists settled years ago. Defendants have produced massive amounts of
fossil fuels for many years. And recent disclosures of internal industry documents demonstrate that
they have done so despite knowing – since at least the late 1970s and early 1980s if not earlier –
that massive fossil fuel usage would cause dangerous global warming. It was at that time that
scientists on their staffs or with whom they consulted through their trade association, the American
Petroleum Institute (“API”), investigated the science and warned them in stark terms that fossil fuel
usage would cause global warming at a rate unprecedented in the history of human civilization and
present risks of “catastrophic” harm in coming decades.

3. Defendants took these stark warnings and proceeded to double-down on fossil fuels.
Most of the carbon dioxide now in the atmosphere as a result of combustion of Defendants’ fossil
fuels is likely attributable to their recent production – i.e., to fossil fuels produced by Defendants
since 1980. Even today, with the global warming danger level at a critical phase, Defendants
continue to engage in massive fossil fuel production and execute long-term business plans to
continue and even expand their fossil fuel production for decades into the future.

4. The global warming-induced sea level rise from past fossil fuel usage is an
irreversible condition on any relevant time scale: it will last hundreds or even thousands of years.
Defendants’ planned production of fossil fuels into the future will exacerbate global warming,

5 See, e.g., Carbon Dioxide and Climate: A Scientific Assessment, Report of an Ad Hoc Study
Group on Carbon Dioxide and Climate to the Climate Research Board, Assembly of Mathematical
and Physical Sciences, National Research Council (1979), at vii, 4-6, available at
accelerate sea level rise even further, and require greater and more costly abatement actions to protect San Francisco.

5. Defendants, notably, did not simply produce fossil fuels. They engaged in large-scale, sophisticated advertising and public relations campaigns to promote pervasive fossil fuel usage and to portray fossil fuels as environmentally responsible and essential to human well-being — even as they knew that their fossil fuels would contribute, and subsequently were contributing, to dangerous global warming and associated accelerated sea level rise. These promotional efforts continue through today even in the face of overwhelming scientific evidence that fossil fuels are altering the climate and global warming has become an existential threat to modern life.

6. Defendants’ promotion of fossil fuels has also entailed denying mainstream climate science or downplaying the risks of global warming. During the 1990s and early 2000s, Defendants stole a page from the Big Tobacco playbook and sponsored public relations campaigns, either directly or through the API or other groups, to deny and discredit the mainstream scientific consensus on global warming, downplay the risks of global warming, and even to launch unfounded attacks on the integrity of leading climate scientists. “Uncertainty” of the science became the constantly repeated mantra of this Big Oil PR campaign just as “Doubt is our product” was the Big Tobacco PR theme. Emphasizing “uncertainty” in climate science, directly or through the API, is still a focus of Defendants’ efforts to promote their products even though Defendants are well aware that the fundamental scientific facts of global warming are not in dispute and are a cause of grave danger through sea level rise.

7. The purpose of all this promotion of fossil fuels and efforts to undermine mainstream climate science was, like all marketing, to increase sales and protect market share. It succeeded.

8. And now it will cost billions of dollars to build sea walls and other infrastructure to protect human safety and public and private property in San Francisco from global warming-induced sea level rise. A recent report by the California government has rung the alarm bell as loudly as possible: “Previously underappreciated glaciological processes, examined in the research of the last five years, have the potential to greatly increase the probability of extreme global sea-
level rise (6 feet or more) within this century” under business-as-usual fossil fuel production and usage.6 Translation: the planet’s enormous ice caps on Greenland and Antarctica are beginning to melt, like their much smaller but more numerous cousins, the mountain glaciers, have been doing for many years, and slide into the ocean. This new dynamic is fundamentally increasing the risk of catastrophic sea level rise. The report projects a risk of as much as ten feet of additional sea level rise along San Francisco’s coastline by 2100, which would be catastrophic.7 Nearer-term risks include 0.3 to as much as 0.8 feet of additional sea level rise by 2030,8 which itself will require the building of sea walls and other costly infrastructure given the dynamics of storm surge and regular high tide flooding.

9. This new information shows that the costs of dealing with global warming-induced sea level—already immense—will be staggering for the public entities that must protect their people and their coastlines. Even before the latest projections of accelerating sea-level rise, San Francisco has already taken action to adapt. In 2016, San Francisco adopted an action plan establishing a framework for assessing San Francisco’s exposure to sea level rise and identifying actions the City must take to prevent sea level rise damage. The plan’s vision is to make San Francisco a “more resilient city in the face of immediate and long-term threats of sea level rise, by taking measures to protect and enhance public and private assets, natural resources, and quality of life for all.” The plan recommends that San Francisco conduct assessments to identify properties and infrastructure vulnerable to sea level rise, and develop and implement adaptation plans to protect them by raising infrastructure, building flood barriers and other infrastructure, and taking other measures. San Francisco is in the process of doing so for identified vulnerable areas such as Ocean Beach and the San Francisco Port. As set forth in the action plan, continuing Bayside sea level rise from global warming places at risk at least $10 billion dollars of public property within San Francisco and as much as $39 billion of private property. The magnitude of the actions needed

6 Rising Seas in California at 16.
7 Id. at 26.
8 Id.
to abate harms from sea level rise, and the amount of property at risk, will increase in light of the rapidly accelerating sea level rise and the increased scientific understanding of sea level rise processes as set forth in the 2017 report.

10. Defendants are substantial contributors to the public nuisance of global warming that is causing injury to the People and thus are jointly and severally liable. Defendants’ cumulative production of fossil fuels over many years places each of them among the top sources of global warming pollution in the world. Upon information and belief, Defendants are, respectively, the first (Chevron), second (Exxon), fourth (BP), sixth (Shell) and ninth (ConocoPhillips) largest cumulative producers of fossil fuels worldwide from the mid Nineteenth Century to present; most of Defendants’ global warming pollution from the usage of their fuels has accumulated in the atmosphere since 1980. Defendants, moreover, are qualitatively different from other contributors to the harm given their in-house scientific resources, early knowledge of global warming, commercial promotions of fossil fuels as beneficent even in light of their knowledge to the contrary, and efforts to protect their fossil fuel market by downplaying the risks of global warming.

11. The People seek an order requiring Defendants to abate the global warming-induced sea level rise nuisance to which they have contributed by funding an abatement program to build sea walls and other infrastructure that is urgently needed to protect human safety and public and private property in San Francisco. The People do not seek to impose liability on Defendants for their direct emissions of greenhouse gases and do not seek to restrain Defendants from engaging in their business operations. This case is, fundamentally, about shifting the costs of abating sea level rise harm — one of global warming’s gravest harms — back onto the companies. After all, it is Defendants who have profited and will continue to profit by knowingly contributing to global warming, thereby doing all they can to help create and maintain a profound public nuisance.

II. JURISDICTION AND VENUE

12. Jurisdiction is proper in this Court because Defendants have contributed to the creation of a public nuisance in San Francisco, and the San Francisco City Attorney has the right and authority to seek abatement of that nuisance on behalf of the People of the State of California.
13. Venue is proper in this county in accordance with section 392(a)(1) of the Code of Civil Procedure because the People allege injuries to real property located in this county.

III. PARTIES

A. Plaintiff

14. Plaintiff, the People of the State of California, by and through the San Francisco City Attorney Dennis J. Herrera, brings this suit pursuant to Code of Civil Procedure section 731, and Civil Code sections 3479, 3480, 3491, and 3494, to abate the public nuisance caused by Defendants.

B. Defendants

15. Defendant BP is a public limited company registered in England and Wales with its headquarters in London, England, doing business in California. BP was created in 1998 as a result of a merger between the Amoco Corporation ("Amoco"), a former U.S. corporation, and the British Petroleum Company p.l.c. BP is a multinational, integrated oil and gas company that explores for, produces, refines, markets, and sells oil, natural gas and fossil fuel products.

16. BP controls company-wide climate change policies and fossil fuel production. BP, through its employees and/or agents, manages, directs, conducts and/or controls operations relating to its subsidiaries’ participation in the process by which fossil fuels, including raw crude oil, are produced, transported, refined, stored, distributed, marketed, and/or sold to consumers. BP also exercises control over company-wide decisions on production and use of fossil fuel reserves considering climate change impacts. BP’s management, direction, conduct and/or control is exercised through a variety of means, including through its employees’ and/or agents’ implementation of policies, procedures, and programs relating to climate change generally and to production of fossil fuels specifically.

///

///

17. As a result of its management, direction, conduct and/or control of operations relating to company-wide climate change policies and fossil fuel production, Defendant BP is responsible for its subsidiaries’ past and current production and promotion of fossil fuel products.

18. Defendant Chevron is a Delaware Corporation with its principal place of business located in San Ramon, California. Chevron and its predecessors had their headquarters in San Francisco from 1879 to 2001. Chevron is a multinational, integrated oil and gas company that explores for, produces, refines, markets, and sells oil, natural gas and fossil fuel products.

19. Chevron controls company-wide climate change policies and fossil fuel production. Chevron, through its employees and/or agents, manages, directs, conducts and/or controls operations relating to its subsidiaries’ participation in the process by which fossil fuels, including raw crude oil, are produced, transported, refined, stored, distributed, marketed, and/or sold to consumers. Chevron also exercises control over company-wide decisions on production and use of fossil fuel reserves considering climate change impacts. Chevron’s management, direction, conduct and/or control is exercised through a variety of means, including through its employees’ and/or agents’ implementation of policies, procedures, and programs relating to climate change generally and to production of fossil fuels specifically.

20. As a result of its management, direction, conduct and/or control of operations relating to company-wide climate change policies and fossil fuel production, Defendant Chevron is responsible for its subsidiaries’ past and current production and promotion of fossil fuel products.

21. Defendant ConocoPhillips is a Delaware Corporation with its principal place of business located in Houston, Texas, doing business in California. ConocoPhillips is a multinational oil and gas company that produces, markets, and sells oil and natural gas and for many years also refined and sold finished oil products.

---

22. ConocoPhillips controls company-wide climate change policies and fossil fuel production. ConocoPhillips, through its employees and/or agents, manages, directs, conducts and/or controls operations relating to its subsidiaries’ participation in the process by which fossil fuels, including raw crude oil, are produced, transported, refined, stored, distributed, marketed, and/or sold to consumers. ConocoPhillips also exercises control over company-wide decisions on production and use of fossil fuel reserves considering climate change impacts. ConocoPhillips’s management, direction, conduct and/or control is exercised through a variety of means, including through its employees’ and/or agents’ implementation of policies, procedures, and programs relating to climate change generally and to production of fossil fuels specifically.

23. As a result of its management, direction, conduct and/or control of operations relating to company-wide climate change policies and fossil fuel production, Defendant ConocoPhillips is responsible for its subsidiaries’ past and current production and promotion of fossil fuel products.

24. Defendant Exxon is a New Jersey corporation with its principal place of business located in Irving, Texas, doing business in the State of California. Exxon is a multinational, integrated oil and gas company that explores for, produces, refines, markets, and sells oil, natural gas and fossil fuel products and, as recently as 2009 produced, marketed and sold coal.

25. Exxon controls company-wide climate change policies and fossil fuel production. Exxon, through its employees and/or agents, manages, directs, conducts and/or controls operations relating to its subsidiaries’ participation in the process by which fossil fuels, including raw crude oil, are produced, transported, refined, stored, distributed, marketed, and/or sold to consumers. Exxon also exercises control over company-wide decisions on production and use of fossil fuel reserves considering climate change impacts. Exxon’s management, direction, conduct and/or control is exercised through a variety of means, including through its employees and/or agents’

---


implementation of policies, procedures, and programs relating to climate change generally and to production of fossil fuels specifically.

26. As a result of its management, direction, conduct and/or control of operations relating to company-wide climate change policies and fossil fuel production, Defendant Exxon is responsible for its subsidiaries’ past and current production and promotion of fossil fuel products.

27. Defendant Shell is a public limited company registered in England and Wales with its headquarters in The Hague, Netherlands, doing business in California. Shell is a multinational, integrated oil and gas company that explores for, produces, refines, markets, and sells oil, natural gas and fossil fuel products.

28. Shell controls company-wide climate change policies and fossil fuel production. Shell, through its employees and/or agents, manages, directs, conducts and/or controls operations relating to its subsidiaries’ participation in the process by which fossil fuels, including raw crude oil, are produced, transported, refined, stored, distributed, marketed, and/or sold to consumers. Shell also exercises control over company-wide decisions on production and use of fossil fuel reserves considering climate change impacts. Shell’s management, direction, conduct and/or control is exercised through a variety of means, including through its employees’ and/or agents’ implementation of policies, procedures, and programs relating to climate change generally and to production of fossil fuels specifically.

29. As a result of its management, direction, conduct and/or control of operations relating to company-wide climate change policies and fossil fuel production, Defendant Shell is responsible for its subsidiaries’ past and current production and promotion of fossil fuel products.

30. Defendants DOES ONE through TEN are sued herein under fictitious names. Plaintiff does not at this time know the true names or capacities of said defendants, but prays that the same may be alleged when ascertained.

///

C. Defendants’ Connections To California.

31. Defendants have contributed to the creation of a public nuisance — global warming-induced sea level rise — causing severe harms and threatening catastrophic harms in San Francisco.

32. Each Defendant, directly and through its subsidiaries, substantially participates in the process by which raw crude oil is extracted from the ground, refined into fossil fuel products and delivered, marketed, and sold to California residents for use.

33. BP, through its subsidiaries, owns and/or operates port facilities in California for receipt of crude oil. BP, through its subsidiaries, also produces oil in Alaska, and upon information and belief, BP, through its subsidiaries, transports some of this crude oil to California. In addition, BP operates 275 ARCO-licensed and-branded gasoline stations in California, including stations located in San Francisco. BP offers credit cards to consumers on its interactive website to promote sales of gasoline and other products at its branded gasoline stations. BP’s web site maintains a page of “BP Amoco Stations Near Me” for California listing virtually every municipality in California and hundreds of such gas stations. BP promotes gasoline sales by offering, consumers, through its interactive web site, twenty-five cents off every gallon of BP-branded gasoline for every $100 spent on a BP Visa® Credit Card or BP Credit Card for the first ninety days a consumer’s account is open.

34. Chevron, through its subsidiaries, produces oil in California, owns and/or operates port facilities in California for receipt of crude oil, owns and operates two refineries where crude oil is refined into finished fossil fuel products including gasoline, and owns and operates approximately nine gasoline terminals in California. A gasoline terminal consists of enormous aboveground storage tanks that hold gasoline for distribution to retail gasoline stations and consumers. Chevron owns and operates the Richmond gasoline refinery and related terminals in the San Francisco Bay Area. Chevron, through its subsidiaries, also produces oil in Alaska, and upon information and belief, some of this crude oil is supplied to California. There also are numerous Chevron-branded gasoline stations in California, including in San Francisco. Chevron offers credit cards to consumers through its interactive website, to promote sales of gasoline and other products at its branded gasoline stations. Chevron promotes gasoline sales by offering
consumers three cents per gallon in fuel credits “every fill-up, every time at Chevron and Texaco
stations.”

35. ConocoPhillips, through its subsidiaries, owns and/or operates port facilities in
California for receipt of crude oil, and previously owned and operated a refinery based in both
Rodeo and Arroyo Grande, California, from 2001 to 2012, where crude oil was refined into
finished fossil fuel products including gasoline. ConocoPhillips, through its subsidiaries, also
produces oil in Alaska, and transports some of this crude oil to California, including San Francisco.

36. Exxon, through its subsidiaries, produces oil in California, owns and/or operates
port facilities in California for receipt of crude oil, and previously owned and operated a refinery in
California until July 1, 2016, where crude oil was refined into finished fossil fuel products
including gasoline. Exxon owned the Benicia gasoline refinery for 30 years until 2000. Exxon,
through its subsidiaries, also produces oil in Alaska, and upon information and belief, Exxon,
through its subsidiaries, transports some of this crude oil to California. There also are numerous
Exxon-branded gasoline stations in California, including in San Francisco and the greater Bay
Area. Exxon offers credit cards to consumers, through its interactive website, to promote sales of
gasoline and other products at its branded gasoline stations. Exxon promotes gasolines sales by
offering consumers twenty-five cents off every gallon of Synergy™ gasoline at Exxon™ or
Mobil™ stations for the first two months and then six cents off every gallon of Synergy gasoline at
Exxon- and Mobil-branded stations.

37. Shell, through its subsidiaries, owns and/or operates port facilities in California for
receipt of crude oil, owns and operates a refinery in California where crude oil is refined into
finished fossil fuel products including gasoline, transports crude oil through a pipeline within
California, and owns and operates approximately six gasoline terminals in California. Since 1915,
Shell has owned a gasoline refinery in Martinez, California, thirty miles northeast of San
Francisco. There are numerous Shell-branded gasoline stations in California, including in San
Francisco. Shell offers credit cards to consumers on its interactive website to promote sales of
gasoline and other products at its branded gasoline stations. Shell promotes gasolines sales by
offering consumers, through its interactive web site, twenty-five cents off every gallon of Shell Fuel for the first two months after they open an account.

IV. FOSSIL FUELS ARE THE PRIMARY CAUSE OF GLOBAL WARMING.

38. Production of fossil fuels for combustion causes global warming. When used as intended, fossil fuels release greenhouse gases, including carbon dioxide (CO₂) and methane, which trap atmospheric heat and increase global temperatures. Carbon dioxide is by far the most important greenhouse gas because of the combustion of massive amounts of fossil fuels.

39. Scientists have known for many years that the use of fossil fuels emits carbon dioxide and that carbon dioxide is a greenhouse gas. In 1896, Svante Arrhenius, a Nobel-prize winning scientist, published calculations projecting temperature increases that would be caused by increased carbon dioxide concentrations in the atmosphere due to the burning of fossil fuels.  

40. By 1957, scientists at the Scripps Institute published a warning in the peer-reviewed literature that global warming “may become significant during future decades if industrial fuel combustion continues to rise exponentially” and that “[h]uman beings are now carrying out a large scale geophysical experiment” on the entire planet.  

41. In 1960, scientist Charles D. Keeling published results establishing that atmospheric carbon dioxide concentrations were in fact rising.

42. By 1979, the National Academy of Sciences, which is charged with providing independent, objective scientific advice to the United States government, concluded that there was “incontrovertible evidence” that carbon dioxide levels were increasing in the atmosphere as a result of fossil fuel use, and predicted that a doubling of atmospheric carbon dioxide would cause an


increase in global surface temperatures of between 1.5 °C and 4.5 °C [2.7 °F and 8.1 °F], with a probable increase of 3 °C [5.4 °F].

43. In 1988, NASA scientist Dr. James E. Hansen testified to the U.S. Senate’s Energy and Natural Resources Committee that “[t]he greenhouse effect has been detected, and it is changing our climate now.”

44. More recent research has confirmed and expanded on these earlier findings. In 1988, the United Nations established the Intergovernmental Panel on Climate Change (“IPCC”) to assess the scientific and technical information relevant to global warming, and to provide advice to all parties to the U.N. Framework Convention on Climate Change, including the United States. The IPCC issues periodic assessment reports, which have become the standard scientific references on global warming. As Defendant Exxon has put it, the IPCC is “the leading international scientific authority on climate change.”

45. In 1990, the IPCC issued its First Assessment Report (“FAR”). It stated that “we are certain” that “emissions resulting from human activities are substantially increasing the atmospheric concentrations of the greenhouse gases,” including carbon dioxide and methane, and that “these increases will enhance the greenhouse effect, resulting on average in an additional warming of the Earth’s surface.” The IPCC’s FAR also predicted that a “Business-as-Usual” scenario (i.e., a future in which fossil fuel production and associated emissions continue to increase) would cause global mean temperature during the next century to increase at a rate “greater than that seen over the past 10,000 years,” and “will result in a likely increase in global mean temperature of about 1 °C [1.8 °F] above the present value by 2025 and 3 °C [5.4 °F] before

---

19 https://www.ipcc.ch/ipccreports/far/wg_i/ipcc_far_wg_i_spmpdf, at Executive Summary xi.
the end of the next century” – higher than temperatures have been in the last 150,000 years.  

The FAR also predicted that business-as-usual would result in substantial sea level rise by 2100.  

46. The FAR further stated “with confidence” that continued emissions of carbon dioxide “at present rates would commit us to increased concentrations for centuries ahead,” and that immediate reductions were required to stabilize carbon dioxide concentrations. 

47. In 1995, in its Second Assessment Report (“SAR”), the IPCC concluded that the “balance of evidence suggests a discernible human influence on global climate.” This causal finding was profoundly important as confirmation that human-caused global warming had now been detected. By 2001, the IPCC strengthened its causal conclusion, stating that it was “likely” (an IPCC term of art meaning a 66% to 90% chance of being true) that temperature increases already observed were attributable to human activity.  

22 The U.S. National Academy of Sciences reviewed this finding and concluded that it was accurate.  

48. The IPCC issued its most recent report, the Fifth Assessment, in 2013-14. It states that it is “extremely likely” (95 to 100 percent likely) that “human influence has been the dominant cause of the observed warming since the mid-20th century.”  

49. The increase in atmospheric carbon dioxide caused by the combustion of fossil fuels has been clearly documented – and measured. Carbon dioxide from fossil fuels has a chemical fingerprint and is the culprit; natural sources of carbon dioxide were in balance prior to the use of fossil fuels and are not a cause of the global warming problem. Today, due primarily to the combustion of fossil fuels produced by Defendants and others, the atmospheric level of carbon dioxide is 410 ppm, higher than at any time during human civilization and likely higher than any

20 Id. at Executive Summary xi and xxviii.  

21 Id. at Executive Summary xi.  


level in millions of years.25 The result has been dramatic planetary warming: sixteen of earth’s
seventeen warmest years in the 136-year period of global temperature measurements have occurred
since 2001, and 2016 was the warmest year on record.26 As of July 2017, there were 391 months in
a row that were warmer than the 20th century average.27 The years 2014, 2015, and 2016 were the
three hottest years ever recorded in California since modern temperature records were first taken in
1895.28 California has warmed over 2 °F since 1895.29

50. Scientists typically use “double CO2,” or twice the pre-industrial level of
atmospheric carbon dioxide concentration, as a standard reference for considering the warming
impact of increased greenhouse gases. Double CO2 is 550 ppm. According to the IPCC, double
CO2 will cause the global average surface air temperature to increase by 1.5 to 4.5 °C [2.7 to 8.1
°F] over the pre-industrial level, a rate of warming that is unprecedented in the history of human
civilization. By comparison, at the depths of the last ice age, 20,000 years ago, the global average
temperature of the Earth was only seven to eleven degrees Fahrenheit cooler than today. Globally,
approximately 1 °C [1.8 °F] of the temperature rise already has occurred, due primarily to carbon
dioxide and methane emissions from the combustion and use of fossil fuels.

51. Ongoing and future warming caused by past and ongoing use of massive quantities
of fossil fuels will cause increasingly severe harm to San Francisco through accelerating sea level
rise. In 2013, the IPCC projected that between 2081 and 2100, the global average surface
temperature will have increased by 4.7 °F to 8.6 °F under business-as-usual, i.e., with continued

25 Brian Kahn, We Just Breached the 410 PPM Threshold for CO2, Scientific American (Apr.
21, 2017), available at https://www.scientificamerican.com/article/we-just-breached-the-410-ppm-
threshold-for-co2/.
26 Rising Seas in California at 14.
sotc/global/201707.
28 NOAA, National Centers for Environmental Information, available at
%5B%5D=12&parameter=tavg&state=4&div=0&month=12&year=2016#ranks-form.
29 NOAA, National Climatic Data Center, available at https://www.ncdc.noaa.gov/temp-and-
precip/state-temps/; see also https://www.nytimes.com/2015/08/21/science/climate-change-
tensifies-california-drought-scientists-say.html?mcubz=0.
massive levels of fossil fuel production. Global warming causes sea level rise by melting glaciers and sea ice, and by causing seawater to expand. 30 This acceleration of sea level rise is unprecedented in the history of human civilization. Since 1990, the rate of sea level rise has more than doubled and it continues to accelerate. The rate of ice loss from the Greenland and Antarctic Ice Sheets is increasing, and these ice sheets soon will become the primary contributor to global sea level rise. With production of fossil fuels continuing on its business-as-usual trajectory, the resulting warming presents a risk of “rapidly accelerating and effectively irreversible ice loss.” The melting of even a portion of the West Antarctic Ice Sheet, the “most vulnerable major ice sheet in a warming global climate,” will cause especially severe impacts in California. Rapid ice sheet loss on Antarctica due to global warming risks a sea level rise in California of ten feet by 2100.31 This would be catastrophic for San Francisco.

52. The Earth’s climate can undergo an abrupt and dramatic change when a radiative forcing agent, such as carbon dioxide, causes the climate system to reach a tipping point. Defendants’ massive production of fossil fuels increases the risk of reaching that tipping point, triggering a sudden and potentially catastrophic change in climate. The rapidity of an abrupt climate shift would magnify all the adverse effects of global warming. Crossing a tipping point threshold also could lead to rapid disintegration of ice sheets on Greenland and/or Antarctica, resulting in large and rapid increases in sea level rise.

V. DEFENDANTS HAVE PRODUCED MASSIVE QUANTITIES OF FOSSIL FUELS AND HAVE CONTINUED TO DO SO EVEN AS GLOBAL WARMING HAS BECOME GRAVELY DANGEROUS.

53. For many years, Defendants have produced massive quantities of fossil fuels that, when combusted, emit carbon dioxide, the most important greenhouse gas. Additionally, one of Defendants’ primary fossil fuel products, natural gas, is composed of methane, which is the second most important greenhouse gas and which, as Defendants know, routinely escapes into the atmosphere from facilities operated by Defendants’ customers and also consumers. The

31 Rising Seas in California at 3-4, 13.
greenhouse gases from the usage of defendants’ fossil fuels remain in the atmosphere for long
periods of time: a substantial portion of carbon dioxide emissions remains in the atmosphere for
over 1,000 years after they are emitted.\(^{32}\) As noted above, Defendants have produced such vast
quantities of fossil fuels that they are five of the ten largest producers in all of history, with most of
the carbon dioxide that has built up in the atmosphere from the use of their products dating from
1980 or later. The cumulative greenhouse gases in the atmosphere attributable to each Defendant
has increased the global temperature and contributed to sea level rise, including in San Francisco.

54. Once Defendants produce fossil fuels by, for example, extracting oil from the
ground, those fossil fuels are used exactly as intended and emit carbon dioxide.

55. Despite their internal warnings, an overwhelming scientific consensus on the
unfolding imminent catastrophe, and actual gravely dangerous impacts from global warming,
Defendants to this day maintain high levels of fossil fuel production. This production will intensify
future warming and San Francisco’s injuries from sea level rise.

56. Defendants’ conduct will continue to cause ongoing and increasingly severe sea
level rise harms to San Francisco because Defendants are committed to a business model of
massive fossil fuel production that they know causes a gravely dangerous rate of global warming.
The following graph from a 2015 study published in the peer-reviewed scientific literature
demonstrates the grave indifference Defendants BP, Shell, and Exxon have for human safety and
welfare.

\(^{32}\) IPCC, Climate Change 2013, The Physical Science Basis, Summary for Policymakers at 28,
The graph compares BP, Exxon and Shell’s projections of worldwide total future emissions — projections upon which they make long-term business plans — to the IEA (“International Energy Agency”) 450 emissions trajectory necessary to prevent global warming from exceeding a 2 °C increase over the pre-industrial temperature. The 2 °C level of global warming is widely considered to be a red line of highly dangerous global warming. Upon information and belief, all Defendants base their long-term business plans upon similar projections.

VI. DEFENDANTS HAVE PRODUCED MASSIVE AMOUNTS OF FOSSIL FUELS DESPITE HAVING FULL KNOWLEDGE FROM THEIR IN-HOUSE SCIENTIFIC STAFF, OR FROM THE API, THAT FOSSIL FUELS WOULD CAUSE GLOBAL WARMING.

57. For decades, Defendants have known that their fossil fuel products pose risks of “severe” and even “catastrophic” impacts on the global climate through the work and warnings of their own scientists or through their trade association. Yet each Defendant decided to continue its conduct and commit itself to massive fossil fuel production. This was a deliberate decision to

---

33 In gigatons of carbon per year.

place company profits ahead of human safety and well-being and property, and to foist onto the public the costs of abating and adapting to the public nuisance of global warming.

58. The American Petroleum Institute ("API") is a national trade association that represents the interests of America’s oil and natural gas industry. At all relevant times, Defendants, their corporate predecessors and/or their operating subsidiaries over which they exercise substantial control, have been members of the API. On information and belief, the API has acted as Defendants’ agent with respect to global warming, received funding from Defendants for the API’s global warming initiatives, and shared with Defendants the information on global warming described herein.

59. Beginning in the 1950s, the API repeatedly warned its members that fossil fuels posed a grave threat to the global climate. These warnings have included, for example, an admission in 1968 in an API report predicting that carbon dioxide emissions were “almost certain” to produce “significant” temperature increases by 2000, and that these emissions were almost certainly attributable to fossil fuels. The report warned of “major changes in the earth’s environment” and a “rise in sea levels,” and concluded: “there seems to be no doubt that the potential damage to our environment could be severe.”35 Similar warnings followed in the ensuing decades, including reports commissioned by the API in the 1980s that there was “scientific consensus” that catastrophic climate change would ensue unless API members changed their business models, and predictions that sea levels would rise considerably, with grave consequences, if atmospheric concentrations of CO₂ continued to increase.

60. The API’s warnings to Defendants included:

   a) In 1951, the API launched a project to research air pollution from petroleum products, and attributed atmospheric carbon to fossil fuel sources.36 By 1968, the API’s scientific


consultant reported to the API that carbon dioxide emissions were “almost certain” to produce “significant” temperature increases by 2000, and that these emissions were almost certainly attributable to fossil fuels. The report warned of “major changes in the earth’s environment” and a “rise in sea levels,” and concluded: “there seems to be no doubt that the potential damage to our environment could be severe.”

b) In 1980, an API task force on climate change invited Dr. J.A. Laurman, a “recognized expert in the field of CO2 and climate,” to make a presentation to the API CO2 and Climate Task Force. Attendees to the presentation included scientists and executives from Texaco (a predecessor to Chevron), Exxon, and SOHIO (a predecessor to BP). Dr. Laurman informed the API task force that there was a “Scientific Consensus on the Potential for Large Future Climatic Response to Increased CO2 Levels.” He further informed the API task force in his presentation that, though the exact temperature increases were difficult to predict, the “physical facts agree on the probability of large effects 50 years away.” His own temperature forecast was of a 2.5 °C [4.5 °F] rise by 2038, which would likely have “MAJOR ECONOMIC CONSEQUENCES,” and a 5 °C [9 °F] rise by 2067, which would likely produce “GLOBALLY CATASTROPHIC EFFECTS.” He also suggested that, despite uncertainty, “THERE IS NO LEEWAY” in the time for acting. API minutes show that the task force discussed topics including “the technical implications of energy source changeover,” “ground rules for energy release of fuels and the cleanup of fuels as they relate to CO2 creation,” and researching “the Market Penetration Requirements of Introducing a New Energy Source into World Wide Use.”

c) In March 1982, an API-commissioned report showed the average increase in global temperature from a doubling of atmospheric concentrations of CO2 and projected, based upon computer modeling, global warming of between 2 °C and 3.5 °C [3.6 °F to 6.3 °F]. The report


COMPLAINT FOR PUBLIC NUISANCE - 20 -
projected potentially “serious consequences for man’s comfort and survival,” and noted that “the
height of the sea level can increase considerably.”

61. In addition to the API information, some of the Defendants produced their own
internal analyses of global warming. For example, newly disclosed documents demonstrate that
Exxon internally acknowledged in the late 1970s and early 1980s that its products posed a
“catastrophic” threat to the global climate, and that fossil fuel use would have to be strictly limited
to avoid severe harm.

a) Exxon management was informed by its scientists in 1977 that there was an
“overwhelming[]” consensus that fossil fuels were responsible for atmospheric carbon dioxide
increases. The presentation summarized a warning from a recent international scientific conference
that “IT IS PREMATURE TO LIMIT USE OF FOSSIL FUELS BUT THEY SHOULD NOT BE
ENCOURAGED.” The scientist warned management in a summary of his talk: “Present thinking
holds that man has a time window of five to ten years before the need for hard decisions regarding
changes in energy strategies might become critical.”

b) In a 1979 Exxon internal memo, an Exxon scientist calculated that 80% of
fossil fuel reserves would need to remain in the ground and unburned to avoid greater than a
doubling of atmospheric carbon dioxide.

c) In a 1981 internal Exxon memo, a scientist and director at the Exxon
Research and Engineering Company warned that “it is distinctly possible” that CO₂ emissions “will
later produce effects which will indeed be catastrophic (at least for a substantial fraction of the
earth’s population).”

---

d) A year later, the same scientist wrote another memo to Exxon headquarters, which reported on a “clear scientific consensus” that “a doubling of atmospheric CO₂ from its pre-industrial revolution value would result in an average global temperature rise of (3.0 ± 1.5) °C [2.7 °F to 8.1 °F].”⁴³ The clear scientific consensus was based upon computer modeling, which Exxon would later attack as unreliable and uncertain in an effort to undermine public confidence in climate science.⁴⁴ The memo continued: “There is unanimous agreement in the scientific community that a temperature increase of this magnitude would bring about significant changes in the earth’s climate, including rainfall distribution and alterations in the biosphere.”

e) In November 1982, an Exxon internal report to management warned that “substantial climatic changes” could occur if the average global temperature rose “at least 1 °C [1.8 °F] above [1982] levels,” and that “[m]itigation of the ‘greenhouse effect’ would require major reductions in fossil fuel combustion.” The report then warns Exxon management that “there are some potentially catastrophic events that must be considered,” including the risk that “if the Antarctic ice sheet which is anchored on land should melt, then this could cause a rise in sea level on the order of 5 meters.” The report includes a graph demonstrating the expected future global warming from the “CO₂ effect” demonstrating a sharp departure from the “[r]ange of natural fluctuations.” This graph is attached hereto as Exhibit 3.⁴⁵

f) By 1983, Exxon had created its own climate models, which confirmed the main conclusions from the earlier memos. Starting by at least the mid-1980s, Exxon used its own climate models and governmental ones to gauge the impact that climate change would have on its own business operations and subsequently took actions to protect its own business assets based upon these modeling results.⁴⁶

---

⁴⁴ See infra ¶ 76.
⁴⁶ http://graphics.latimes.com/exxon-arctic/.
62. Exxon’s early research and understanding of the global warming impacts of its business was not unique among Defendants. For example, at least as far back as 1970, Defendants Shell and BP began funding scientific research in England to examine the possible future climate changes from greenhouse gas emissions.\(^{47}\) Shell produced a film on global warming in 1991, in which it admitted that there had been a “marked increase [in global temperatures] in the 1980s” and that the increase “does accord with computer models based on the known atmospheric processes and predicted buildup of greenhouse gases.”\(^{48}\) It acknowledged a “serious warning” that had been “endorsed by a uniquely broad consensus of scientists” in 1990. In the film, Shell further admits that by 2050 continued emissions of greenhouse gases at high levels would cause a global average temperature increase of 1.5 to 4 °C [2.7 to 7.2 °F]; that one meter of sea level rise was likely in the next century; that “this could be disastrous;” and that there is a “possibility of change faster than at any time since the end of the ice age, change too fast, perhaps, for life to adapt without severe dislocation.”

VII. DESPITE THEIR EARLY KNOWLEDGE THAT GLOBAL WARMING WAS REAL AND POSED GRAVE THREATS, DEFENDANTS PROMOTED FOSSIL FUELS FOR PERVASIVE USE WHILE DOWNPLAYING THE REALITY AND RISKS OF GLOBAL WARMING.

63. Defendants have extensively promoted fossil fuel use in massive quantities through affirmative advertising for fossil fuels and downplaying global warming risks. First, Defendants promoted massive use of fossil fuels by misleading the public about global warming by emphasizing the uncertainties of climate science and through the use of paid denialist groups and individuals – a striking resemblance to Big Tobacco’s propaganda campaign to deceive the public about the adverse health effects of smoking. Defendants’ campaign inevitably encouraged fossil fuel consumption at levels that were (as Defendants knew) certain to severely harm the public.

Second, Defendants’ fossil fuel promotions through frequent advertising for their fossil fuel products, including promotions claiming that consumption at current and even expanded levels is

\(^{47}\) Sir Solly Zuckerman, Chief Scientist, Letter to Vice Chancellor, University of Bath, 9th May 1970, PRO ref CAB 163/272 #122885, “Long-term climate changes and their effects.”

\(^{48}\) https://www.youtube.com/watch?v=0VOWi8oVXmo.
“responsible” or even “respectful” of the environment, have encouraged continued fossil fuel consumption at massive levels that Defendants knew would harm the public.  

A. Defendants Borrowed The Big Tobacco Playbook In Order To Promote Their Products.

64. Notwithstanding Defendants’ early knowledge of climate change, Defendants have engaged in advertising and public relations campaigns intended to promote their fossil fuel products by downplaying the harms and risks of global warming. Initially, the campaign tried to show that global warming was not occurring. More recently, the campaign has sought to minimize the risks and harms from global warming. The campaign’s purpose and effect has been to help Defendants continue to produce fossil fuels and sell their products on a massive scale. This campaign was executed in large part by front groups funded by Defendants, either directly or through the API, and through statements made by Defendants directly.

65. One front group was the Global Climate Coalition (“GCC”). The GCC operated between 1989 and 2002. Its members included the API, and predecessors or subsidiaries of Defendants. William O’Keefe, former president of the GCC, was also a former executive of the API.  

66. The GCC spent millions of dollars on campaigns to discredit climate science, including $13 million on one ad campaign alone. The GCC distributed a video to hundreds of journalists, which claimed that carbon dioxide emissions would increase crop production and feed the hungry people of the world.  

67. However, internal GCC documents admitted that their “contrarian” climate theories were unfounded. In December 1995, the GCC’s Science and Technology Advisory Committee

---

("GCC-STAC"), whose members included employees of Mobil Oil Corporation (an Exxon predecessor) and the API, drafted a primer on the science of global warming for GCC members. The primer concluded that the GCC’s contrarian theories “do not offer convincing arguments against the conventional model of greenhouse gas emission-induced climate change.” Due to this inconvenient conclusion, at its next meeting, in January 1996, the GCC-STAC decided simply to drop this seven-page section of the report. Nonetheless, for years afterward, the GCC and its members continued to tout their contrarian theories about global warming, even though the GCC had admitted internally these arguments were invalid.

68. In February 1996, an internal GCC presentation stated that a doubling of carbon dioxide levels over pre-industrial concentrations would occur by 2100 and cause “an average rate of warming [that] would probably be greater than any seen in the past 10,000 years.” The presentation noted “potentially irreversible” impacts that could include “significant loss of life.”

69. Certain Defendants also funded another front group in the 1990s, the Global Climate Science Communications Team ("GCSCT"). GCSCT members included Exxon, Chevron, and the API. A 1998 GCSCT task force memo outlined an explicit strategy to invest millions of dollars to manufacture uncertainty on the issue of global warming, directly emulating a similar disinformation campaign by the tobacco industry. The memo stated: “Victory Will Be Achieved When,” among other things, “Average citizens ‘understand’ (recognize) uncertainties in climate science,” public “recognition of uncertainty becomes part of the ‘conventional wisdom.’” and the “Media ‘understands’ (recognizes) uncertainties in climate science.” The plan stated that progress would be measured by the percentage of new articles that raise questions about climate change.

70. Over at least the last nineteen years, Exxon in particular has paid researchers and front groups to create uncertainties about basic climate change science and used denialist groups to
attack well-respected scientists. These were calculated business decisions by Exxon to undermine
cclimate change science and bolster production of fossil fuels.54

71. Between 1998 and 2014, Exxon paid millions of dollars to organizations to promote
disinformation on global warming. During the early- to mid-1990s, Exxon directed some of this
funding to Dr. Fred Seitz, Dr. Fred Singer, and/or Seitz and Singer’s Science and Environmental
Policy Project (“SEPP”) in order to launch repeated attacks on mainstream climate science and
IPCC conclusions, even as Exxon scientists participated in the IPCC.55 Seitz, Singer, and SEPP had
previously been paid by the tobacco industry to create doubt in the public mind about the hazards
of smoking.56 Seitz and Singer were not climate scientists.

72. Exxon’s promotion of fossil fuels also entailed the funding of denialist groups that
attacked well-respected scientists Dr. Benjamin Santer and Dr. Michael Mann, maligning their
characters and seeking to discredit their scientific conclusions with media attacks and bogus studies
in order to undermine the IPCC’s 1995 and 2001 conclusion that human-driven global warming is
now occurring.

73. One of Defendants’ most frequently used denialists has been an aerospace engineer
named Wei Hock Soon. Between 2001 and 2012, various fossil fuel interests, including Exxon and
the API, paid Soon over $1.2 million.57 Soon was the lead author of a 2003 article, which argued
that the climate had not changed significantly. The article was widely promoted by other denial

54 http://insideclimatenews.org/news/15092015/Exxons-own-research-confirmed-fossil-fuels-
role-in-global-warming; Jeffrey Ball, Exxon Chief Makes A Cold Calculation on Global Warming,
SB111870440192558569.

55 Union of Concerned Scientists, Smoke, Mirrors & Hot Air: How ExxonMobil Uses Big
Tobacco’s Tactics to Manufacture Uncertainty on Climate Science, Jan. 2007, available at

index.php/Frederick_Seitz.

57 Justin Gillis & John Schwartz, Deeper Ties to Corporate Cash for Doubtful Climate
Researcher, New York Times (Feb. 21, 2015), available at
https://www.nytimes.com/2015/02/22/us/ties-to-corporate-cash-for-climate-change-researcher-
groups funded by Exxon, including via “Tech Central Station,” a website supported by Exxon.58 Soon published other bogus “research” in 2009, attributing global warming to solar activity, for which Exxon paid him $76,106.59 This 2009 grant was made several years after Exxon had publicly committed not to fund global warming deniers.60

74. Until recently, the API’s website referred to global warming as “possible man-made warming” and claimed that the human contribution is “uncertain.” The API removed this statement from its web site in 2016 when journalistic investigations called attention to the API’s misleading statements on global warming and its 1970s/1980s task force on global warming.

75. In 2000, Exxon took out an advertisement on the Op-Ed page of the New York Times entitled “Unsettled Science.” The advertisement claimed that “scientists remain unable to confirm” the proposition that “humans are causing global warming.”61 This was six years after the IPCC had confirmed the causal link between planetary warming and anthropogenic greenhouse gas emissions – a historic moment in climate science – and some 18 years after Exxon itself had admitted in a 1982 internal memoranda to corporate headquarters that there was “a clear scientific consensus” that greenhouse gas emissions would cause temperatures to rise.

76. On May 27, 2015, at Exxon’s annual shareholder meeting, then-CEO Rex Tillerson misleadingly downplayed global warming’s risks by stating that climate models used to predict future impacts were unreliable: “What if everything we do it turns out our models were really lousy and we achieved all of our objectives and it turned out the planet behaved differently because the models just weren’t good enough to predict it?” But as noted above, in 1982 Exxon’s scientific staff stated, based upon the climate models, that there was a “clear scientific consensus” with respect to the level of projected future global warming and starting shortly thereafter Exxon relied

58 Smoke, Mirrors & Hot Air at 13-14.
upon the projections of climate models, including its own climate models, in order to protect its own business assets.

77. Until recently, Exxon’s website continued to emphasize the “uncertainty” of global warming science and impacts: “current scientific understanding provides limited guidance on the likelihood, magnitude, or time frame” of events like temperature extremes and sea level rise. Exxon’s insistence on crystal-ball certainty was clear misdirection, since Exxon knew that the fundamentals of climate science were well settled and showed global warming to present a clear and present danger.

B. Defendants’ Direct Promotion Of Fossil Fuels.

78. Defendants continue to promote massive fossil fuel use by the public notwithstanding that global warming is happening, that global warming is primarily caused by their fossil fuels, and that global warming is causing severe injuries. Defendants promote the massive use of fossil fuels through advertisements lauding fossil fuels as “responsible” and “respectful” to the environment, identifying fossil fuels as the only way to sustain modern standards of living, and promoting sales of their fossil fuels without qualification. Defendants and/or their U.S. subsidiaries are members of the API. The API also promotes the benefits of fossil fuel products on behalf of Defendants and its other members. Defendants’ message to consumers is that fossil fuels may continue to be burned in massive quantities without risking significant injuries.

79. Defendants bombard the public and consumers with the following advertisements, although these are a mere sliver of Defendants’ extensive campaigns. Defendants’ advertisements must be understood in their proper context – as following Defendants’ substantial early knowledge

---


on global warming risks and impacts, and following a decades-long campaign of misleading statements on global warming that primed the pump for massive use of their fossil fuel products.

a) Exxon’s “Lights Across America” website advertisement states that natural gas is “helping dramatically reduce America’s emissions” even though natural gas is a fossil fuel causing widespread planetary warming and harm to coastal cities like San Francisco and the use of natural gas competes with wind and solar, which have no greenhouse gas emissions.

b) In 2017, Shell’s CEO promoted massive fossil fuel use by stating that the fossil fuel industry could play a “crucial role” in lifting people out of poverty. A Shell website promotion states: “We are helping to meet the world’s growing energy demand while limiting CO2 emissions, by delivering more cleaner-burning natural gas.”

c) BP touts natural gas on its website as “a vital lower carbon energy source” and as playing a “crucial role” in a transition to a lower carbon future. BP promotes continued massive fossil fuel use as enabling two billion people to be lifted out of poverty.

d) Chevron’s website implores the public that “we produce safe, reliable energy products for people around the world.” Chevron also promotes massive use of fossil fuels as the key to lifting people out of poverty: “Reliable and affordable energy is necessary for improving standards of living, expanding the middle class and lifting people out of poverty. Oil and natural gas will continue to fulfill a significant portion of global energy demand for decades to come——

65 https://www.youtube.com/watch?v=tMu1CBjXfq4&list=PLlrXlHj7zayYGaExfTp_B4t6gqTkGF9A&index=6 (at 0:46).
even in a carbon-constrained scenario."\(^71\) A prior Chevron advertisement still available on the web promotes Chevron fossil fuels on a massive scale by stating that “our lives demand oil.”\(^72\)

e) ConocoPhillips promotes its fossil fuel products by stating that it “responsibly sup[plies] the energy that powers modern life.”\(^73\) Similarly, ConocoPhillips has the following advertising slogan on its website: “Providing energy to improve quality of life.”\(^74\)

80. Contrary to Defendants’ claims that the use of massive amounts of fossil fuels is required to lift people out of poverty, the IPCC has concluded: “Climate change will exacerbate multidimensional poverty in most developing countries . . . . [and] will also create new poverty pockets in countries with increasing inequality, in both developed and developing countries.”\(^75\)

81. Defendants BP and Exxon have also used long-term energy forecasts and similar reports to promote their products under the guise of expert, objective analysis. These forecasts have repeatedly sought to justify heavy reliance on fossil fuels by overstating the cost of renewable energy.

82. Defendants’ energy forecasts are aimed in substantial part at consumers and are promoted to the public through their respective websites and other direct media. Exxon continues to promote its annual “Outlook for Energy” reports in videos currently available on the internet. But Exxon’s energy “analyses” are self-serving means of promoting fossil fuels and undercutting non-dangerous renewable energy and clean technologies. For example, Exxon has claimed in a recent forecast that natural gas is a cheaper way to reduce carbon dioxide emissions than wind or solar power while BP has claimed that solar and wind power will be more expensive in 2050 than


\(^72\) Chevron TV ad (2009), available at https://www.youtube.com/watch?v=-KyjTGMVTkA.


natural gas or coal even though wind and solar are already cheaper than natural gas or coal in some circumstances. Exxon and BP also have understated in recent “forecasts” the expected market share of electric vehicles even as electric vehicle technology has taken off, prices have dropped and GM announced (in 2015) that it was investing billions in electric cars because the “future is electric.”

83. Defendants’ reports also promote their fossil fuel products by warning consumers of supposed downsides to reducing fossil fuel use and carbon dioxide emissions. For example, Exxon’s most recent report claims that the costs of carbon dioxide reductions are “ultimately borne by consumers and taxpayers.”

84. These reports by BP and Exxon, and a similar one by Shell, predict massive increases in fossil fuel use over roughly the next 15 years. This is part of a larger strategy of “mak[ing] the case for the necessary role of fossil fuels,” as BP’s chief executive stated in a moment of candor in 2015.

VIII. SAN FRANCISCO WILL INCUR SERIOUS CLIMATE CHANGE INJURIES THAT WILL REQUIRE BILLIONS IN EXPENDITURES TO ABATE THE GLOBAL WARMING NUISANCE.

85. According to a 2012 California governmental report, by 2050, California is projected to warm by approximately 2.7°F above the average temperature in 2000, regardless of
the level of future emissions, a rate of warming three times greater than over the last century. By 2100, California’s average temperatures could increase by 8.6 °F, if not more. San Francisco’s average annual temperatures are currently projected to increase by up to 5.5 °F by 2100. San Francisco’s average summertime high temperature (based upon 1986-2005 data) is projected to increase from 68.61 °F to 76.17 °F by 2100, making San Francisco’s summers similar to those now experienced in Rancho Palos Verdes, California, approximately 400 miles south of San Francisco. Continued production of massive amounts of fossil fuels will exacerbate global warming, increase sea level rise and result in grave harm to San Francisco.

86. Global warming has caused and continues to cause accelerated sea level rise in San Francisco Bay and the adjacent ocean with severe, and potentially catastrophic, consequences for San Francisco. Scientists recently concluded that coastal California is already experiencing impacts from accelerated sea level rise, including “more extensive coastal flooding during storms, periodic tidal flooding, and increased coastal erosion.” In the last 100 years, the California coast has experienced sea level rise of 6.7 to 7.9 inches.

87. Storms with their attendant surges and flooding occur on top of and superimposed on sea level rise, causing storm surges to be greater, extend farther inland, and cause more extensive damage – including greater inundation and flooding of public and private property in San Francisco.


81 Id.


84 Rising Seas in California at 3.

Francisco. By 2050, for example, a “100-year flood” in San Francisco is expected to occur on average once every year and by 2100 to occur 92 times per year — or almost twice per week. A 100-year flood event normally — that is, without global warming — has a 1% chance of happening every year. Under this same scenario, the 500-year storm surge flood would occur, by 2050, once every four years and, by 2100, 42 times per year — or almost once per week. Even with lower levels of future fossil fuel production, there will be substantial increases in flood frequencies in San Francisco due to past and ongoing fossil fuel combustion.

Accelerated sea level rise in California is causing and will continue to cause inundation of both public and private property located within San Francisco. San Francisco is extremely vulnerable to accelerated sea level rise, storm surges, and inundation because it is surrounded by water on three sides — the Pacific Ocean to the west and San Francisco Bay to the north and east. Rising bay and coastal water levels are already affecting San Francisco through coastal flooding of low-lying shorelines, increased shoreline erosion, and salt water impacts on its wastewater treatment systems. Sea levels in and around San Francisco rose approximately eight inches during the past century and accelerated due to global warming. But with accelerated sea level rise, they are currently projected to increase by up to 24 inches by 2050 and 66 inches by 2100, if not higher. Storm surge added on top of these greatly elevated sea levels could produce a


88 Id.

89 Id. at supplementary material table 5.


91 SLR Plan Executive Summary at 9.


93 Id. at 9.
combined rise of up to 66 inches by 2050 and 108 inches by 2100. As sea level rises, average daily high tides will extend further inland and cause more extensive flooding. Without adaptation measures, daily tides could permanently inundate six percent of San Francisco’s land by 2100. And all of these projections are an understatement in light of a new, 2017 report that sea level is likely to rise faster than projected and could reach as much as a catastrophic ten feet by the end of the century.

89. San Francisco must adapt now to ongoing sea level rise to abate ongoing damage to property, facilities, and equipment, with risks of increasingly severe damage in the future. In particular, San Francisco must improve, protect, move, and build infrastructure to adapt now to past and ongoing sea level rise. For example:

   a) San Francisco is planning to fortify its Seawall to protect itself from sea level rise. The Seawall is the foundation of over three miles of San Francisco waterfront stretching from Fisherman’s Wharf to Mission Creek. In 2016, San Francisco Mayor Edwin M. Lee announced an initial investment of $8 million over the next two years to initiate City efforts to fortify the Seawall. Short-term seawall upgrades are expected to cost more than $500 million. Long-term upgrades to the seawall are projected to cost $5 billion.

   b) A significant portion of the combined sewer and storm water infrastructure on the west side of San Francisco is at severe risk of shoreline erosion caused by sea level rise. This infrastructure, including the Westside Transport Box, Westside Pump Station, Lake Merced Tunnel, and the Oceanside Water Pollution Control Plant, is located along Ocean Beach on San Francisco’s western shore. Most of this infrastructure, including much of the Oceanside plant, is

---

94 Id.
96 Id.
97 Rising Seas in California.
located underground. Because San Francisco has a city-wide combined sewer system – designed to handle both storm water and sewer water – this infrastructure is large in size and scale. Sea level rise and corresponding shoreline erosion threatens to damage this infrastructure. As a result, San Francisco has helped to develop plans to protect this infrastructure at an estimated cost of approximately $350 million.  

The costs and logistics of relocating this infrastructure would be far greater.

c) Shoreline erosion along Ocean Beach also threatens roads, pathways, private properties, and buildings along the shore – all of which San Francisco’s citizens have long used and enjoyed. Protecting these properties through construction of a seawall and/or other shoreline armoring infrastructure will be extremely expensive. San Francisco’s plan for protecting its combined sewer infrastructure along Ocean Beach calls for closing a portion of the Great Highway south of Sloat Boulevard.

d) Sea level rise also interferes with San Francisco’s stormwater infrastructure through inundation of the City’s stormwater outfalls along the ocean and San Francisco Bay. As a result of sea level rise, 27 of San Francisco’s 29 stormwater discharge locations between the Golden Gate Bridge and the City’s southern border on San Francisco Bay will be underwater daily by 2050 or before. As those outfalls are more frequently submerged by sea water, they cannot be used to discharge stormwater as intended, causing backups in the system and flooding elsewhere in San Francisco. Saltwater intrusion into San Francisco’s water treatment facilities also interferes with effective treatment function at those facilities, reducing their capacity and causing further backups. Stormwater system outfalls cannot simply be elevated because that would interfere with the hydraulic gradient of the entire system. As a result, San Francisco is developing costly plans to protect its stormwater outfalls and water treatment facilities with backflow preventers and pumping.

---


101 See Ocean Beach Master Plan, at III-19 and executive summary at 6.

102 SLR Plan at 2-5.

103 CSD Backflow Prevention and Monitoring, 263.
equipment. To address current and short-term impacts of sea level rise on its Bayside stormwater system outfalls, for example, San Francisco has developed an interim backflow prevention plan projected to cost a minimum of $10 million. Long-term backflow prevention at these outfalls, and at others, will cost more.

90. San Francisco faces other ongoing and likely injuries as a result of sea level rise, including threats to Port infrastructure and operations, a risk of saltwater intrusion into the City’s groundwater wells used for drinking water, and both direct and indirect impacts to public health, housing and city services. Sea level rise, storm surges, and flood inundation induced by global warming will disproportionately impact some of San Francisco’s most vulnerable residents, including those in the Bayview/Hunters Point neighborhood. The same sea level rise also threatens some of San Francisco’s most iconic and valuable buildings. For example, the Ferry Building would be temporarily flooded during a 100-year extreme tide today, but could be flooded every day after 36 inches of sea level rise. Each of these ongoing and likely injuries, and others, requires San Francisco to plan for and implement costly protections.

91. San Francisco is already experiencing, and working to abate, current harms caused by sea level rise. But while harms to San Francisco and its residents have commenced, additional far more severe injuries will occur in the future if prompt action is not taken to protect San Francisco and its residents from rising sea levels. Indeed, the sea level rise harms inflicted on San Francisco by global warming are insidious partly because they are projected to continue, and to worsen, far into the future. Pervasive fossil fuel combustion and greenhouse gas emissions to date will cause ongoing and future harms regardless of future fossil fuel combustion or future greenhouse gas emissions. Future production and use of fossil fuels will exacerbate sea level rise and require even greater expenditures to abate the injuries. San Francisco must plan for and adapt


105 Id. at 14.

106 SLR Plan Executive Summary at 2-5.
to sea level rise future harms now to ensure that abatement of ongoing and future sea level rise harms is done most efficiently and effectively and in order to protect human well-being and public and private property before it is too late. Additionally, the significant infrastructure needed to abate global warming requires long lead times for planning, financing, and implementation. Planning to abate the known and projected adverse effects of global warming on San Francisco and its citizens remains underway, and will continue. Sea level rise impacts in the future are imminent in the context of planning for and carrying out large-scale, complex infrastructure projects to protect San Francisco from sea level rise.

92. Sea level rise, storm surges, and flooding caused by global warming threaten not only the physical infrastructure and property of San Francisco and its citizens, but also the safety, lives, daily way of life, sense of community, and security of San Francisco residents. A severe storm surge coupled with higher sea levels caused by global warming could occur at any time, potentially resulting in the loss of life and extensive damage to public and private property. The risk of catastrophic sea level rise harm to San Francisco and its citizens will increase, just as rising sea levels will continue to cause regular damage, the longer concrete action is not taken to abate the harms and effects of sea level rise.

93. Building infrastructure to protect San Francisco and its residents, will, upon information and belief, cost billions of dollars.

IX. CAUSE OF ACTION: PUBLIC NUISANCE ON BEHALF OF THE PEOPLE

94. The People incorporate by reference the preceding paragraphs.

95. The People of the State of California, acting by and through the San Francisco City Attorney, bring this claim seeking abatement pursuant to California public nuisance law, including section 731 of the Code of Civil Procedure, and sections 3479, 3480, 3491, and 3494 of the Civil Code.

96. Defendants’ production and promotion of massive quantities of fossil fuels, and their promotion of those fossil fuels’ pervasive use, has caused, created, assisted in the creation of, 

107 Rising Seas in California at 6.
contributed to, and/or maintained and continues to cause, create, assist in the creation of, contribute
and/or maintain to global warming-induced sea level rise, a public nuisance in San Francisco.

Defendants, both individually and collectively, are substantial contributors to the global warming-
induced sea level rise and the People’s attendant injuries and threatened injuries. The People’s
injuries and threatened injuries from each Defendant’s contributions to global warming are
indivisible injuries. Each Defendant’s past and ongoing conduct is a direct and proximate cause of
the People’ injuries and threatened injuries. Defendants each should have known that this
dangerous global warming with its attendant harms on coastal cities like San Francisco would
occur before it even did occur, and each Defendant in fact did have such knowledge. Each
Defendant has at all relevant times been aware, and continues to be aware, that the inevitable
emissions of greenhouse gases from the fossil fuels it produces combines with the greenhouse gas
emissions from fossil fuels produced by the other Defendants, among others, to result in dangerous
levels of global warming with grave harms for coastal cities like San Francisco. Defendants were
aware of this dangerous global warming, and of its attendant harms on coastal cities like San
Francisco, even before those harms began to occur. Defendants’ conduct constitutes a substantial
and unreasonable interference with and obstruction of public rights and property, including, inter
alia, the public rights to health, safety and welfare of San Francisco residents and other citizens
whose safety and lives are at risk from increased storm surge flooding and whose public and
private property, is threatened with widespread damage from global warming-induced sea level
rise, greater storm surges, and flooding.

97. Defendants, individually and collectively, are substantial contributors to global
warming and to the injuries and threatened injuries suffered by the People. Defendants have
caused or contributed to accelerated sea level rise from global warming, which has and will
continue to injure public property and land located in the City of San Francisco, through increased
inundation, storm surges, and flooding, and which threatens the safety and lives of San Francisco
residents. Defendants have inflicted and continue to inflict injuries upon the People that require the
People to incur extensive costs to protect public and private property, against increased sea level
rise, inundation, storm surges, and flooding.
98. Defendants have promoted the use of fossil fuels at unsafe levels even though they should have known and in fact have known for many years that global warming threatened severe and even catastrophic harms to coastal cities like San Francisco. Defendants promoted fossil fuels and fossil fuel products for unlimited use in massive quantities with knowledge of the hazard that such use would create.

99. Defendants are jointly and severally liable to the People for committing a public nuisance. The People seek an order of abatement requiring Defendants to fund a climate change adaptation program for San Francisco consisting of the building of sea walls, raising the elevation of low-lying property and buildings and building such other infrastructure as is necessary for San Francisco to adapt to climate change.¹⁰⁸

X. RELIEF REQUESTED

WHEREFORE, the People pray for judgment and an order against each Defendant, jointly and severally, as follows:

1. Finding Defendants BP, Chevron, ConocoPhillips, Exxon, and Shell jointly and severally liable for causing, creating, assisting in the creation, of, contributing to, and/or maintaining a public nuisance;

2. Ordering an abatement fund remedy to be paid for by Defendants to provide for infrastructure in San Francisco necessary for the People to adapt to global warming impacts such as sea level rise;

3. Awarding attorneys’ fees as permitted by law;

4. Awarding costs and expenses as permitted by law;

5. Awarding pre- and post-judgment interest as permitted by law; and

6. Awarding such other relief as this Court deems just and proper.

¹⁰⁸ The People also do not seek abatement with respect to any federal land.
Dated: September 19, 2017

DENNIS J. HERRERA
City Attorney
RONALD P. FLYNN
Chief Deputy City Attorney
YVONNE R. MERÉ
Chief of Complex and Affirmative Litigation
ROBB W. KAPLA
MATTHEW D. GOLDBERG
Deputy City Attorneys

By

DENNIS J. HERRERA
City Attorney

Attorneys for Plaintiff
PEOPLE OF THE STATE OF CALIFORNIA,
acting by and through San Francisco City Attorney
DENNIS J. HERRERA
Of Counsel

(Counsel Listed in Alphabetical Order)

STEVE W. BERMAN (pro hac vice application to be submitted)
steve@hbsslaw.com

EMERSON HILTON (pro hac vice application to be submitted)
emersonh@hbsslaw.com

HAGENS BERMAN SOBOL SHAPIRO LLP
1918 Eighth Ave. Suite 3300
Seattle, WA 98101
Tel. (206) 623-7292
Fax (206) 623-0594

SHANA E. SCARLETT (bar no. 217895)
HAGENS BERMAN SOBOL SHAPIRO LLP
715 Hearst Avenue, Suite 202
Berkeley, California 94710
Tel. (510) 725-3000
Fax (510) 725-3001

MATTHEW F. PAWA (pro hac vice application to be submitted)
matt@hbsslaw.com
BENJAMIN A. KRASS (pro hac vice application to be submitted)
benk@hbsslaw.com
WESLEY KELMAN (pro hac vice application to be submitted)
wesk@hbsslaw.com
HAGENS BERMAN SOBOL SHAPIRO LLP
1280 Centre Street, Suite 230
Newton Centre, Massachusetts 02459
Tel.: (617) 641-9550
Fax: (617) 641-9551

Attorneys for Plaintiff

PEOPLE OF THE STATE OF CALIFORNIA,
acting by and through San Francisco City Attorney
DENNIS J. HERRERA
Exhibit 1: Map showing San Francisco sea level rise vulnerability zone

Source: San Francisco Sea Level Rise Action Plan, p. 2-7 (March 2016)
SAN FRANCISCO SEA LEVEL RISE VULNERABILITY ZONE THROUGH END-OF-CENTURY WITHOUT ANY ADAPTATION MEASURES OR ACTIONS

NOTE: Zone represents upper range (unlikely, but possible), end-of-century projections for permanent SLR inundation (up to 66 inches) plus temporary flooding due to a 100-year extreme storm (up to 42 inches) for a total of 108 inches above today’s average high tide.

Map Disclaimer: The inundation maps and the associated analyses are intended as planning level tools to illustrate the potential for inundation and coastal flooding under a variety of future sea level rise and storm surge scenarios. The maps depict possible future inundation, that could occur if nothing is done to adapt or prepare for sea level rise over the next century. The maps do not represent the exact location of flooding. The maps relied on a 1-m digital elevation model created from LiDAR data collected in 2010 and 2011. Although care was taken to capture all relevant topographic features and coastal structures that may impact coastal inundation, it is possible that structures narrower than the 1-m horizontal map scale may not be fully represented. The maps are based on model outputs and do not account for all of the complex and dynamic San Francisco Bay processes or future conditions such as erosion, subsidence, future construction or shoreline protection upgrades, or other changes to San Francisco Bay or Open Coast. For more context about the maps and analyses, including a description of the data and methods used, please see the Climate Stressors and Impacts Report: Bayside Sea Level Rise Inundation Mapping Technical Memorandum, March 2014 and FEMA Open California Coast Sea Level Rise Pilot Study, San Francisco County, 2015.

Exhibit 2: Map showing sea level rise vulnerability zone
– Downtown to Central Bayshore detail

Source: San Francisco Sea Level Rise Action Plan, p. 2-7 (March 2016)
SLR VULNERABILITY ZONE—DOWNTOWN TO CENTRAL BAYSHORE DETAIL
THROUGH END-OF-CENTURY WITHOUT ANY ADAPTATION MEASURES OR ACTIONS

Legend

- Sea Level Rise Vulnerability Zone


NOTE: Zone represents upper range (unlikely, but possible), end-of-century projections for permanent SLR inundation (up to 66 inches) plus temporary flooding due to a 100-year extreme storm (up to 42 inches) for a total of 108 inches above today's MHHW. See Appendix for complete set of San Francisco SLR Vulnerability Zone maps and public land ownership information.
Exhibit 3: “Range of Global Mean Temperature From 1850 to the Present with the Projected Instantaneous Climatic Response to Increasing CO2 Concentrations”

Source: M.B. Glaser, Memo for Exxon management (Nov. 12, 1982), pp. 1, 28
November 12, 1982

CO₂ "Greenhouse" Effect

82EAP 266

TO: See Distribution List Attached

Attached for your information and guidance is briefing material on the CO₂ "Greenhouse" Effect which is receiving increased attention in both the scientific and popular press as an emerging environmental issue. A brief summary is provided along with a more detailed technical review prepared by CPPD.

The material has been given wide circulation to Exxon management and is intended to familiarize Exxon personnel with the subject. It may be used as a basis for discussing the issue with outsiders as may be appropriate. However, it should be restricted to Exxon personnel and not distributed externally.

Very truly yours,

M. B. GLASER

Attachments

H. N. WEINBERG

NOV 15 1982
Figure 9

Range of Global Mean Temperature From 1850 to the Present with the Projected Instantaneous Climatic Response to Increasing CO₂ Concentrations.

![Graph showing range of global mean temperature from 1850 to the present with projected instantaneous climatic response to increasing CO₂ concentrations. The graph includes observed past changes, expected range of fluctuations including CO₂ effect, and range of natural fluctuations (climatic noise).]
AGENDA TITLE
Call-Up Item: Site review (case no. LUR2017-00011) to develop the three properties at 2180 Violet Ave., 2100 Violet Ave., and 2145 Upland Ave. Proposal for the construction of 19 residential units in five buildings at 2180 Violet Ave. The multi-family development would be 100 percent permanently affordable for-sale residences built by Flatirons Habitat for Humanity. In addition, proposal to subdivide the property at 2100 Violet Ave. into 6 lots for single-family development and 2145 Upland Ave. into 3 lots for single-family development

PRIMARY STAFF CONTACT
Sloane Walbert, Planner II

REQUESTED ACTION OR MOTION LANGUAGE
Call-Up Item: Site review (case no. LUR2017-00011) to develop the three properties at 2180 Violet Ave., 2100 Violet Ave., and 2145 Upland Ave. Proposal for the construction of 19 residential units in five buildings at 2180 Violet Ave. The multi-family development would be 100 percent permanently affordable for-sale residences built by Flatirons Habitat for Humanity. In addition, proposal to subdivide the property at 2100 Violet Ave. into 6 lots for single-family development and 2145 Upland Ave. into 3 lots for single-family development

ATTACHMENTS:
□ Description
□ Memo and Attachments
AGENDA TITLE: Call-Up Item: Site Review (case no. LUR2017-00011) to develop the three properties at 2180 Violet Ave., 2100 Violet Ave., and 2145 Upland Ave. as follows:

a. 2180 Violet Ave. Construction of 19 residential units in five buildings. The development would be 100 percent permanently affordable for-sale residences built by Flatirons Habitat for Humanity. Seventeen of the units are proposed to be two-story, three-bedroom townhouses and two units would be one-story, one-bedroom accessible residences. Thirty parking spaces are proposed.

b. 2100 Violet Ave. Subdivision of the property into six lots for single-family development. Design guidelines, approved through the site review, are proposed to guide the design of the homes.

c. 2145 Upland Ave. Subdivision of the property into three lots for single-family development. Design guidelines, approved through the site review, are proposed to guide the design of the homes.

On Jan. 4, 2017, the City Council will also consider first reading of an ordinance authorizing development of 2180 Violet Avenue in the RM-2 zoning district with 19 dwelling units. At time of second reading on Feb. 6, 2017, the City Council will also consider proposed amendments to the annexation agreements for the properties at 2100 Violet Avenue, 2180 Violet Avenue, 1917 Upland Avenue, and 2145 Upland Avenue.

Applicants: Susan Lythgoe, Flatirons Habitat for Humanity, and Robert Naumann
Owners: Habitat for Humanity of Boulder Valley Inc., 2145 Upland LLC, and Robert C. Naumann

PRESENTER/S
Jane S. Brautigam, City Manager
Jim Robertson, Director of Planning, Housing & Sustainability
Charles Ferro, Development Review Manager
Sloane Walbert, Planner II
EXECUTIVE SUMMARY
The action requested by the City Council is to determine whether to call up the site review application for the properties at 2180 Violet Ave., 2100 Violet Ave., and 2145 Upland Ave. On Dec. 7, 2017, the Planning Board held a quasi-judicial hearing to review the site review application described above. Staff recommended approval and the Planning Board voted 7-0 to approve the application with conditions (L. Payton, seconded by H. Zuckerman). Attachment A contains the Planning Board Notice of Disposition with associated conditions of approval. Attachment B contains the approved plans, Attachment C includes the staff analysis of the site review criteria, and Attachment D contains the draft minutes.

The site review request is one component of the proposal currently seeking city approval. In all, the components include:

1. **Site Review.** As described above, proposal to develop the three properties at 2180 Violet Avenue, 2100 Violet Avenue, and 2145 Upland Avenue. The site review request for the subject properties is contingent upon City Council approval of the annexation agreement amendments and ordinance described below.

2. **Ordinance to Increase Density.** Proposal for an ordinance to authorize modifications to the Boulder Revised Code and the ordinance annexing the property into the city (Ordinance No. 5932), to allow for an increase in allowable density at 2180 Violet Avenue. The ordinance would allow an increase in density to 19 units, where 15 units are allowed per the intensity standards in the Residential – Medium 2 (RM-2) district. The first reading of the proposed ordinance is described in a separate memo for consideration on Jan. 4, 2018. A public hearing and Council discussion of the ordinance is scheduled for Feb. 6, 2018, together with the annexation agreement amendments described below.
3. **Annexation Agreement Amendments.** The proposal includes a request to amend the three existing annexation agreements for the properties at 2100 Violet Avenue, 2180 Violet Avenue, 1917 Upland Avenue, and 2145 Upland Avenue as follows. Refer to the vicinity map in Figure 1 for the locations of the properties. The annexation request will be described in a separate memo for consideration at a public hearing on Feb. 6, 2018.

   a. Allow all affordable housing requirements on the four properties to be provided on the property at 2180 Violet Avenue. The goal of the proposal is to provide housing with a deeper level of affordability that remains permanently affordable over time, as opposed to the requirements found in the annexation agreement.

   b. Amend the requirements pertaining to the dedication of right-of-way and the construction of Vine Avenue south of the property at 2100 Violet Avenue to allow for smaller cross-section of a modified access street, consistent with the smaller Vine Avenue cross-section approved in the amended North Boulder Subcommunity Plan.

   c. Allow for increased density on the property at 2180 Violet Avenue for the construction of 19 residential units, where 15 are allowed under Residential – Medium 2 (RM-2) zoning. The goal of this request is to increase density to 19 units, where 15 units are allowed per the intensity standards, if so authorized by the subject ordinance described above.

The staff memorandum to Planning Board, its attachments, audio from the meeting, and other related background materials are available on the city website at this web link. Planning Board’s decision is subject to call-up by City Council within a 30-day call-up period by City Council which expires on Jan. 5, 2018. City Council is scheduled to consider this application for call-up at its Jan. 4, 2017 public meeting.

**BOARD AND COMMISSION FEEDBACK**

As indicated above, on Dec. 7, 2017, the Planning Board reviewed the requested site review, as well as the associated ordinance and annexation agreement amendments (meeting packet available here). At the public hearing, the Planning Board heard presentations by staff and the applicant, and asked questions following each presentation. During the public hearing, three members of the public spoke both in support of the proposal and with specific concerns. Please refer to Attachment D for a summary of public comment made at the hearing. As part of their deliberation, the board discussed key issues related to consistency with the Boulder Valley Comprehensive Plan (BVCP) and North Boulder Subcommunity Plan (NBSP), opportunities for solar energy (photovoltaic panels) and electronic vehicle charging stations on the site, and the proposed parking reduction. The board had a discussion regarding alternative site designs and a possible parking deferral as alternatives to the proposed parking reduction but ultimately found the proposed parking design consistent with the site review criteria.

The board voiced support for the proposal, and voted 7-0 to approve the Site Review application, adopting the staff memorandum as findings of fact, including the attached analysis of review criteria and subject to the recommended conditions of approval (motion
by L. Payton, seconded by H. Zuckerman). To address the concerns described above, the board added the additional conditions of approval:

1. The Applicant shall provide conduit for future photovoltaic systems (PV) to the rooftops of each residential unit.
2. At the technical document review stage, the Applicant will provide measures to facilitate future installation of electronic vehicle (EV) chargers in the carports on Vine Alley.

The specific motion language is below:

On a motion by L. Payton, seconded by H. Zuckerman, the Planning Board voted 7-0 to approve Site Review case no. LUR2017-00011, adopting the staff memorandum as findings of fact, including the attached analysis of review criteria, and subject to the recommended conditions of approval.

Friendly amendment by D. Ensign, accepted by L. Payton and H. Zuckerman, to add a condition that conduit for future photovoltaic systems be brought to the rooftops of the residential units.

Friendly amendment by J. Putnam, accepted by L. Payton and H. Zuckerman, that the Applicant provide measures to facilitate the future installation of electrical vehicle (EV) charging stations in the carports on Vine Alley at the technical document review stage.

Please see Attachment A for the Planning Board Notice of Disposition and associated conditions of approval and Attachment D for the draft meeting minutes from the hearing.

PUBLIC FEEDBACK
The 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, B.R.C. 1981 have been met.

The notice described the larger development proposal, with the three application types.

Public comments received regarding the project can be found in Attachment J of the Planning Board memorandum. At the public hearing on Dec. 7, 2017 three members of the public addressed the Board. Refer to Attachment D for a summary of public comment made at the hearing.

BACKGROUND
Existing Site/Area Context
The subject properties are located in the Crestview East neighborhood, on the large block bounded by Violet Avenue to the north, Upland Avenue to the south, 19th Street to the west, and 22nd Street to the east (refer to Figure 2). Crestview East includes a variety of single-family homes in a more rural setting than other parts of Boulder. Medium density land use and zoning exists along Violet Avenue. The Boulder Meadows mobile home park is on the north side of Violet Avenue, across from the site.
Boulder Valley Comprehensive Plan (BVCP) Designations/Zoning Designations
The Boulder Valley Comprehensive Plan (BVCP) land use designations are as follows:

- 2180 Violet Ave. – Medium Density Residential.
- 2100 Violet Ave. and 2145 Upland Ave. – Low Density Residential.

The land use designations were changed in the late 1990s to be consistent with the North Boulder Subcommunity Plan (NBSP), which established a cascading density from Violet Avenue to Tamarack Avenue to the south. The properties were annexed into the city in 1997. As part of annexation, the subject properties were zoned as follows:

- 2180 Violet Ave. – Residential - Medium 2 (RM-2).
- 2100 Violet Ave. – Residential - Low 1 (RL-1).
- Northern portion of 2145 Upland Ave. – Residential - Low 1 (RL-1).
- Southern portion of 2145 Upland Ave. – Residential – Estate (RE).

Residential - Mixed 2 (RMX-2) zoning is described as “medium density residential areas which have a mix of densities from low density to high density and where complementary uses may be permitted” (section 9-5-2(c), B.R.C. 1981). Residential – Estate (RE) and Residential - Low 1 (RL-1) zoning is described as “single-family detached residential dwelling units at low to very low residential densities” (section 9-5-2(c), B.R.C. 1981). Refer to Figure 3 on the following page.
Previous Reviews:
On Dec. 1, 2015, the City Council adopted an ordinance (Ordinance No. 8095) to amend subsection 9-12-2(b), B.R.C. 1981, which prohibits the sale of any parcel of land that has not been subdivided in accordance with the city’s subdivision regulations. The ordinance allowed the property owner at the time (2145 Upland LLC) to sell a portion of the 2180 Violet Avenue property to Habitat for Humanity of Boulder Valley, Inc. before Jan. 1, 2016. Habitat for Humanity needed to own the property by that time to be eligible for Community Development Block Grant Disaster Recovery (CDBG-DR) grants for the planned low-income housing development on the property. At the time, the then property owner and Habitat for Humanity stated that the ultimate goal was to amend the annexation agreements that affect the subject properties to transfer all of the affordable housing provisions required by the respective annexation agreements. Staff supported the ordinance because facilitating a proposal that would allow the exploration of a development plan that would result in a minimum of 15 permanently affordable units would represent a much greater permanent housing benefit than what was required in 1997 agreements. The assumption was that community benefit would be fully explored in the context of subsequent review processes.

Subsequently, the Planning Board considered a Concept Plan Review in September 2016 for the development of a multi-family development at 2180 Violet Avenue. The Concept Plan Review was not called up by the Council for review and comment. The staff memo, minutes, and audio from the Sep. 1, 2016 meeting can be found here.

Site Review Process
Concept Plan and Site Review are required for the subject properties at 2100 Violet Avenue, 2180 Violet Avenue, and 2145 Upland Avenue per Ordinance No. 8095, described above that permitted the subdivision and sale of the property to Flatirons Habitat for
Humanity. Any site review approval would be contingent upon obtaining the necessary City Council approvals for the annexation agreement amendments and ordinance.

Refer to Attachment E for detailed background information on the proposal and subject properties. Further background information can also be found in the Planning Board memo.

**PROJECT DESCRIPTION**

**Land Uses.** The proposal includes the following uses:

- **2180 Violet Avenue:** 19 permanently affordable multi-family residential units. The units would be ownership units built by Flatirons Habitat for Humanity. The total unit mix is proposed to be 17 two-story three-bedroom units and two one-story one-bedroom accessible units.

- **2100 Violet Avenue:** Six lots suitable for single-family development and one outlot for shared detention and water quality for the single-family development.

- **2145 Upland Avenue:** Three lots suitable for single-family development and one outlot for shared detention and water quality for the single-family development.

**Affordable Housing.**

Habitat for Humanity intends to construct a one hundred percent permanently affordable residential development on the property at 2180 Violet Avenue, with each unit meeting or exceeding the current permanently affordable housing standards of Chapter 9-13, “Inclusionary Housing,” B.R.C. 1981. All units would be for-sale units. The proposal includes amendments to the annexation agreements for the subject properties to allow the affordable housing requirements of all the properties to be met at 2180 Violet Ave. and to allow an increase in density at 2180 Violet Ave. for a total of 19

![Figure 4: Site Plan](image-url)
dwelling units. Permanently affordable deed restricting covenants would be secured for the property to ensure the affordability of the units. The intensity of development in RM-2 zoning in determined by a minimum of 3,500 square feet of lot area per dwelling unit and a maximum of 12.4 dwelling units per acre. Following the dedication of right-of-way for the alley, the property will be 1.23 acres (53,758 square feet) and can have 15 units by-right.

**Site Plan.** The site design for both developments is focused on addressing the street frontages, as described below.

**Habitat Development – 2180 Violet Ave.**
Four of the five buildings within the Habitat multi-family development are located along and facing Violet Avenue. Refer to **Figure 5** below. The fifth building is located along a planned alley. A side yard setback variance has been requested from Violet Avenue to allow the buildings to be located closer to the street. The buildings are oriented east-west to provide for solar access and maximize views to the west, southwest, and northwest. The site is accessed from 22nd Street via an alley, which is required as a part of the existing annexation agreement and the NBSP. Head in parking is provided on the alley within carports. At the front of each covered parking space is a storage space reserved for the respective residential unit. Additional over-flow parking is located in a small surface parking lot accessed from the alley. Common open space is located at the center of the site, as a play lawn and meadow. A detention pond is located on the southeast corner of the site, adjacent to 22nd Street. A 6-foot path is proposed along the western property line within an existing public access easement that was dedicated as part of annexation.

![Figure 5: Habitat Development Site Plan](Image)
Single-Family Development:
The six single-family lots proposed at 2180 Violet Avenue range from 7,689 to 8,670 square feet in area. The lots would be accessed via the alley described above, allowing the homes to front on planned Vine Avenue. As part of this proposal, Vine Avenue would be constructed to the west property line. A 6-foot path is proposed on the far western lot within an existing public access easement to connect to the path described above. Reduced front yard setbacks have been requested, to allow for a 15-foot build-to line along Vine Avenue. Parking and open space would be provided on the individual lots. Shared detention is proposed in an outlot at the corner of 22nd Street and Vine Avenue. Refer to the Site and Building Envelope Plan in Figure 6.

Two of the three single-family residential lots proposed at 2145 Upland Avenue will be accessed from Vine Street. Both lots are 8,306 square feet in area. Reduced front yard setbacks and a 15-foot build-to-line are proposed for these lots. A larger lot (16,546 square feet) within RE zoning is proposed with access from Upland Avenue. The existing family home and garage are proposed to remain on this lot. Parking and open space would be provided on the individual lots. Shared detention for these lots is proposed in an outlot on Upland Avenue. Refer to Figure 6.

Access and Circulation. The project site is located adjacent to Violet Avenue, which is classified as a minor arterial road. The development will also be accessed from 22nd Street and Vine Avenue, which will be local residential streets, and Upland Avenue, which is currently a local street. As required per the annexation agreements for the properties, Vine Street and a mid-block alley will be constructed to the west property lines and 22nd Street will be extended to the south to connect to Vine Street as part of Phase I of the development. As described above, the multi-family development and single-family development at 2100 and 2180 Violet Avenue will be accessed via the alley from 22nd Street. The single-family homes at 2145 Upland Avenue will be accessed from Vine Avenue and Upland Avenue.

Twenty feet of right-of-way will be dedicated on the south property line of 2180 Violet Avenue to allow for the construction of the alley. The alley and Vine Street are planned to extend to the west to 19th Street and construction of such is a condition of annexation for
properties that annexed as part of the larger Crestview East annexation in 2009. Refer to Attachment E for planned connections in the NBSP.

As part of annexation the property owner dedicated 30 feet of right of way for the construction of Vine Street. At the time, Vine Street was anticipated to be designed and constructed as a typical residential street. Subsequent to the annexation and dedication of right-of-way for Vine Street, the North Boulder Subcommunity Plan was amended changing Vine Street from a typical residential street to a smaller modified access street. Properties located along Vine Street to the west of the 2180 Violet Avenue property that annexed as part of the Crestview East group annexation in 2009 or thereafter have dedicated right-of-way for Vine Street of a width consistent with the smaller cross-section of a modified access street, accommodating a 22-foot-wide pavement section plus a five-foot-wide detached sidewalk on the north side of Vine Street. The applicant proposes an annexation agreement amendment to reduce the amount of right-of-way necessary for Vine Street and authorize the property owners to request vacation of a portion of the dedicated right-of-way that may not be needed for a design of Vine Street.

Regarding multi-modal connections, the design includes the construction of a north-south 6-foot path to connect Vine Avenue to Violet Avenue. An existing north-south multi-use path is located adjacent to the property at 2145 Upland Avenue to connect Vine Avenue to Upland Avenue. A six-foot wide detached sidewalk with an eight-foot wide landscape strip is proposed adjacent to the property on Violet Avenue. A five-foot bike lane is proposed along Violet Avenue. A five-foot wide detached sidewalk with an eight-foot tree lawn is proposed adjacent to the property on 22nd Street. This sidewalk will connect to the five-foot detached sidewalk planned along the north side of Vine Avenue. The detached sidewalks will provide a physical separation between the streets and the pedestrian. Due to the proximity to Crestview Elementary School, safe and convenient pedestrian and bicycle connections are key to providing safe routes to the school.

A network of internal sidewalks connects the multi-family residential buildings to proposed open space areas and to the surrounding bicycle and pedestrian network. An enhanced pedestrian entrance is proposed on Violet Avenue with enhanced landscaping with a north-south sidewalk connection to welcome residents and visitors to the central open space and gazebo.

**Parking.** Parking will be provided on the individual single-family lots. Per Table 9-1 of the land use code, one off-street parking space is required for each detached dwelling unit. For the multi-family development, 36 off-street parking spaces are required based on the
number of bedrooms proposed, per section 9-9-6, “Parking Standards,” B.R.C. 1981. Thirty spaces are proposed, 20 head-in spaces in carports off the alley and 10 spaces in the surface parking lot. A 16.7 percent parking reduction is proposed. The 19 parking spaces located in the carports will be bundled with the units, one parking space per unit. The remaining 11 spaces will be unbundled to accommodate additional resident or visitor parking. On-street parking is will be available along 22nd Street and Vine Avenue.

The proposal meets bicycle parking requirements with 48 spaces, 79 percent of which are long-term bike parking. Per the parking standards of the land use code, 9 short-term and 29 long-term bike parking spaces are required. The applicant is proposing 10 short-term and 38 long-term spaces. Short-term bike parking is proposed on u-racks strategically located near the entrances to each building and dispersed throughout the site. Long-term spaces are proposed in within the storage lockers for each unit. Parking will be provided on the individual single-family lots, presumably within garages.

Trip Generation Report/Transportation Demand Management (TDM) Plan. The applicant has submitted a Trip Generation Report and TDM Plan for the proposed development, including both the multi-family and the single-family portions. The estimated trip generation is 157 vehicle-trips on the average weekday. The proposed TDM plan includes the creation of separate “Alternative Transportation Subsidy Funds” for the multi-family and single-family developments. The developer will contribute to the fund equal to the cost of a 3-year participation in the Eco Pass program. For the Habitat for Humanity development, this fund will be managed by the HOA, and can be used for expenses such as B-cycle and car-share memberships, additional bicycle parking racks for the project, transit (RTD) passes, and other HOA approved items. For the single-family development, the developer will work with city staff to timing and participation in the program. If there is an HOA, the HOA will manage the fund.

Open Space Areas. Proposed open space for the Habitat development consists of a play lawn for active recreation, a shallow stormwater detention area with amenities like a boardwalk/stage and amphitheater with boulder seating, a central gathering place with a gazebo and seating, landscaped area throughout the site, front porches and landscaped front lawns, and private courtyards for each townhome. The majority of the semi-public open space is located central to the site, to ensure that the open space is functional and safe. The submitted landscape plans contain five courtyard designs, with the homeowner to choose the preferred courtyard design. Open space would constitute approximately 49 percent of site (26,192 square feet). The project contains several pathways into the common open space at Habitat site, making it easily accessible for both residents and neighbors. Refer to Figure 8.

For the single-family residential development, the majority of the open space is private on each lot. Per the design guidelines, the homes will be required to provide at least one "entry" element including, but not limited to, covered and uncovered porches, on facades abutting a public street. This will help to enhance the pedestrian experience. Reduced front yard setbacks will allow for larger, more functional, back yards.
Architecture and Building Design.

Habitat Development – 2180 Violet Ave.

The two-story townhomes are neo-traditional in design with articulated front porches and pitched roofs. The proposed 19 units have been broken out into five smaller buildings with a recognizable residential visual pattern. Two of the buildings contain a one-bedroom, one-story residential unit that provides for a variety of massing. The design represents four-sided architecture, with the buildings addressing both the public rights-of-way and interior open space areas. The buildings on Violet Avenue will have entrances addressing the street with front porches, front yards, and additional glazing to provide transparency along the street and activate the pedestrian experience. Additional entrances and patios are located on the rear of the buildings to interact with the common green space. Refer to Figures 9 and 10. The carports and storage space structures will be one story in height. The roof forms of the carports will support the installation of photovoltaics on the roof.

The proposed building materials include engineered horizontal wood lap and shingle siding with trim, vinyl windows, and asphalt shingle roofing. The applicant has submitted details on the materials to demonstrate that the materials are durable and authentic. Exposed foundations will be screened with enhanced landscaping.

Figure 8: Habitat Development Open Space

Figure 9: Perspective Looking Southeast on Violet Ave.
Single-Family Development:
The proposal includes comprehensive design guidelines for the single-family development that address a variety of design elements to ensure that the project is compatible with the neighborhood. See Attachment B for the design guidelines. The guidelines allow for a variety of forms and styles but promote cohesiveness within the development with a 15-foot build-to line to achieve an identifiable character for the development. The guidelines will break up large building masses through materiality, detail, and fenestration and will be ensure continuity and standards of quality. The guidelines address form and massing, window and door fenestrations, roof forms and placement, porches and entries, treatment of exposed foundations, wall cladding and trim materials, and landscaping. If the site review is approved, these guidelines will become a regulatory document to guide the development of the single-family lots. Additionally, the form and mass of the single-family homes will be controlled by the compatible development standards in the land use code, including building coverage, side yard wall articulation, and side yard bulk plane. There is no maximum floor area per the annexation agreements.

Refer to Attachment B for the approved plans.

ANALYSIS
Refer to staff’s memorandum to Planning Board for staff’s analysis of key issues, Attachment C includes the staff analysis of the site review criteria, and Attachment D for key issues discussed by the board at the hearing on Dec. 7, 2017.

MATRIX OF OPTIONS
The site review request for the subject properties is contingent upon City Council approval of the annexation agreement amendments and ordinance. In addition, the portion of the annexation agreement amendment relating to increased density at 2180 Violet Avenue is contingent upon City Council approval of the ordinance. If City Council denies the request for an ordinance, the covenant of the annexation amendment related to increased density would be revised.

The Planning Board decision is subject to City Council call-up within 30-days. City Council is scheduled to consider this application for call-up at its Jan. 4, 2018 meeting. On any application that it calls up, the council will hold a public hearing under the procedures prescribed by Chapter 1-3, "Quasi-Judicial Hearings," B.R.C. 1981. If the application is not called-up the Planning Board decision will stand.
ATTACHMENTS
A. Planning Board Notice of Disposition dated Dec. 7, 2017
B. Site Review Plan Set
C. Site Review Criteria Analysis
D. Draft 12.07.17 Planning Board Minutes
E. Detailed Background Information
CITY OF BOULDER PLANNING BOARD
NOTICE OF DISPOSITION

You are hereby advised that on December 7, 2017 the following action was taken by the Planning Board 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: HABITAT FOR HUMANITY TOWNHOMES
DESCRIPTION: SITE REVIEW to develop the three properties at 2180 Violet Ave., 2100 Violet Ave., and 2145 Upland Ave. as follows:

a. 2180 Violet Ave. Construction of a 100 percent permanently affordable residential development to be built by Flatirons Habitat for Humanity, including 19 residential units in five buildings. Seventeen of the units to be two-story, three-bedroom townhouses and two units to be one-story, one-bedroom accessible residences. Thirty parking spaces are approved, where 36 are required.

b. 2100 Violet Ave. Subdivide the property into six lots for single-family development. Design guidelines will regulate the design of the homes.

c. 2145 Upland Ave. Subdivide the property into three lots for single-family development. Design guidelines will regulate the design of the homes.

LOCATION: 2180 VIOLET AVE, 2100 VIOLET AVE, 2145 UPLAND AVE
COORD: N08W05
LEGAL DESCRIPTION: Refer to Exhibits A, B, and C
APPLICANT: Susan Lythgoe, Flatirons Habitat for Humanity, and Robert Naumann
OWNER: HABITAT FOR HUMANITY OF BOULDER VALLEY, INC. (2180 VIOLET AVE)
2145 UPLAND LLC (2100 VIOLET AVE)
2145 UPLAND LLC AND ROBERT C. NAUMANN (2145 UPLAND AVE)
APPLICATION: Site Review, LUR2017-00011
ZONING: RM-2, RL-1, RE
CASE MANAGER: Sloane Walbert

VESTED PROPERTY RIGHT: a. 2180 Violet Ave.: NO; the owner has waived the opportunity to create such right under Section 9-2-19, B.R.C. 1981

b. 2100 Violet Ave. and 2145 Upland Ave.: YES; the owners are seeking to create vested rights under section 9-2-20, B.R.C. 1981

Addresses: 2180 VIOLET AVE, 2100 VIOLET AVE, 2145 UPLAND AVE
APPROVED MODIFICATIONS FROM THE LAND USE REGULATIONS:

2180 Violet Ave.
- Section 9-7-1: 2'-9" side yard landscaped setback on Lot 1, Block 1, where 25' is required.
- Section 9-7-1: 10' front yard landscaped setback on Lot 1, Block 1, where 25' is required.
- Section 9-7-1: 3'-6" rear yard setback (from an easement) on Lot 1, Block 1, where 25' is required.
- Section 9-9-6: 30 parking spaces, where 36 are required on Lot 1, Block 1 (16.7 percent parking reduction).
- Section 9-8-1: Land use intensity modification to allow 2,829 square feet per dwelling unit on Lot 1, Block 1, where 3,500 square feet is required, and 15.4 dwelling units per acre, where 12.4 is allowed (subject to City Council approval of amendments to the annexation agreements and of an ordinance to allow such).

2100 Violet Ave. and 2145 Upland Ave.
- Section 9-7-1: 15' front yard landscaped setback on Lots 1-6, Block 2 and Lots 1-2, Block 3, where 25' is required.

This decision may be called up before the City Council on or before January 5, 2018. If no call-up occurs, the decision is deemed final January 6, 2018.

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

IN ORDER FOR A BUILDING PERMIT APPLICATION TO BE PROCESSED FOR THIS PROJECT, A SIGNED DEVELOPMENT AGREEMENT AND SIGNED FINAL PLANS 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 BOARD 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 in compliance with the phasing plan. Failure to "substantially complete" (as defined in section 9-2-12, Boulder Revised Code 1981) the development in compliance with the phasing plan shall cause this development approval to expire.

At its public hearing on December 7, 2017 the Planning Board approved with conditions the request with the following motions:

Motion:
On a motion by L. Payton, seconded by H. Zuckerman, the Planning Board voted 7-0 to approve Site Review case no. LUR2017-00011, adopting the staff memorandum as findings of fact, including the attached analysis of review criteria, and subject to the recommended conditions of approval.

Friendly amendment by D. Ensign, accepted by L. Payton and H. Zuckerman, to add a condition that conduit for future photovoltaic systems be brought to the rooftops of the residential units.

Friendly amendment by J. Putnam, accepted by L. Payton and H. Zuckerman, that the Applicant provide measures to facilitate the future installation of electrical vehicle (EV) charging stations in the carports on Vine Alley at the technical document review stage.
CONDITIONS OF APPROVAL

1. The Applicant shall ensure that the development shall be in compliance with all plans prepared by the Applicant on November 27, 2017, the Transportation Demand Management (TDM) Plan dated November 27, 2017, and the Applicant’s written statement dated May 30, 2017 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 site review approval is contingent upon obtaining the necessary City Council approvals. Prior to submittal of a technical document review application, the Applicant must obtain City Council approval of the following:
   
   a. Amendments to the annexation agreements for the properties subject to this approval to modify the requirements pertaining to the width of Vine Street and the affordable housing requirements to be consistent with this approval;
   
   b. An ordinance authorizing the density of 19 dwelling units per acre on the property zoned Residential-Medium 2 (RM-2) located at 2180 Violet Avenue; and
   
   c. An ordinance vacating portions of the Vine Street right of way.

3. 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 plans, including material samples and colors, to ensure compliance with the intent of this approval and compatibility with the surrounding area. The architectural intent shown on the plans prepared by the Applicant on October 23, 2017 is acceptable. Planning staff will review plans to ensure that the architectural intent is performed.
   
   b. A final site plan that includes detailed floor plans and section drawings.
   
   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: plan and profile drawings for all street improvements and alley construction; plan drawings for the sidewalk construction; typical sections for the street, alley, and sidewalk improvements; signage and striping plans in conformance with Manual on Uniform Traffic Control Devices (MUTCD) standards; transportation detail drawings: a geotechnical soils report; and a pavement design report.
   
   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 ensure compliance with this approval and the City’s landscaping requirements. Removal of trees must receive prior approval of the Planning Department. Removal of any tree in City right of way must also receive prior approval of the City Forester.
   
   g. A detailed outdoor lighting plan showing location, size, and intensity of illumination units, indicating compliance with section 9-9-16, B.R.C. 1981.
   
   h. A detailed shadow analysis to ensure compliance with the City’s solar access requirements of section 9-9-17, B.R.C. 1981.

Addresses: 2180 VIOLET AVE, 2100 VIOLET AVE, 2145 UPLAND AVE
4. Prior to a building permit application, the Applicant shall submit a technical document review application 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 for the following:

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

   b. 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.

   c. The construction of all public improvements necessary to serve the development.

5. Prior to any building permit application for this development, permanently affordable deed restricting covenants, either interim and/or final, shall be signed and recorded with the Boulder County Clerk and Recorder for the property at 2180 Violet Avenue to secure the permanent affordability of the dwelling units constructed on the 2180 Violet Avenue property consistent with the annexation agreement, as amended, for that property.

6. Pursuant to subsection 9-2-12(a), “Three Year Rule,” B.R.C. 1981, the Applicant must begin and complete the approved development consistent with the Applicant’s phasing plan prepared by the Applicant on October 23, 2017 on file in the City of Boulder Planning Department.

7. The Applicant shall ensure that conduit for future photovoltaic systems be brought to the rooftops of the residential units.

8. At the at the technical document review stage, the Applicant shall provide measures to facilitate the future installation of electrical vehicle (EV) charging stations in the carports on Vine Alley

By: [Signature]

Jim Robertson, Secretary of the Planning Board

Addresses: 2180 VIOLET AVE, 2100 VIOLET AVE, 2145 UPLAND AVE
22ND AND VIOLET

EXISTING CONDITIONS

2145 UPLAND AVENUE, BOULDER, COLORADO 80301

SITE REVIEW
11/27/2017
Attachment B - Site Review Plan Set

SECTION

POLYURETHANE SEATING SURFACE

PICKET FENCE DETAIL

LAKESIDE BACKED BENCH, PICKET FENCE, SURFACE MOUNT

22ND & VIOLET
FLATIRONS HABITAT FOR HUMANITY
J & B FIELDWORKS
2408 30th Street
Boulder, CO 80304
303.442.5050
www.jbfieldworks.com

LANDSCAPE DETAILS

2180 VIOLET AVENUE, BOULDER, CO 80304

SR-L3.0

2.52

INVERTED U

BICYCLE RACK

3.02

CITY OF BOULDER, COLORADO

TREES AND SHRUBS

PLANTING DETAIL

3.01

CITY OF BOULDER, COLORADO

STREETScape TREE SPACING AND LOCATION

11/27/2017

SITE REVIEW

City Council Meeting Page 346 of 518
### Plant Notes

1. All plant materials shall meet specifications of the American Association of Nurserymen and/or become Grade A. All trees shall be staked above ground for one year. All shrubs and plants shall have all weed, weed or other container materials except burlapped and/or burlapped/rammed ball of the plant being transplanted.

2. Trees shall not be placed closer to set lines and rotation lines than the distance shown.

3. All shrubs shall be pruned to approximately two-thirds their original height or diameter at breast height (DBH).

4. Diameter at breast height (DBH) measurements are to be made at 4.5 feet above grade. All trees shall be staked or braced for a period of one year.

5. All planting shall be done in accordance with approved methods.

<table>
<thead>
<tr>
<th>Plant Type</th>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Size</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deciduous Trees</td>
<td>2&quot; cal.</td>
<td>ABP 2 Autumn Blaze Pear Pyrus calleryana 'Autumn Blaze'</td>
<td>30 proposed</td>
<td>2&quot; cal. as shown</td>
</tr>
<tr>
<td>Ornamental Trees</td>
<td>1.5&quot; cal.</td>
<td>HB 5 Hackberry Celtis occidentalis</td>
<td>0 proposed</td>
<td>2&quot; cal. as shown</td>
</tr>
<tr>
<td>Ornamental Trees</td>
<td>#5 container</td>
<td>SHL 10 Shademaster Honeylocust Gleditsia triacanthos var. inermis 'Shademaster'</td>
<td>0 proposed</td>
<td>2&quot; cal. as shown</td>
</tr>
</tbody>
</table>

**Total:** 30

### Landscape Plan

- **Street: Upland Street**
  - South side: 1 tree / 40' - 133 LF = 3 trees, 3 provided
  - North side: 1 tree / 40' - 133 LF = 3 trees, 3 provided

- **Alley Trees**
  - Minimum Plant Sizes:
    - **Deciduous Trees**: 2" cal. - 30 proposed
    - **Ornamental Trees**: 1.5" cal. - 0 proposed
    - **Shrubs**: #5 container - 0 proposed

- **Scientific Name**
  - **ABP 2**: Autumn Blaze Pear Pyrus calleryana 'Autumn Blaze'
  - **HB 5**: Hackberry Celtis occidentalis
  - **HO 4**: Heritage Oak Quercus 'Heritage'
  - **OB 3**: Ohio Buckeye Aesculus glabra
  - **SHL 10**: Shademaster Honeylocust Gleditsia triacanthos var. inermis 'Shademaster'

- **Legend**
  - Disconnected: Dashed line
  - Confined: Dotted line
  - Plant in: Solid line

---

City Council Meeting Page 347 of 518
DESIGN GUIDELINE OBJECTIVES:

The objective of the following document is to guide future homeowners, designers and builders in identifying appropriate massing and scale within the context of the site and the neighborhood. This will help to foster the relationship between the building sites, the adjacent houses, the natural landscape and the overall character of the neighborhood.

Design guidelines should be used as a guide to ensure compatibility with the character of the area, high quality outcomes, and cohesiveness through building design. The intent in not to limit design, rather guide form, detail and massing.

Patterns of scale and design of existing, adjacent houses will be identified. Design and form content in this document are to be used as an aid in design for continuity and standards of quality. They are a means to break up large building masses through materiality, detail and fenestration.

TABLE OF CONTENTS

1.) Cover
2.) Neighborhood Massing and Context
3.) Site and Building Envelope Plan
4.) Building Form
5.) Building Form
6.) Building Form
7.) Landscape Design

COVER PAGE

2100 VIOLET AVENUE AND 2145 UPLAND AVENUE, BOULDER, COLORADO 80301

DESIGN GUIDELINES

27 NOV 2017

PAGE 1

DESIGN TEAM

ROBERT NAUMANN, P.E.
Owner/ 2145 Upland LLC
626 Cascade Ave
Boulder, CO 80302
303.931.8300
naumann626@comcast.net

DONALD P. ASH, P.E.
Scott, Cov & Associates, Inc.
1530 55th Street
Boulder, CO 80303
303.918.7859
ash@scottcox.com

BRENDAN ASH
ASH design studio
5649 Pennsylvania Ave
Boulder, CO 80303
/20.480.9906
brendan.ash@gmail.com

SANDI GIBSON
Outside LA
Boulder/ Steamboat Springs, CO
303.517.9629
osla@me.com
ARCHITECTURAL DESIGN CONTEXT

Diversity of architectural styles, growth and redevelopment are some of the distinguishing features of this neighborhood. Home sizes and styles vary greatly, therefore designers and home builders should acknowledge key elements and interpret these elements in thoughtful ways. Home design on these sites should also be viewed in the context of Boulder architecture as a whole and the goals and objectives the City of Boulder has for creating cohesive, thriving neighborhoods.

The Crestview East neighborhood is currently undergoing somewhat of a transformation. The recent annexations, rezoning and construction of Vine Avenue will help to guide future redevelopment in the neighborhood. Future subdivisions will not be bound by the design guidelines. But the goal of the guidelines for 2100 Violet Avenue and 2145 Upland Avenue would be to form a cohesiveness with the future redevelopment and align with the goals of the North Boulder Subcommunity Plan.

Key Design Elements:
- Cohesiveness through building relationship to the street (build-to line) and siting, rather than a pattern development of the same styles.
- Distinguished entry
- Mass and form are broken up with roof forms and step backs.
- Front of houses have a strong connection to the landscape with mature shade trees.

NEIGHBORHOOD CONTEXT

EXAMPLES OF EXISTING HOMES IN THE NEIGHBORHOOD
RL-1 ZONING (BLOCK 2: LOTS 1-6, BLOCK 3: LOTS 1-2)

<table>
<thead>
<tr>
<th></th>
<th>REQUIRED</th>
<th>PERMITTED</th>
<th>PROPOSED</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOT AREA PER</td>
<td>7,000 SF</td>
<td>N/A</td>
<td>7,689 SF – 8,670SF</td>
</tr>
<tr>
<td>DWELLING UNIT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FLOOR AREA</td>
<td>N/A</td>
<td>NO MAX. PER ANNEXATION</td>
<td>N/A</td>
</tr>
<tr>
<td>BUILDING COVERAGE</td>
<td>N/A</td>
<td>PURSUANT TO SECTION 9-7-11, B.R.C. 1981</td>
<td>N/A</td>
</tr>
<tr>
<td>SIDE YARD WALL</td>
<td>N/A</td>
<td>PURSUANT TO SECTION 9-7-10, B.R.C. 1981</td>
<td>N/A</td>
</tr>
<tr>
<td>ARTICATION</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIDE YARD BULK</td>
<td>N/A</td>
<td>PURSUANT TO SECTION 9-7-09, B.R.C. 1981</td>
<td>N/A</td>
</tr>
<tr>
<td>PLANE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OPEN SPACE</td>
<td>NO MIN. REQUIRED</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

RE ZONING (BLOCK 3: LOT 3)

<table>
<thead>
<tr>
<th></th>
<th>REQUIRED</th>
<th>PERMITTED</th>
<th>PROPOSED</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOT AREA PER</td>
<td>15,000 SF</td>
<td>N/A</td>
<td>16,546 SF</td>
</tr>
<tr>
<td>DWELLING UNIT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FLOOR AREA</td>
<td>N/A</td>
<td>NO MAX. PER ANNEXATION</td>
<td>N/A</td>
</tr>
<tr>
<td>BUILDING COVERAGE</td>
<td>N/A</td>
<td>PURSUANT TO SECTION 9-7-11, B.R.C. 1981</td>
<td>N/A</td>
</tr>
<tr>
<td>SIDE YARD WALL</td>
<td>N/A</td>
<td>PURSUANT TO SECTION 9-7-10, B.R.C. 1981</td>
<td>N/A</td>
</tr>
<tr>
<td>ARTICATION</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIDE YARD BULK</td>
<td>N/A</td>
<td>PURSUANT TO SECTION 9-7-09, B.R.C. 1981</td>
<td>N/A</td>
</tr>
<tr>
<td>PLANE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OPEN SPACE</td>
<td>NO MIN. REQUIRED</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

SITE CODE ANALYSIS

<table>
<thead>
<tr>
<th></th>
<th>RL-1/RE</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAXIMUM BUILDING HEIGHT</td>
<td>35'-0&quot;</td>
</tr>
<tr>
<td>FRONT YARD BUILD-TO LINE</td>
<td>15'-0&quot; FOR RL-1 LOTS</td>
</tr>
<tr>
<td>FRONT YARD SETBACK</td>
<td>25'-0&quot; FOR RE LOTS</td>
</tr>
<tr>
<td>REAR YARD SETBACK</td>
<td>25'-0&quot;</td>
</tr>
<tr>
<td>SIDE YARD SETBACK</td>
<td>RL-1: 5'-0&quot; MIN (15'-0&quot; MIN TOTAL)</td>
</tr>
<tr>
<td></td>
<td>RE: 10'-0&quot; MIN (25'-0&quot; MIN TOTAL)</td>
</tr>
<tr>
<td>SOLAR ACCESS AREA I</td>
<td>12'-0&quot;</td>
</tr>
</tbody>
</table>

SITE AND BUILDING ENVELOPE PLAN

2100 VIOLET AVENUE AND 2145 UPLAND AVENUE, BOULDER, COLORADO 80301

DESIGN GUIDELINES

27 NOVEMBER 2017

PAGE 3
FORM AND MASSING

The architectural style of the lots at 2100 Violet and 2145 Upland are to be varied from lot to lot in both design and form and plan.

Articulation of wall planes:
- Buildings should have an articulated base, middle and top. They should be well proportioned, residential scale foundation, walls and roof.
- Forms and masses shall be broken up and articulated by fenestration, detail, plane change and/or material change.

WINDOW AND DOOR FENESTRATIONS

Windows:
Windows are an important element of a building's design. They must, therefore, be appropriately detailed and located with respect to other building elements to create a well-proportioned building. The length, height, decorative trim and type of window must also be compatible with patterns that are indicative of the style proposed, e.g. Contemporary Farmhouse - 2:1 ratio vertically oriented, double or single-hung in single, paired or ganged options. Modern or contemporary - crisp profile (square sticking or edge) in patterns of multi-unit mullied squares, or horizontally oriented rectangular options.

Craftsman style - Typically double hung, vertical in proportion and have a 3 over 1, 4 over 1 or 6 over 1 muntin pattern. Accent windows often small and square or triple ganged.

Window forms:
- Large window lights, simple design, orthogonal shape
- Transom windows
- Operable windows are preferred
- Sash divisions with dimensional muntin profiles shall have equal profile on the interior and exterior of glass. False, applied muntins are not allowed.
- Windows should provide planar relief from the facade cladding.
- The wall material and punched openings should create a shadow line.

Window materials:
- Wood, metal clad wood, fiberglass or metal.

Door materials and forms:
- Wood, metal clad wood or metal with or without glass.
- Metal or wood screen doors.
- Orthogonal transom windows above door are encouraged.
- Side lites are encouraged at single entry doors.

ROOF FORMS AND PLACEMENT

Guidelines:
- Roof forms should be varied from building to building. Each building should have a well balanced roof with a roof form indicative of the style while minimizing the mix to complementary styles. e.g. gable and shed, etc.
- Where garages are detached, roof slopes should match the primary residence.
- Dormers should be occupiable in size and proportional to the roof plane.

Acceptable and Preferred Roof Forms:
- Flat roofs with deep overhangs, flat roofs with parapets, gable roofs, dormers (gable, shed or eyebrow), shed roofs, hip roofs.
- Exposed rafters or natural wood materials at soffit condition
- Parapet height should be a minimum of two feet (2'-0") and a maximum of four feet (4'-0''). Ideally, parapets are utilized for 2nd or 3rd story patios or for Southwest/Pueblo style architecture.
- Flat and large shed roof forms should have a built-up fascia, finished eave and provide a top to the building.
- Rooftop decks are allowed.

Roof forms to avoid:
- Gambrel roofs, mansard roofs, curved roofs and tower elements.

Roof slopes:
- Primary structures slopes should not be less than 4:12 or more than 12:12. Flat roofs shall slope to drain.
- Porches and secondary features should slope between 1:12 and 6:12.

Roof materials:
- Composite shingles
- Metal roofing with a gauge heavy enough to be hail resistant.
- Flat roof materials, including modified bitumen, EPDM, built-up roof with fiberglass membrane and smooth river stone gravel.

BUILDING FORMS

2100 VIOLET AVENUE AND 2145 UPLAND AVENUE, BOULDER, COLORADO 80301

DESIGN GUIDELINES
27 NOVEMBER 2017
PAGE 5
GARAGES
-Attached and detached garages shall be setback at least ten feet (10') from the front facade of the principal building; side-loaded garages are prohibited unless alley loaded (Per the Annexation Agreement)
-Architectural style of the garage shall match that of the primary structure.
-The form and massing requirements pertaining to the primary structure also pertain to the garage.
-The garage should be subordinate to the main body of the residence.
Garage door Materials:
-Solid Wood, metal clad wood, or metal frame.
-Insulated glazing is allowable

PORCHES AND ENTRY
The porch should be welcoming and inviting while creating a sense of human scale through massing and detailing.
-At least one "entry" element including, but not limited to, covered and uncovered porches and front doors, shall be provided on facades abutting a public street. (Per the Annexation Agreement)
-Railing and balustrades should be wood (painted or stained) or metal.
-Flooring and structure should be wood, concrete, metal or stone.
-Space on the porch for a seating area is encouraged.
-Landscaping should enhance the porch design and be inviting.

TREATMENT OF EXPOSED FOUNDATIONS
There is minimal grade change at each lot. So the amount of exposed concrete foundations should be minimal:
-Exposed concrete foundations shall be the minimal required by code.
-Raised concrete walls above the finish floor shall be covered with appropriate siding materials.
-Exposed concrete foundations below the finish floor should be minimized by grading.
-Siding materials should extend down over exposed concrete if grading does not allow.

WALL CLADDING AND TRIM MATERIALS
Wall cladding should be constructed to be proud of the window jamb. Cladding materials on projecting bays and other architectural features should wrap corners, ideally terminating at in inside corner.

Primary wall materials:
-3-coat traditional stucco with artisan finishes
-Wood, including vertical, lap siding, board and batten and wood shingles.
-Full-depth natural stone
-Brick

Secondary wall materials to distinguish volumes and create hierarchy:
-Fiber cement panels
-Brick
-Full-depth, natural stone veneer
-Steel or galvanized, thick gauge metal panels
-Wood

Trim and detail materials:
-Flat profiles preferred, intricate profiles not allowed
-Wood Trim
-Cementitious trim
-Metal cladding trim

Materials not allowed:
-False structural elements such as trim details
-Vinyl siding or trim
-EIFS and EIFS formed decorative elements, e.g. sills, lintels, pier caps, etc.

Accessory structures shall be consistent in design and material with the primary structure.

EXTERIOR LIGHTING
Exterior lighting shall be simple and proportional to the design as well as in keeping with the architectural style.
-Porch lighting at the building entry is highly encouraged.
-Lighting should be provided at the garage entries along Vine Alley.
-Lighting would be designed in accordance with all applicable City Codes.
DRIVEWAYS

Driveways shall be installed in accordance with the Annexation Agreement:
- Driveway access for Lots 1-6, Block 2, would be from the Vine Alley. A single individual driveway would access each lot.
- Driveway access for Lots 1-2, Block 3, would be from Vine Street.
- A single individual driveway would access each lot.
- Driveway access for Lot 3, Block 3, would be from Upland Avenue.

DESIGN OF ACCESSORY STRUCTURES

Accessory structures should be subordinate to the main structure. The architectural character of any accessory structures shall follow the guidelines of the principal structure. The exterior finishes and detailing shall match the primary residence.
- OAU - Owner's Accessory Unit or ADU - Accessory Dwelling Unit. Both are "separate and complete housekeeping unit within a single family detached dwelling unit." OAU can be located within or separate from the primary dwelling unit.

FENCES

Fences are permitted and would be provided in accordance with the annexation agreement.
- Fences should follow the details of the primary structure and be a combination of wood, metal, masonry or stucco construction.
- Fences and landscaping berms are permitted in required front yards and side yard abutting a public street (up to the front façade of the principal building and the side yard building envelope) so long as either or the combination of both does not exceed thirty-six inches (36") in height. In no event may a berm exceed thirty-six inches (36") in height. (Per the Annexation Agreement)
- Up to 6 foot fences are permitted in interior side yard or rear yard setbacks so long as they are located at or behind the front façade of the principal building and at or behind the side yard building envelope.

GREEN BUILDING FEATURES AND ENERGY CONSERVATION

- PV panels are encouraged. Designs including PV should include appropriate roof orientation and planes for PV. Include necessary prewiring.
- Shade elements for South facing windows encouraged.
- All structures required to meet the City of Boulder energy building code requirements at a minimum.

LANDSCAPE CONCEPT

The streetscape concept for Vine Avenue has a 5' detached walk with an 8' planting strip. propose to plant large deciduous trees at various spacing to allow for utilities as well as walks to front doors. The water line will push the trees to the north side of the walk. We are planning on grading a swale to collect the drainage on the north side of the walk. Each sidewalk will accommodate the flow under the walk and not block flow to the detention pond on the east end of the block.

The extension of 22nd to the alley will follow the Vine Avenue concept, with a detached walk and planting strip with the large deciduous street trees. Vine alley will be paved and trees planed within 4' of the pavement edge.

Street trees shall be selected from the "Large Maturing" variety from the list of trees approved by the City Forester and planted as required by the City Forester at the tie of redevelopment. (Per the Annexation Agreement)

Plant Palette:
The specific landscape materials chosen for the development will emphasize a variety of colors, textures and forms in order to provide year-round interest. Among the major landscape objectives are the following:
- Provide attractive naturalistic streetscapes along Vine, 22nd & Upland as well as the alley.
- Use large deciduous trees to provide canopy/overstory and create a more human scale within the neighborhood.
- Visually enhance pedestrian crosswalk into the project by using ornamental plantings.
- Plant turf in the bio-swales that act as soil stabilizers to control erosion, clean and filter runoff and create textural accents.

The landscape provided by the homeowner shall incorporate creative landscaping concepts to conserve water usage within the development by:
- Improving the soil by adding organic materials,
- Incorporating native grass/turf varieties that are drought tolerant and require less maintenance.
- Design a "zoned planting scheme" would reduce water demand by grouping similar varieties of native plants that are drought resistant together.
- Incorporate organic mulches to reduce moisture loss through evaporation.

LANDSCAPE DESIGN

2100 VIOLET AVENUE AND 2145 UPLAND AVENUE, BOULDER, COLORADO 80301

DESIGN GUIDELINES
27 NOVEMBER 2017
PAGE 7
Written Statement for 2180 Violet Ave. Site Review
01/16/2017

CURRENT OWNERSHIP:

The project is owned by Flatirons Habitat for Humanity

PROJECT OBJECTIVES:

LAND USE:

2180 Violet Ave is a 61,905 sf (1.42 acre) site near on the southwest corner of 22nd Street and Violet Avenue in Boulder, currently zoned RM-2. Under the RM-2 zoning, this development proposes a total of 19 residential units in five buildings. All of the units are proposed to be permanently affordable, for-sale residences. 17 of the units will be ~1,200 sf two-story, three-bedroom units, and the remaining two units will be ~750 sf one-story, one-bedroom, accessible residences.

Four of the buildings are located along and facing Violet Avenue, and the other building is located along the alley. This proposed layout provides street frontage along Violet, allows for maximum solar access throughout the site, and allows the residents to take advantage of the views to the west, southwest, and northwest. All of the buildings are oriented on the east-west axis with gracious open space to the south, which minimizes shadowing from adjacent buildings and allows for maximum access to solar energy. A large open space is centered within the site and is programmed to allow for a variety of uses. The site is accessed along 22nd Street from the proposed alley that runs east-west along the south property line. The proposed alley will continue to the west in the future as adjacent properties develop. 28 automobile parking spaces are provided along the alley, with 19 parking spaces (one per unit) being covered by carports. At the front of each covered parking space is a storage space reserved for the respective residential unit. The proposed carports will potentially have photovoltaics on the roof to offset the energy usage of the proposed development and to minimize the use of non-renewable resources. A 6’ multi-modal path is proposed within the existing 7’ public easement along the west property line to provide an easy, safe connection through the site to the planned future pathways to the south and to the proposed bike lane along Violet Avenue to the north.

ARCHITECTURAL CHARACTER:

The proposed development is comprised mainly of a typical two-story, three-bedroom unit that translates into an easily recognizable visual pattern along Violet Avenue and throughout the project. To provide variety of mass and a comfortable human scale, the 19 residential units have been broken out in to five smaller buildings as described above. To further break down the mass of the structures, two of the buildings contain a residential unit that is a one-story, one-bedroom unit that provides a variety of mass along Violet Avenue. Pitched roofs are used on every building so the project fits in seamlessly with the surrounding character of the residential neighborhood. Front porches and front yards are proposed to provide depth and shadow to the façade, to provide a pedestrian scale along the sidewalk, and to create an environment that will encourage residents to activate the ground level. All window and door sizes are easily recognized as residential in nature, and effort has been put to place a majority of these windows facing Violet Avenue, to provide transparency along the street and as much light in to the unit as possible. At the corners of each building, the front porches have added detail to provide visual interest and variety, and stronger colors are used at the buildings that mark the corners of the project to create a “gateway” and sense of arrival.

Engineered wood lap and shingle siding with trim is proposed and will be consistent with the surrounding architectural character. Neutral gray and blue colors will be used in most areas, and a comfortable, bolder color will be used in accent areas to enliven the neighborhood and create a sense of place.
DEVELOPMENT SCHEDULE:

The owner anticipates beginning construction immediately upon receipt of building permits from the City of Boulder, and completing buildings as funding allows, which is anticipated to be one building per year.

COPIES OF ANY SPECIAL AGREEMENTS, CONVEYANCES, RESTRICTIONS, 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:

An annexation agreement amendment for this parcel is being applied for concurrently with this Site Review that would change the allowable number of units in the RM-2 zone portion to 19, change the 30’ right-of-way to 20’ for Vine Street along the south property line, and allow the affordable requirements for the 1917 Upland and 2145 Upland parcels to be satisfied on this property when the affordable units receive final Certificate of Occupancy.

RESPONSE TO GENERAL CRITERIA FOR ALL SITE REVIEW APPLICATIONS (9-2-14(h))

I. Boulder Valley Comprehensive Plan:

(A) How is the proposed site plan 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 in the Medium Density Residential zone in the BVCP. The medium density designation in the BVCP allows for a density of six to 14 units per acre. The proposed development falls within that range – by proposing 13 units per acre (19 units on a 1.42 acre site). Other key policies that the proposed site plan addresses include:

Sustainability, through thoughtful site plan design, connection to the larger neighborhood and city, the potential use of renewable energy, and overall building and site design that reduces the use of non-renewable resources.

A welcoming and inclusive community, by providing 19 desperately needed permanently affordable, for-sale housing units within Boulder that will help balance the disparity between jobs within the city and available affordable housing within the city.

Strong city and county cooperation, by involving and responding to both City staff and surrounding community member comments in the design direction of the proposed development.

The unique community identity and sense of place, by respecting the community’s setting and history in the proposed architectural character and site plan design.

Compact, contiguous development and infill that supports evolution to a more sustainable urban form, by providing appropriate and needed permanently affordable, for-sale density in a developing section of the North Boulder residential area.

Environmental stewardship and climate action, by reducing and minimizing the use of non-renewable resources throughout the proposed development

A diversity of housing types and price ranges, by providing two different permanently affordable, for-sale unit types: (17) family-centric three-bedroom units and (2) accessible one-bedroom units.

An all-mode transportation system to make getting around without a car easy and accessible to everyone, by providing a robust Transportation Demand Management plan to all residents and adding multi-modal connections to existing and anticipated neighborhood and city systems.
**Physical health and well-being**, by providing central, usable open space well in excess of the City’s zoning requirement for residents and neighbors alike, and by improving connections to Boulder’s network of trails and open space.

(B) The proposed development shall not exceed the maximum density associated with the Boulder Valley Comprehensive Plan residential land use designation. Additionally, if the density of existing residential development within a 300 foot area surrounding the site is at or exceeds the density permitted in the Boulder Valley Comprehensive Plan, then the maximum density permitted on the site shall not exceed the lesser of:

(i) the density permitted in the Boulder Valley Comprehensive Plan, or,
(ii) the maximum number of units that could be placed on the site without waiving or varying any of the requirements of Chapter 9-7, “Bulk and Density Standards,” B.R.C. 1981.

How is the proposed site plan consistent with the above density criteria?

According to the BVCP, the allowable density in the medium density designation in newly developing areas is from six to 14 units per acre. The proposed development proposes 19 units on a 1.42 acre site, a density of 13 units per acre. Neither the proposed development nor any existing residential development within a 300 foot area surrounding the site is at or exceeds the density permitted in the BVCP.

(C) How does the proposed development’s success in meeting the broad range of BVCP policies consider the economic feasibility of implementation techniques required to meet other site review criteria?

The project supports much needed opportunities for for-sale, below median income households by providing 19 permanently affordable, for-sale units in a couple of unit types; a three-bedroom unit that is suitable for families, and a one-bedroom, fully accessible unit that supports the growing need for “age-in-place” residences. The proposed architectural character is generally consistent with and an improvement on the modest established character of surrounding neighborhoods while proposing a compact pattern of development which is consistent with both the zoning and the density advocated by the BVCP.

II. Site Design:

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

(A). Open space, including, without limitation, parks, recreation areas, and playgrounds:

1. How is useable open space arranged to be accessible and functional, and how does it incorporate quality landscaping, a mixture of sun and shade and places to gather?

The useable open space has been relocated to be more central to the site plan per Staff’s comments at concept review in an effort to make the open space more functional and safe. The proposed open space has been designed to accommodate a number of possible uses; some spaces are more public and appropriate for gatherings or group play, and other spaces are more private and allow for rest and contemplation. There are multiple connections to the open space through the site, making it easily accessible for both residents and neighbors alike. Benches have been placed around the site to provide spaces to rest; a mostly flat lawn is proposed on the western side of the site to allow for group play; a pergola is proposed in the center of the site where small groups can gather; a “meadow” with flowers and grasses is proposed on the eastern side as a more organic place of discovery; the detention area slope has been minimized to allow it to be usable open space; a multi-functional boardwalk that crosses the detention area is proposed as both as a connector to the parking area as well as a place of rest or an impromptu stage for the amphitheater; and seating for the amphitheater has been integrated in to the slope of the detention area.
2. How is private open space provided for each detached residential unit?

In addition to the public open space, private rear yards are proposed for each residential unit where the residents can choose one of five landscape options at the time they take over ownership, providing variety of landscaping throughout the project and a feeling of ownership for the residents. Front porches and landscaped front lawns are proposed for each unit, adding to the useable private open space.

3. How does the project provide for the preservation of natural features, including, without limitation, healthy long-lived trees, terrain, significant plant communities, threatened and endangered species and habitat, ground and surface water, wetlands, riparian areas, and drainage areas?

None of the existing trees are proposed to be preserved at this time. There are many existing specimens which are either not desirable as defined by City approved selections or are in poor condition, grouped too closely, or dead, and should be replaced. There are no significant plant communities present. A study of any existing prairie dog population and a plan for their relocation will be completed once the project is approved by the City of Boulder. Existing surface water is not present in any measurable quantity and therefore there are no wetlands, riparian areas or drainage areas on this site to be preserved.

4. How does the open space provide a relief to the density, both within the project and from surrounding development?

The surrounding development is not of high density. Within the proposed development, we have provided a number of open space options for residents and visitors alike, including both private and public spaces. Each residential unit has been provided with a private rear yard and a front porch. For the community as a whole, there is a large open space in the center of the proposed development that is easily accessible and visible to all residents. The southeast corner of the property is planned to take advantage of a low slope detention area to create another place to walk, rest, or play. All of these spaces are connected by safe, comfortable sidewalks within the development.

5. How does the open space provide a buffer to protect sensitive environmental features and natural areas?

Along the north property line, we propose to landscape the setback with native grasses and trees to provide a buffer from Violet Avenue.

6. If possible, how is open space linked to an area- or a city-wide system?

We are proposing to add a 6’ multi-modal path along the western property line that connects the proposed sidewalk and bike lane along Violet Avenue on the north of the property to the proposed new alley on the south of the property. This will allow for a multi-modal connection to future neighborhood trails once the surrounding parcels are developed. Also proposed is a designated 5’ bike lane along Violet Avenue, which will connect the entire project to the area- and city-wide system.

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

1. How does the open space provide 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?

Not applicable, as this is a 100% residential project.

2. How does the open space provide active areas and passive areas that will meet the needs of the anticipated residents, occupants, tenants, and visitors of the property and how is the open space compatible with the surrounding area or an adopted plan for the area?
Not applicable, as this is a 100% residential project.

(C) Landscaping:

1. How does the project provide for aesthetic enhancement and a variety of plant and hard surface materials, and how does the selection of materials provide for a variety of colors and contrast and how does it incorporate the preservation or use of local native vegetation where appropriate?

Landscaping within the site will serve the users and the community both aesthetically and functionally. The specific landscape materials chosen for the development will be of native species to minimize water consumption, and will emphasize a variety of colors, textures and forms in order to provide year-round interest. Among the major landscape objectives are the following:

i. Provide an attractive streetscape along 22nd and Violet Avenue,
ii. Visually enhance the architectural features on the corners and entries into the project,
iii. Provide comfortable, safe sidewalks within the proposed development by creating buffers between the sidewalks and the parking areas,
iv. Provide shade and visual interest throughout the project by providing a variety of tree types and sizes,
v. Screen, and break up the parking along the alley with landscape areas, and
vi. Provide enclosed areas for trash and recycling.

2. How does the landscape and design attempt to avoid, minimize, or mitigate impacts to important native species, plant communities of special concern, threatened and endangered species and habitat by integrating the existing natural environment into the project?

There are no important native species or plant communities of special concern. A study will be completed during site review to determine if threatened and endangered species and habitat are present on the subject property if deemed necessary by the City of Boulder staff. The proposed landscape palette will be a combination of xeriscaping and adaptive and native plants that are known to thrive in the micro-climate of North Boulder.


Our plan exceeds the General Landscaping and Screening Requirements in the following ways:

1. Open Space: Over an acre of usable open space is provided where none is required.
2. Pedestrian Access: Although no walks are required in the RM zone, paved pedestrian walkways to all units, parking areas and common open space are provided.
3. Minimum Overall Site Landscaping: Although no landscaping is required in the RM zone, 73 trees and 466 shrubs are provided.
4. Minimum Plant Sizes: Deciduous trees shall be two and a half inches DBH where only two-inch caliper is required. Evergreens shall be 6 feet tall where only five feet tall is required.
5. Tree Protection: All existing trees are noxious weeds. We will remove all of this invasive and otherwise undesirable plant material and replace with landscaping that will improve the health of the site.
4. How are the setbacks, yards, and usable open space along public rights-of-way landscaped to provide attractive streetscapes, to enhance architectural features, and to contribute to the development of an attractive site plan?

As shown in the plan, and alluded to above, the streetscape along Violet Avenue is very rich with the addition of street trees, a 6' sidewalk, and landscaped front yards that enhance the residential character and front porches. Large deciduous trees have been placed at the main pedestrian entry along Violet, and evergreen trees have been placed on the ends of the property along Violet Avenue to visually fortify the corners of the proposed development. Street trees have been located along 22nd Street in a proposed new 8' landscaping strip with a 5' detached sidewalk in an effort to both beautify and make safer the pedestrian experience along 22nd Street. In addition, trees have been added along the proposed new alley to make it more attractive.

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

1. How are high speeds discouraged or a physical separation between streets and the project provided?

A new 8' landscaping strip with street trees and a detached sidewalk is proposed for both Violet and 22nd Street that will provide a physical separation between the streets and the project. Along the proposed new alley, landscaping areas, parking spaces, storage units, and sidewalks provide the physical separation from the adjacent open space.

2. How are potential conflicts with vehicles minimized?

Potential conflicts with vehicles are minimized through the physical separations outlined above, as well as the decision to provide only a single curb cut to access the site where the proposed new alley connects to 22nd Street.

3. How are safe and convenient connections accessible to the public within the project and between the project and existing and proposed transportation systems provided, including without limitation streets, bikeways, pedestrian ways and trails?

Within the project, safe and accessible sidewalks connect all the units to the proposed open space, parking areas, 6' multi-modal path along the west property line, and the proposed detached sidewalks along both Violet and 22nd Street. The well-placed sidewalk connections make the project permeable with great access to Violet Avenue. We are proposing a 5' bike lane along Violet Avenue to align with the BVCP’s vision of creating a future bike lane along the entirety of Violet Avenue, which will connect the proposed development to city-wide transportation systems, paths and trails.

4. How are alternatives to the automobile promoted by incorporating site design techniques, land use patterns, and supporting infrastructure that supports and encourages walking, biking, and other alternatives to the single occupant vehicle?

- A robust TDM plan is proposed that would support and promote the use of alternative transportation in a variety of ways.
- We propose to exceed the long-term bicycle parking requirements and meet the short-term bicycle parking requirements set forth by the City.
- The safe and conveniently located sidewalks and paths are designed to encourage connections by walking, rather than driving, especially in the future as the surrounding neighborhood develops.

5. Where practical and beneficial, how is a significant shift away from single-occupant vehicle use to alternate modes promoted through the use of travel demand management techniques?

Please refer to the TDM plan submitted with the Site Review Application
6. What on-site facilities for external linkage with other modes of transportation are provided, where applicable?

Not Applicable

7. How is the amount of land devoted to the street system minimized?

A 20’ public ROW has been dedicated on the south property line to allow for an alley to connect through the site to future development to the west. Automobile parking is accessed from the alley in an effort to minimize pavement throughout the site, which was a positive site plan layout change that was suggested by City Staff members at the time of Concept Review. Also, a parking reduction is being proposed to minimize the amount of pavement required on site, to promote alternative modes of transportation, and to increase the useable open space available to residents and the neighborhood as a whole.

8. How is the project designed for the types of traffic expected, including, without limitation, automobiles, bicycles, and pedestrians, and how does it provide safety, separation from living areas, and control of noise and exhaust?; and

Traffic entering and leaving the proposed development will do so through one access point along 22nd Street, which is located furthest away from the majority of the units as possible to control automobile noise and exhaust. This minimal amount of interruption of the sidewalk also maximizes pedestrian safety. Detached sidewalks with 8’ landscaping strips proposed along Violet and 22nd Street increase pedestrian safety by maximizing separation from automobile circulation. The 6’ multi-modal path will provide adequate space for runners, cyclists, and the like to safely travel through the site.

9. How will city construction standards be met, and how will emergency vehicle use be facilitated?

City construction standards will be met by following the Design and Construction Standards where applicable. Emergency vehicles will have access to the project’s buildings from Violet Avenue, 22nd Street, and the alley if needed. All of the buildings, including Building A on the southwest corner of the site, are within 150’ of Violet Avenue for fire emergency access.

E. Parking:

1. How does the project incorporate into the design of parking areas, measures to provide safety, convenience, and separation of pedestrian movements from vehicular movements?

All of the parking is accessed from the alley at the far south of the property, keeping pedestrian and vehicular circulation as separate as possible. Planters are proposed at the north edge of the unbundled parking area, and storage sheds are located at the ends of each bundled parking stall to further separate, both physically and visually, the parking areas from the pedestrian movements. Sidewalk access and site lighting has been carefully located to provide safe, convenient access from each unit to the parking areas.

2. How does the design of parking areas make efficient use of the land and use the minimum amount of land necessary to meet the parking needs of the project?

The parking area layout reflects Staff’s recommendations at Concept Review, where all of the parking spaces are accessed from the alley, minimizing the need for additional pavement. A parking reduction is proposed that further reduces the amount of land dedicated to the parking needs of the project.

3. How are the parking areas and lighting designed to reduce the visual impact on the project, adjacent properties and adjacent streets?

The parking is located internal to the project and along the alley on the south property line, reducing the visual impact of the parking from Violet Avenue and 22nd Street. In addition, the buildings and landscaping have been located to screen most of the parking areas in the project. Lighting has been designed with luminaires that provide for
adequate safety and security while reducing light pollution that allows for an environmentally sensitive nighttime atmosphere for both the proposed development and adjacent properties.

4. How do the 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?

1. Shade: A solar carport will shade much of the parking lot and reduce urban heat island effect while generating power.

2. Screening Parking Lots from The Street: A landscape strip planted with wildflowers and grasses of over 55' is provided where a minimum width of only 12.5 feet is required.

3. Interior Parking Lot Landscaping: Our interior parking lot landscaped areas exceed the minimum dimensional requirements.

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

1. How is the building height, mass, scale, orientation, architecture and configuration compatible with the existing character of the area or the character established by adopted design guidelines or plans for the area?

The proposed building character utilizes pitched roofs, covered porches, residential-scale windows and openings, landscaped front yards, and fenced rear yards to create a compatible character with the surrounding existing single-family homes. The proposed orientation of the buildings mimic the housing developments to the east, where the buildings face Violet Avenue while the main access is from the back. One and two-story buildings are proposed, which is consistent with the surrounding context.

2. How are the height of buildings in general proportion to the height of existing buildings and the proposed projected heights of approved buildings or approved plans or design guidelines for the immediate area?

The development proposes one and two-story buildings with pitched roofs, which are in proportion to the height of existing surrounding one and two-story single-family homes.

3. How does the orientation of buildings minimize shadows on and blocking of views from adjacent properties?

The majority of the buildings are located along the north property line (Violet Avenue), which minimizes any shadows on the adjacent property to the south. The buildings are positioned so that gaps between the buildings allow views to permeate through the site from adjacent properties.

4. If the character of the area is identifiable, how is the project made compatible by the appropriate use of color, materials, landscaping, signs, and lighting?

The proposed buildings use a simple palette of materials, which consist of horizontal lap siding, shingle siding, asphalt roofs, decorative trim at corners, soffits and fascia boards, all of which is consistent with the surrounding neighborhood. The vocabulary of the architecture is a traditional and under-stated residential style which is compatible with the neighborhoods to the east, and an improvement on the mobile home park to the north. Landscaping and lighting is designed to meet and exceed the standards of the City of Boulder and as such, will not only “fit in,” but it will enhance the surrounding area.

5. How do buildings present an attractive streetscape, incorporate architectural and site design elements appropriate to a pedestrian scale, and provide for the safety and convenience of pedestrians?

The proposed buildings are based on a suburban typology using substantial and traditional materials such as horizontal and shingle siding with decorative trim, accented by human scale elements such as residential railings, front porches, sloping roofs, and windows and doors which are easily recognizable as residential in character. The pattern, massing, materials and volumes formed by the design are also easily understood as residential. Deep, welcoming front porches face the sidewalks inviting interaction between residents and passersby. Safety of the area
is increased due to the exterior lighting, which will also be provided in accordance with the minimum standards of the City of Boulder.

6. **To the extent practical, how does the project provide public amenities and planned public facilities?**

Even though there is no open space requirement in the RM-2 zone, this project proposes public amenities that are far above and beyond many neighborhoods of its type. The permeability through the buildings to the central open space is welcoming to neighbors and residents, and the much improved public sidewalks and multi-modal paths will benefit the neighborhood now and in the future as development of this area continues. The proposed open space is designed to be safe, dynamic, and multi-functional with areas for rest, play, discovery, exercise, and gathering for individuals, small groups, and large groups.

7. **For residential projects, how does the project assist the community in producing a variety of housing types, such as multifamily, townhouses, and detached single family units as well as mixed lot sizes, number of bedrooms, and sizes of units?**

The project is proposing to provide desperately needed permanently affordable, for-sale housing in Boulder. 19 units are proposed, with 17 of those units being two-story, ~1,200 sf three-bedroom units that are perfect for families. The remaining two units will support the growing need to house “age-in-place” individuals with fully accessible, one-story, 750 sf one-bedroom units.

8. **For residential projects, how is noise minimized between units, between buildings, and from either on-site or off-site external sources through spacing, landscaping, and building materials?**

Each of the units will be constructed using staggered stud demising walls and floors with acoustically insulating components which provide STC ratings of approximately 60 between units. Each of the units will use insulated glass in the windows and solid core front doors to reduce sound impacts from the street.

9. **If a lighting plan is provided, how does it augment security, energy conservation, safety, and aesthetics?**

The lighting plan aims to provide safe and comfortable lighting levels in the parking areas and along the pedestrian paths by providing full cut off down-lighting at unit entries and lamp post lighting along the main sidewalks. Motion activated lighting fixtures are proposed under the carports to conserve energy and provide safety in that area.

10. **How does the project incorporate the natural environment into the design and avoid, minimize, or mitigate impacts to natural systems?**

By orienting all of the buildings on an east – west axis and designing the open spaces to the south of the majority of the buildings, there is great access to solar energy. The generous open space, central open space, and water quality pond in the southeast of the site acts as storm-water filter device utilizing designs based on previous work with the EPA on micro management techniques.

11. **How are cut and fill minimized on the site, and how does the design of buildings conform to the natural contours of the land, and how does the site design minimize erosion, slope instability, landslide, mudflow or subsidence, and minimize the potential threat to property caused by geological hazards?**

Cut and fill are minimized by maintaining the existing drainage patterns of the site. The site generally drains from northwest to southeast currently and will continue the same general pattern after development. The site will utilize the current standards and BMPs used to control erosion and sediment. Some of the BMPs that will be used on this project may include sediment ponds, silt fencing, erosion control logs, inlet/outlet protection, and construction access tracking control devices, concrete washouts and dust control.
(G) Solar Siting and Construction: For the purpose of insuring the maximum potential for utilization of solar energy in the city, all applicants for residential site reviews shall place streets, lots, open spaces, and buildings so as to maximize the potential for the use of solar energy in accordance with the following solar siting criteria:

1. 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. How is this criterion met?

As demonstrated in the Solar Analysis submitted with the Site Review application, all buildings will have access to solar energy. The open space is centralized on the site, with the majority of buildings being located along the north property line. This minimizes any shading on the proposed buildings by adjacent development to the south, both now and in the future. 22nd Street is located adjacent to the property to the East, which won’t cast any shadows on the proposed development.

2. 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. How is this criterion met?

The proposed site plan locates four of the five buildings along the north lot line to maximize open space and control of solar shading. This layout also minimizes the shading effect on the proposed buildings by adjacent properties, and maximizes the solar access of the buildings on the site.


The project meets the criterion of the BRC as demonstrated in the solar shadow diagram submitted with the Site Review application. As described above, the orientation of the buildings on the east-west axis and their location along the north lot line with generous open space to the south of the buildings maximizes the residents’ access to solar energy.

4. Landscaping. The shading effects of proposed landscaping on adjacent buildings are minimized. How is this criterion met?

Deciduous trees are used throughout the project to provide shading in the summer and allow access to the sun in the winter.

(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:

1. The light pole is required for nighttime recreation activities, which are compatible with the surrounding neighborhood, or the light or traffic signal pole is required for safety, or the electrical utility pole is required to serve the needs of the city?; and

Not Applicable

2. The pole is at the minimum height appropriate to accomplish the purposes for which the pole was erected and is designed and constructed so as to minimize light and electromagnetic pollution. If applicable, how are these criteria met?

Not Applicable

(I) Land Use intensity Modifications:
1. 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
      Not Applicable
   b. The open space requirements in all Downtown (DT) districts may be reduced by up to one hundred percent
      Not Applicable
   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
      Not Applicable
   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.
      Not Applicable

2. 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: How have the project’s occupants and visitors needs for high quality and functional useable open space been met?

      As outlined above, high quality and functional useable open space has been provided in the proposed site plan via:

      1. Private rear yards with different landscaping options for each residential unit that allows the owner to personalize their space, which in turn creates a variety of visually attractive outdoor spaces for the neighborhood to enjoy as a whole
      2. A pergola located centrally in the open space that allows for both small group gatherings and impromptu meetings between neighbors
      3. Benches conveniently placed along the internal sidewalks to provide residents and visitors a more private place for rest and contemplation.
      4. An open lawn on the west side of the pergola that provides the opportunity for exercise, large-group gatherings, and game play.
      5. A more organically planted and less structured “meadow” on the east side of the pergola where the topography gently rises and falls that allows for discovery, slower-paced play, non-paved walking paths, sledding in the winter, and more imaginative play.
      6. A boardwalk that crosses the detention area that has been enlarged to provide a place of rest, contemplation, and possibly a stage for plays.
      7. Flat rock seating areas located in the slope of the detention pond that could act as small amphitheater seating for the “stage” outlined above.
b. Character of the Project and Area: The open space reduction does not adversely affect the character of the development or the character of the surrounding area.

There is no open space requirement in the RM-2 zone, therefore an open space reduction is not being requested. Conversely, open space, as outlined above, is being provided far in excess of what is required in the RM-2 zone.

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 excised 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;

   Not Applicable

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

   The proposed development is a combination of mostly two-story residential units with a few one-story residential units in an effort to fit in with the surrounding context, to provide a variety of massing, and to provide a human scale to the entirety of the project. Front porches, sloped roofs, and residential windows were implemented to further reduce the apparent mass of the buildings. In addition, the 19 units have been broken up in to five separate buildings to allow visual and physical permeability through the site, reducing the mass of the structures.

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;

   A common open space has been provided that allows for a number of recreational activities, both for large groups and small groups, active and sedentary play. The proposed open space has been designed to be accessible to both the occupants and visitors of the neighborhood.

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:

   Not Applicable

5. The reduction in open space in 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

   Not Applicable

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 of the open space: maximum twenty-five percent reduction.

Although the proposed development does not contain nonresidential uses, the open space will still meet the needs of the anticipated residents and visitors of the property as well as accommodate public gatherings and important activities or events in the life of the community and its people as outlined above.

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

Not Applicable

(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 probably number of motor vehicles to be owned by occupants of and visitors to dwellings in the project will be adequately accommodated:

Being a 100% permanently affordable project providing low to moderate income housing, the parking demand is anticipated to be short of the requirements set forth in Section 9-9-6, “Parking Standards,” B.R.C. 1981. The proposed off-street parking is proposed to be partially unbundled, where 19 of the 28 spaces will be bundled at one parking space per unit, and the remaining nine spaces will be unbundled to accommodate any additional resident or visitor parking. The proposed parking reduction will also encourage the use of alternative transportation methods that will be supported by the proposed robust Transportation Management Plan.

b. The parking needs of any nonresidential uses will be adequately accommodated through on-street parking or off-street parking:

Not Applicable

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:

Not Applicable

d. If joint use of common parking areas is proposed, varying time periods of use will accommodate proposed parking needs: and

Not Applicable

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 applicant is proposing a 100% permanently affordable development, which will not change in the future.
(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:

Not Applicable

HEIGHT MODIFICATION:

Not Applicable

End of Written Statement
Project nos.
LUR 2017-00011  site review
LUR 2017-00025 preliminary plat
TEC 2017-00015  final plat

Site Review for 2180 Violet Ave
Written Statement for
2100 Violet Ave and 2145 Upland Ave
Boulder, CO  80304

Prepared By:
Robert C. Naumann P.E.
Manager: 2145 Upland Ave LLC
Boulder, CO  80302
303-931-8300
Rnaumann626@comcast.net
November 27, 2017

Written Statement

The design guidelines for the properties located at 2100 Violet Ave and 2145 Upland Ave are meant to represent the architectural style and detailing as if the applicant, Robert Naumann, were to build the single family houses on the lots that are platted as per the enclosed drawings prepared by Scott, Cox & Assoc. However, the platted lots could be sold to separate parties with different housing needs and design ideas. The enclosed design guidelines may be used at the time of building development for other prospective building developers.

The property at 2100 Violet is 48,815 sq. ft. and will be platted into 6 lots of 8,140 +/-, as shown on the enclosed Improvement Survey Plat and the Final Plat drawings. If the 10- ft. vacancy on the north side of Vine Ave is granted, as per the annexation amendment application for the 3 parcels at 2180 Violet Ave, 2145 Upland Ave, and 1917 Upland Ave, the lot areas of the site would be 8,819 +/- sq. ft. each. The area of each lot exceeds the minimum for lots zoned RL 1 by 26% and would allow for many different home designs.

The property located at 2145 Upland Ave is 36,209 +/- sq. ft. If the zoning line is drawn at the midpoint of the property, it will be divided into two 9,000 +/- sq. ft. lots zoned RL I on the north half of the parcel and one 18,000 sq. ft. lot zoned ERE on the south portion of the parcel. The exact division line at the midpoint will be determined by the position of the electric power utility easement that will travel through the entire block and where the city determines the zoning line actually is in relation to the utility easement. The two 9,000 sq. ft. lots and one 18,000 sq. ft. lot are more than ample to accommodate many different home sizes and styles that fall into the design guidelines generally accepted in the North Boulder Sub-Community Plan.

Sincerely yours,

Robert C. Naumann P.E.
October 23, 2017

Ms. Sloane Walbert
City of Boulder
1739 Broadway, Third Floor
P.O. Box 791
Boulder, CO 80306

Reference: Phasing Plan
LUR2017-00011, LUR2017-00010, LUR2017-00025
2180 Violet Avenue, 2100 Violet Avenue and 2145 Upland Avenue
Scott, Cox & Associates Project Number 16268C

Dear Ms. Walbert:

This Phasing Plan has been prepared for the single and multi-family subdivision located at 2180 Violet Avenue, 2100 Violet Avenue and 2145 Upland Avenue, in Boulder, Colorado. This plan has been prepared in conjunction with the proposed Flatirons Habitat for Humanity (FHFH) project, located at 2180 Violet Avenue, prepared by STUDIO Architecture.

Pursuant to subsection 9-2-12(a), “Three Year Rule,” B.R.C. 1981, the following phasing plan is approved:

a) Phase I, to construct the public infrastructure for the development of the Property, including but not limited to the Vine Street, Vine Alley, and water, sewer, and storm water improvements, and to construct Building A shall commence on the date of building permit approval for Building A or Technical Document Review approval for the site infrastructure, whichever is approved later, and shall be substantially completed within three years.

b) Phase II, to construct Building B and the improvements approved for two of the single-family lots south of Vine Alley may commence at any time during Phase I, but no later than three years after substantial completion of Phase I. Phase II shall be substantially completed within three years of the start of its construction.

c) Phase III, to construct Building C and the improvements approved for two of the single-family lots south of Vine Alley may commence at any time during Phase I or II, but no later than three years after substantial completion of Phase II. Phase III shall be substantially completed within three years of the start of its construction.
d) Phase IV, the construction of Building D may commence at any time during Phase I, II, or III, but no later than three years after substantial completion of Phase III. Phase IV shall be substantially completed within three years of the start of its construction.

e) Phase V, to construct Building E and the improvements for two of the single-family lots south of Vine Alley may commence at any time during Phase I, II, III, or IV, but no later than three years after substantial completion of Phase IV. Phase V shall be substantially completed within three years of the start of its construction.

f) Phase VI, to construct the improvements for two of the single-family lots at 2145 Upland Avenue may commence at any time during Phase I, II, III, IV or V, but no later than three years after substantial completion of Phase V. Phase VI shall be substantially completed within three years of the start of its construction.

Should you have any questions or comments regarding this plan, kindly give us a call.

Sincerely,

SCOTT, COX & ASSOCIATES, INC.

[Signature]

Donald P. Ash, P.E.
Chief Civil Engineer
November 27, 2017

Ms. Sloane Walbert
City of Boulder
1739 Broadway, Third Floor
P.O. Box 791
Boulder, CO 80306

Reference: Travel Demand Management Plan
LUR2017-00011, LUR2017-00010, LUR2017-00025
2180 Violet Avenue, 2100 Violet Avenue and 2145 Upland Avenue
Scott, Cox & Associates Project Number 16268C

Dear Ms. Walbert:

This TDM Plan has been prepared for the single and multi-family subdivision located at 2180 Violet Avenue, 2100 Violet Avenue and 2145 Upland Avenue, in Boulder, Colorado. This plan has been prepared in conjunction with the proposed Flatirons Habitat for Humanity (FHFH) project, located at 2180 Violet Avenue, prepared by STUDIO Architecture.

Project Information – 2180 Violet Avenue:

The proposed project is located on the Southwest corner of 22nd Street and Violet Avenue in Boulder, Colorado. It is a 1.4 Acre parcel without any structures currently on site. The proposed development is a 100% permanently affordable, for-sale residential project with 19 total residential units in 5 buildings. Vehicular access to the site is proposed to be from a new alley that runs East-West along the south property line, with a full movement access to 22nd Street and a possible future connection to the west. Existing opportunities for alternative transit services are limited near the site.

Strategies for reducing the need for the automobile:

- **Package Elements**: An “Alternative Transportation Subsidy Fund” will be created by the developer. The developer will contribute to the Fund equal to the cost of a 3-year participation in the Eco Pass program. This amount will equal $360 per unit ($120 per unit, per year, for 3 years), for a total of $6,840. This Fund will be managed by the HOA, and can be used for expenses such as B-cycle and car-share memberships, additional bicycle parking racks for the project, transit (RTD) passes, and other HOA approved items. In addition, the HOA will prepare and submit an
annual report to Staff on the TDM related expenditures per dwelling unit.

- **Orientation Packets:** An “Orientation Packet” will be provided to each new resident that includes brochures, maps, and other resources to inform residents of their transportation options. This packet will include RTD bus information, the City of Boulder bicycle and pedestrian map (or similar), and information on special events. This packet will be provided initially by the developer at the time of sale.

- **Evaluation:** Through the sales agreement, the site’s residents will agree to participate in annual on-line or paper surveys regarding their use and satisfaction with transportation demand management programs. The evaluation will be administered by the City of Boulder using on-line tools.

- **Pedestrian Enhancements:** A 6’ detached sidewalk with 8’ landscape buffer is proposed along Violet Avenue where there is currently no sidewalk. The existing attached sidewalk along 22nd Street is proposed to become a 5’ detached walk with 8’ landscape buffer.

- **Bike Enhancements:** A 5’ bike lane is proposed along Violet Avenue where nothing currently exists, and a 6’ multi-modal path is proposed within the existing 7’ access easement along the West property line to connect Violet Avenue on the North with the proposed alley on the South property line and to future neighborhood multi-modal paths.

- **Transit Enhancement:** Information about transit services will be provided in the Orientation Packets.

- **Exceed Long-Term Bicycle Parking:** 28 long-term bicycle parking spaces are required by code. Each proposed residential unit in the project (19 total units) will be provided with a safe, secure, enclosed storage area large enough to accommodate 2 bicycles for a total of 38 long-term bicycle parking spaces.

- **Meet Short-Term Bicycle Parking:** 10 short-term bicycle parking spaces are required by code and 10 short-term bicycle parking spaces are proposed, distributed throughout the site and located to be easily accessible. Most of these proposed parking spaces will allow for bicycles with attached trailers.

- **Managed On-Street Parking:** The proposed project will have a total of 30 parking spaces (a 17% parking reduction). 19 of these spaces will be reserved for the residential units (one per unit), with the balance being unbundled. The 11 unbundled spaces will be first-come, first-serve.
Project Information – 2100 Violet Avenue and 2145 Upland Avenue:

The 2100 Violet Avenue site is bounded by 22nd Street to the east and the proposed Vine Avenue to the south. The 2145 Upland Avenue site is bounded by the proposed Vine Avenue to the north and Upland Avenue to the south. The proposed development will include six (6) single family residential lots at 2100 Violet Avenue, and three (3) single family residential lots at 2145 Upland Avenue, for a total of nine (9) single family lots.

Vehicular access to 2100 Violet Avenue site is proposed to be from a new alley that runs East-West along the north property line, with a full movement access to 22nd Street and a possible future connection to the west. Vehicular access to the 2145 Upland Avenue site is proposed to be from the new Vine Avenue via separate driveways for Lots 1 and 2, Block 3. Access for Lot 3, Block 3 would be from Upland Avenue. Existing opportunities for alternative transit services are limited near the site.

Below are the City of Boulder’s Residential Development Toolkit Package for the proposed single-family subdivision, for more than 11 lots:

- **Package Elements:** An “Alternative Transportation Subsidy Fund” will be created by the developer. The developer will contribute the cost of a 3-year participation in the Eco Pass program. This amount will equal $360 per unit ($120 per unit, per year, for 3 years), for a total of $3,240. Details on timing and participation into this program will be worked out with Staff. If there is an HOA, the HOA will prepare and submit an annual report to staff on the TDM related expenditures per dwelling unit.

- **Orientation Packets:** An “Orientation Packet” will be provided to each new resident that includes brochures, maps, and other resources to inform residents of their transportation options. This packet will include RTD bus information, the City of Boulder bicycle and pedestrian map (or similar), and information on special events. This packet will be provided initially by the developer at the time of sale.

- **Evaluation:** Through the sales agreement, the site’s residents will agree to participate in annual on-line or paper surveys regarding their use and satisfaction with transportation demand management programs. The evaluation will be administered by the City of Boulder using on-line tools.

- **Pedestrian Enhancements:** A 6’ detached sidewalk with 8’ landscape buffer is proposed along Violet Avenue where there is currently no sidewalk. The existing attached sidewalk along 22nd Street is proposed
to become a 5’ detached walk with 8’ landscape buffer. A 6’ concrete sidewalk is proposed for the west side of the site, connecting Violet Avenue with Vine Avenue. A new 5’ concrete sidewalk is proposed for the section of Vine Avenue.

- **Bike Enhancements**: A 5’ bike lane is proposed along Violet Avenue where nothing currently exists, and a 6’ multi-modal path is proposed within the existing 7.5’ access easement along the West property line to connect Violet Avenue on the North with Vine Avenue to the south. And the existing 10’ multi-use path will continue from the Vine Avenue connection south to Upland Avenue.

- **Transit Enhancement**: Information about transit services will be provided in the Orientation Packets.

Should you have any questions or comments regarding this plan, kindly give us a call.

Sincerely,

**SCOTT, COX & ASSOCIATES, INC.**

[Signature]

Donald P. Ash, P.E.
Chief Civil Engineer
PRELIMINARY DRAINAGE REPORT

22nd and Violet
2100 and 2180 Violet Avenue
2145 Upland Avenue
Boulder, Colorado

January 16, 2017
(Revised April 3, 2017)
(Revised June 5, 2017)
(Revised August 7, 2017)

Prepared for:

Studio Architecture
1350 Pine Street, Suite 1
Boulder, Colorado 80302

Prepared by:

SCOTT, COX & ASSOCIATES, INC.
consulting engineers - surveyors
1530 55th Street - Boulder, CO 80303
303-444-3051
Project No. 16252D
ENGINEER’S STATEMENT

I hereby certify that this report for the preliminary drainage design for the Site Review at 2100 Violet Avenue, 2180 Violet Avenue and 2145 Upland Avenue was prepared under my direct supervision in accordance with the provisions of the City of Boulder Design and Construction Standards for the owners thereof.

Donald P. Ash
Registered Professional Engineer
State of Colorado No. 36045
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>EXISTING ON-SITE DRAINAGE</td>
<td>1</td>
</tr>
<tr>
<td>EXISTING OFF-SITE DRAINAGE</td>
<td>2</td>
</tr>
<tr>
<td>EXISTING GROUNDWATER CONDITIONS</td>
<td>2</td>
</tr>
<tr>
<td>PROPOSED ON-SITE DRAINAGE</td>
<td>2</td>
</tr>
<tr>
<td>DRAINAGE DESIGN CRITERIA</td>
<td>3</td>
</tr>
<tr>
<td>DETENTION STORAGE</td>
<td>4</td>
</tr>
<tr>
<td>STORM WATER QUALITY AND EROSION CONTROL</td>
<td>4</td>
</tr>
<tr>
<td>FLOOD STATEMENT</td>
<td>5</td>
</tr>
<tr>
<td>CONCLUSIONS</td>
<td>5</td>
</tr>
</tbody>
</table>

**FIGURES:**
PRELIMINARY GRADING AND DRAINAGE PLAN

**APPENDIX A:**
RUNOFF CALCULATIONS

**APPENDIX B:**
WATER QUALITY AND DETENTION CALCULATIONS
INTRODUCTION

This report is submitted as the Preliminary Drainage Report of the existing and proposed conditions for the Habitat for Humanity Residential Development, located at 2180 Violet Avenue in Boulder County, Colorado. The project also includes a new single family residential development located at 2100 Violet Avenue and 2145 Upland Avenue. The site is located in the Southwest ¼ of the Northeast ¼ of Section 18, Township 1 North, Range 70 West of the 6th Prime Meridian, in the City of Boulder, Boulder County, State of Colorado. The site is bounded by Violet Avenue to the north, 22nd Street to the east, residential property to the west, and Upland Avenue to the south.

This report is being prepared to accompany the Site Review submittal for the project. The purpose of this Preliminary Drainage Report and Plan is to address specific drainage issues related to the proposed site changes. This study meets the requirements set forth in the City of Boulder Design and Construction Standards (DCS).

EXISTING ON-SITE DRAINAGE

The existing 3.37-acre site is currently undeveloped. The site generally slopes from the northwest to southeast at an average slope of 2%. The majority of storm runoff drains via overland flow to the east side of the site, where it is directed via gutter flow into City storm sewer. Existing drainage patterns are shown on the Existing Drainage Plan that is included with this report. For the purposes of this report, the existing site has been broken into three (3) historic drainage basins.

Basin H1 makes up the entirety of the 2180 Violet Avenue site. Runoff from within this basin drains via overland flow, ultimately draining onto 22nd Street where it is directed into City storm sewer.

Basin H2 includes the 2100 Violet Avenue site. Runoff from within this basin drains via overland flow, ultimately draining onto the Vine Avenue right-of-way, where it is directed into City storm sewer in Upland Avenue.

Basin H3 includes the 2145 Upland Avenue site. Runoff from within this basin drains via overland flow to the east, ultimately draining to the properties to the east.

Existing runoff calculations for the existing basins have been included in Appendix A. The runoff from the existing site is summarized in Table 1.
EXISTING OFF-SITE DRAINAGE

Currently, a proposal exists to develop the area to the west of the site. The proposed storm sewer in the alley will ultimately be designed to convey this off-site flow through the site and into the storm sewer in 22nd Street.

EXISTING GROUNDWATER CONDITIONS

Currently, no subsurface report has been completed. However, the proposed buildings will be constructed upon spread footings, and groundwater is not anticipated to be an issue. If groundwater is encountered, the contractor is aware of the need to obtain the State required discharge permits.

PROPOSED ON-SITE DRAINAGE

The Preliminary Grading, Drainage & Erosion Control Plan shows the proposed Site Plan, on-site grading and overland flow directions. Under the proposed conditions, the site will be divided into five (5) sub-basins.

Basin A1 runs along the north edge of the site and is primarily made up of landscaped areas in front of the units. Runoff from within basin A1 drains via overland flow through the landscape strip along Violet and off the site.

Basin A2 is located along the eastern edge of the site and is composed primarily of the public sidewalk and landscape strip along 22nd Street. Runoff from within this basin flows via overland flow into 22nd Street.

Basin A3 makes up the majority of the 2180 Violet Avenue site, including all roof drainage. Runoff from within Basin A3 is directed via overland, sheet, and gutter flow to the storm sewer system and into Detention Pond A located at the southeast corner of the site. This basin will ultimately drain to the City storm sewer in 22nd Street.

Basin B consists of the entire 2100 Violet Avenue site, including the developed runoff from the proposed single family development. Runoff from within this basin is directed via overland, sheet, and gutter flow into Detention Pond B located at the southeast corner of the site. This basin will ultimately drain to the City storm sewer in Vine Avenue.

Basin C consists of the entire 2145 Upland Avenue site, including the developed runoff from the proposed single family development. Runoff from within this basin is directed via overland, sheet, and gutter flow into Detention Pond C located at the southeast corner of the site. This basin will ultimately drain to the City storm sewer in Upland Avenue.

Proposed drainage patterns are shown on the Preliminary Grading, Drainage and Erosion Control Plan. Proposed runoff from the site is shown in Table 1.
DRAINAGE DESIGN CRITERIA

As required in City of Boulder Design and Construction Standards for Drainage Improvements for all sites using detention, hydrologic information was developed for an initial storm return period of 5-years and major storm return period of 100-years. The criteria and methodology used in determining the storm runoff peaks and volumes were those outlined in the DCS.

The design rainfall data used in this study was taken from the time-intensity-frequency curve for the City of Boulder (Figure 7-1 DCS) as developed by Urban Drainage and Flood Control District (UD&FCD). Runoff calculations were obtained using the Rational Method as outlined in the DCS for basins having less than 160 acres.

The Rational Formula is: \[ Q = CIA \]

Where: \[ Q = \text{Peak Discharge (cfs)} \]
\[ C = \text{Runoff Coefficient (Table 7-2 DCS)} \]
\[ I = \text{Rainfall Intensity (in/hr) (Figure 7-1 DCS)} \]
\[ A = \text{Drainage Basin Tributary Area (acres)} \]

The existing and proposed conditions for the entire site were analyzed for the 10 and 100-year storm events. The results are shown in the following Table 1 and the relevant calculation sheets are provided in Appendix A.

### TABLE 1

<table>
<thead>
<tr>
<th>Drainage Basin</th>
<th>Area (acres)</th>
<th>5-Year Peak Runoff (cfs)</th>
<th>10-Year Peak Runoff (cfs)</th>
<th>100-Year Peak Runoff (cfs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basin H1</td>
<td>1.23</td>
<td>0.49</td>
<td>1.18</td>
<td>3.90</td>
</tr>
<tr>
<td>Basin H2</td>
<td>1.22</td>
<td>0.41</td>
<td>1.07</td>
<td>3.73</td>
</tr>
<tr>
<td>Basin H3</td>
<td>0.83</td>
<td>0.29</td>
<td>0.76</td>
<td>2.64</td>
</tr>
<tr>
<td>Basin A</td>
<td>1.23</td>
<td>2.25</td>
<td>3.33</td>
<td>5.69</td>
</tr>
<tr>
<td>Basin A1</td>
<td>0.09</td>
<td>0.09</td>
<td>0.18</td>
<td>0.52</td>
</tr>
<tr>
<td>Basin A2</td>
<td>0.02</td>
<td>0.07</td>
<td>0.11</td>
<td>0.19</td>
</tr>
<tr>
<td>Basin A3</td>
<td>1.12</td>
<td>2.46</td>
<td>3.79</td>
<td>6.64</td>
</tr>
<tr>
<td>Basin B</td>
<td>1.22</td>
<td>2.32</td>
<td>3.34</td>
<td>5.82</td>
</tr>
<tr>
<td>Basin C</td>
<td>0.83</td>
<td>1.29</td>
<td>1.89</td>
<td>3.69</td>
</tr>
</tbody>
</table>
DETENTION STORAGE

Three (3) detention ponds have been designed to mitigate the increase in runoff from the design basins. Water quality facilities will be provided for this site in the form of a Bioretention (or Porous Landscape Detention) Water Quality Facility. The calculations for the detention pond and the limited release structure are enclosed in Appendix B.

The required storage volume for the 10-year and 100-year storm events has also been accommodated for. Release rates are based on the historic, undeveloped runoff from the site. The detention pond has been designed to accommodate the 100-year detention volume plus 50% of the Water Quality Capture Volume. This is in conformance with the City of Boulder Design and Construction Standards.

A limited release orifice will provide the required 12-hour drain time for the water quality capture volume. The orifice plate meets the requirements for a Porous Landscape Detention and the 12-hour drain time as specified in the Urban Drainage and Flood Control District (UDFCD) Drainage Criteria Manual.

The berm around the pond provides approximately 1.0 foot of freeboard above the 100-year water surface elevation. In the event the individual ponds were to overflow, the flow will be directed to the emergency spillways and spill directly to the right-of-way as shown. The spillways have been sized to convey two times (2X) the runoff from the developed conditions during the 100-year storm.

By maintaining this 10-year and 100-year detention volume, it is our conclusion that the runoff for the initial and major storm events from the tributary basin can be conveyed directly to the major drainage system without adversely impacting upstream, surrounding, or downstream properties and facilities, per Section 7.12 of the City of Boulder Design and Construction Standards.

STORM WATER QUALITY AND EROSION CONTROL

Erosion control measures should be implemented prior to demolition or construction, and shall be maintained during all phases of construction project. Erosion Control Measures will consist of silt fence along the property being developed, hay bales at grass swales and re-vegetating all disturbed areas with appropriate plant species.

The principal form of storm water quality runoff enhancement is the use of a Bioretention (or Porous Landscape Detention) Water Quality Facilities. Where possible, grass buffers will be used in drainage routes to help slow runoff, minimize directly connected impervious areas and promote infiltration, thus reducing peak volumes.
The Bioretention Water Quality Facilities have been designed to provide the required water quality capture volume (WQCV) for the developed areas of the site. The calculations for the facility sizing and orifice release are enclosed in Appendix C.

The Bioretention Facility designed for this site utilizes partial infiltration of the WQCV within the designated 12-hour drain time. Underdrains will be provided within the sub-soils of the water quality facility with an orifice plate installed where the under drains tie into the proposed release structure. This partial infiltration option meets the requirements for Bioretention and the 12-hour drain time as specified in the Urban Drainage and Flood Control District (UDFCD) Drainage Criteria Manual.

The application of the Rain Garden/Bioretention Water Quality facility, providing water quality capture volume in the pond, and the use of grass buffers as structural BMPs are consistent with the requirements for redeveloping urban areas outlined in the UD&FCD, Urban Storm Drainage Criteria Manual, Volume 3, Best Management Practices.

FLOOD STATEMENT

Based on the FEMA Flood Insurance Rate Map (FIRM) - Map Number 08013C0392 J dated December 18, 2012, the entire site is located in Zone X and is outside any mapped 100-year floodplain.

CONCLUSIONS

The primary consideration for this project was to design a drainage plan for the site to accommodate the proposed development plan without having adverse impact on the surrounding properties. The drainage plan handles runoff from 5-year and 100-year storm events. All analyses were performed in accordance with the City of Boulder Design and Construction Standards.
APPENDIX A

RUNOFF CALCULATIONS
Table 7-2: Runoff Coefficients for the Rational Method

<table>
<thead>
<tr>
<th>LAND USE OR SURFACE CHARACTERISTICS</th>
<th>PERCENT IMPERVIOUS</th>
<th>STORM FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial Areas</td>
<td>95</td>
<td>0.87 0.88 0.90 0.93</td>
</tr>
<tr>
<td>Neighborhood Areas</td>
<td>65</td>
<td>0.60 0.65 0.70 0.80</td>
</tr>
<tr>
<td>Residential:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single-Family</td>
<td>40</td>
<td>0.40 0.45 0.50 0.70</td>
</tr>
<tr>
<td>Multi-Unit (detached)</td>
<td>50</td>
<td>0.50 0.55 0.60 0.75</td>
</tr>
<tr>
<td>Multi-Unit (attached)</td>
<td>70</td>
<td>0.65 0.70 0.70 0.80</td>
</tr>
<tr>
<td>½ Acre Lot</td>
<td>30</td>
<td>0.30 0.40 0.45 0.65</td>
</tr>
<tr>
<td>Apartments</td>
<td>70</td>
<td>0.65 0.70 0.70 0.80</td>
</tr>
<tr>
<td>Industrial:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light Areas</td>
<td>80</td>
<td>0.75 0.80 0.80 0.85</td>
</tr>
<tr>
<td>Heavy Areas</td>
<td>90</td>
<td>0.80 0.80 0.85 0.90</td>
</tr>
<tr>
<td>Parks, Cemeteries:</td>
<td>7</td>
<td>0.15 0.25 0.35 0.60</td>
</tr>
<tr>
<td>Playgrounds:</td>
<td>13</td>
<td>0.20 0.30 0.40 0.70</td>
</tr>
<tr>
<td>Schools:</td>
<td>50</td>
<td>0.50 0.55 0.60 0.75</td>
</tr>
<tr>
<td>Railroad Yard Areas:</td>
<td>40</td>
<td>0.40 0.45 0.50 0.70</td>
</tr>
<tr>
<td>Undeveloped Areas:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Historic Flow Analysis</td>
<td>2</td>
<td>0.10 0.20 0.30 0.60</td>
</tr>
<tr>
<td>Greenbelts, Agricultural</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Offsite Flow Analysis (when offsite land use is not defined)</td>
<td>45</td>
<td>0.45 0.50 0.55 0.72</td>
</tr>
<tr>
<td>Streets:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paved</td>
<td>100</td>
<td>0.87 0.88 0.90 0.93</td>
</tr>
<tr>
<td>Gravel</td>
<td>7</td>
<td>0.15 0.25 0.35 0.65</td>
</tr>
<tr>
<td>Drives and Walks:</td>
<td>96</td>
<td>0.85 0.87 0.90 0.92</td>
</tr>
<tr>
<td>Roofs</td>
<td>90</td>
<td>0.80 0.85 0.90 0.90</td>
</tr>
<tr>
<td>Lawns</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sandy Soil</td>
<td>0</td>
<td>0.00 0.10 0.20 0.50</td>
</tr>
<tr>
<td>Clayey Soil</td>
<td>0</td>
<td>0.10 0.20 0.30 0.60</td>
</tr>
</tbody>
</table>

**NOTE:** These rational formula coefficients do not apply for larger basins where the time-of-concentration exceeds 60 minutes.

(Source: Urban Drainage and Flood Control District)
FIGURE 7-3: TIME OF TRAVEL

VELOCITY IN FEET PER SECOND

ESTIMATE OF AVERAGE FLOW VELOCITY FOR USE WITH THE RATIONAL METHOD
FIGURE 7-1

RAINFALL
INTENSITY-DURATION-FREQUENCY
FOR
CITY OF BOULDER
BOULDER, COLORADO
<table>
<thead>
<tr>
<th>Parcel Name</th>
<th>Parcel Size</th>
<th>C1</th>
<th>C2</th>
<th>C5</th>
<th>C10</th>
<th>Impervious %</th>
<th>Overland Flow (L) (ft)</th>
<th>Slope (ft/ft)</th>
<th>t (min)</th>
<th>Length (ft)</th>
<th>Slope (ft/ft)</th>
<th>Cv</th>
<th>Velocity (ft/s)</th>
<th>t (min)</th>
<th>Time of Conc (t_t)</th>
<th>Total Length (ft)</th>
<th>t_t=(L/180)+10 (min)</th>
<th>Minimum t_t=5 min</th>
<th>Runoff Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basin H1</td>
<td>1.23</td>
<td>0.02</td>
<td>0.12</td>
<td>0.22</td>
<td>0.51</td>
<td>2.26</td>
<td>428.0</td>
<td>0.0240</td>
<td>7</td>
<td>1.08</td>
<td>0.0</td>
<td>29.0</td>
<td>428</td>
<td>12.4</td>
<td>12.4</td>
<td></td>
<td>12.4</td>
<td>2.4</td>
<td>4.4</td>
</tr>
<tr>
<td>Basin H2</td>
<td>1.22</td>
<td>0.00</td>
<td>0.10</td>
<td>0.20</td>
<td>0.50</td>
<td>0.00</td>
<td>300.0</td>
<td>0.0300</td>
<td>7</td>
<td>1.08</td>
<td>2.7</td>
<td>24.7</td>
<td>476</td>
<td>12.6</td>
<td>12.6</td>
<td></td>
<td>12.6</td>
<td>2.4</td>
<td>3.3</td>
</tr>
<tr>
<td>Basin H3</td>
<td>0.83</td>
<td>0.00</td>
<td>0.10</td>
<td>0.20</td>
<td>0.50</td>
<td>0.00</td>
<td>300.0</td>
<td>0.0300</td>
<td>7</td>
<td>1.08</td>
<td>0.0</td>
<td>22.0</td>
<td>300</td>
<td>11.7</td>
<td>11.7</td>
<td></td>
<td>11.7</td>
<td>2.4</td>
<td>3.5</td>
</tr>
<tr>
<td>Basin A</td>
<td>1.23</td>
<td>0.47</td>
<td>0.53</td>
<td>0.60</td>
<td>0.73</td>
<td>53.22</td>
<td>124.0</td>
<td>0.0200</td>
<td>9.1</td>
<td>0.70</td>
<td>5.7</td>
<td>14.8</td>
<td>363</td>
<td>12.0</td>
<td>12.0</td>
<td></td>
<td>12.0</td>
<td>2.4</td>
<td>3.4</td>
</tr>
<tr>
<td>Basin A1</td>
<td>0.99</td>
<td>0.10</td>
<td>0.19</td>
<td>0.28</td>
<td>0.55</td>
<td>10.99</td>
<td>15.0</td>
<td>0.0500</td>
<td>3.8</td>
<td>0.70</td>
<td>0.0</td>
<td>3.8</td>
<td>15</td>
<td>10.1</td>
<td>10.1</td>
<td></td>
<td>10.1</td>
<td>4.0</td>
<td>5.5</td>
</tr>
<tr>
<td>Basin A2</td>
<td>0.02</td>
<td>0.53</td>
<td>0.58</td>
<td>0.64</td>
<td>0.76</td>
<td>59.96</td>
<td>14.0</td>
<td>0.0200</td>
<td>2.8</td>
<td>0.70</td>
<td>0.0</td>
<td>2.8</td>
<td>14</td>
<td>10.1</td>
<td>10.1</td>
<td></td>
<td>10.1</td>
<td>4.0</td>
<td>5.5</td>
</tr>
<tr>
<td>Basin A3</td>
<td>1.12</td>
<td>0.50</td>
<td>0.56</td>
<td>0.62</td>
<td>0.75</td>
<td>56.39</td>
<td>125.0</td>
<td>0.0200</td>
<td>8.8</td>
<td>0.70</td>
<td>1.5</td>
<td>10.3</td>
<td>380</td>
<td>12.1</td>
<td>10.3</td>
<td></td>
<td>10.3</td>
<td>2.7</td>
<td>3.9</td>
</tr>
<tr>
<td>Basin B</td>
<td>1.22</td>
<td>0.50</td>
<td>0.55</td>
<td>0.60</td>
<td>0.75</td>
<td>50.00</td>
<td>275.0</td>
<td>0.0200</td>
<td>13.3</td>
<td>0.70</td>
<td>0.0</td>
<td>13.3</td>
<td>275</td>
<td>11.5</td>
<td>11.5</td>
<td></td>
<td>11.5</td>
<td>2.5</td>
<td>3.5</td>
</tr>
<tr>
<td>Basin C</td>
<td>0.83</td>
<td>0.40</td>
<td>0.45</td>
<td>0.50</td>
<td>0.70</td>
<td>40.00</td>
<td>300.0</td>
<td>0.0100</td>
<td>20.6</td>
<td>0.70</td>
<td>0.0</td>
<td>20.6</td>
<td>300</td>
<td>11.7</td>
<td>11.7</td>
<td></td>
<td>11.7</td>
<td>2.4</td>
<td>3.5</td>
</tr>
<tr>
<td>Historic Basin H1</td>
<td>SURFACE</td>
<td>AREA</td>
<td>C2</td>
<td>C5</td>
<td>C10</td>
<td>C100</td>
<td>%IMP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>---------------</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
<td>------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROOFS</td>
<td>0.00</td>
<td>0.80</td>
<td>0.85</td>
<td>0.90</td>
<td>0.90</td>
<td>90.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DRIVES AND WALKS</td>
<td>0.03</td>
<td>0.85</td>
<td>0.87</td>
<td>0.90</td>
<td>0.92</td>
<td>96.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LAWNS - SANDY</td>
<td>1.21</td>
<td>0.00</td>
<td>0.10</td>
<td>0.20</td>
<td>0.50</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL AREA</td>
<td>1.23</td>
<td>0.02</td>
<td>0.12</td>
<td>0.22</td>
<td>0.51</td>
<td>2.26</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Historic Basin H2</th>
<th>SURFACE</th>
<th>AREA</th>
<th>C2</th>
<th>C5</th>
<th>C10</th>
<th>C100</th>
<th>%IMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROOFS</td>
<td>0.00</td>
<td>0.80</td>
<td>0.85</td>
<td>0.90</td>
<td>0.90</td>
<td>90.00</td>
<td></td>
</tr>
<tr>
<td>DRIVES AND WALKS</td>
<td>0.00</td>
<td>0.85</td>
<td>0.87</td>
<td>0.90</td>
<td>0.92</td>
<td>96.00</td>
<td></td>
</tr>
<tr>
<td>LAWNS - SANDY</td>
<td>1.22</td>
<td>0.00</td>
<td>0.10</td>
<td>0.20</td>
<td>0.50</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>TOTAL AREA</td>
<td>1.22</td>
<td>0.00</td>
<td>0.10</td>
<td>0.20</td>
<td>0.50</td>
<td>0.00</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Historic Basin H3</th>
<th>SURFACE</th>
<th>AREA</th>
<th>C2</th>
<th>C5</th>
<th>C10</th>
<th>C100</th>
<th>%IMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROOFS</td>
<td>0.00</td>
<td>0.80</td>
<td>0.85</td>
<td>0.90</td>
<td>0.90</td>
<td>90.00</td>
<td></td>
</tr>
<tr>
<td>DRIVES AND WALKS</td>
<td>0.00</td>
<td>0.85</td>
<td>0.87</td>
<td>0.90</td>
<td>0.92</td>
<td>96.00</td>
<td></td>
</tr>
<tr>
<td>LAWNS - SANDY</td>
<td>0.83</td>
<td>0.00</td>
<td>0.10</td>
<td>0.20</td>
<td>0.50</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>TOTAL AREA</td>
<td>0.83</td>
<td>0.00</td>
<td>0.10</td>
<td>0.20</td>
<td>0.50</td>
<td>0.00</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Proposed Basin A</th>
<th>SURFACE</th>
<th>AREA</th>
<th>C2</th>
<th>C5</th>
<th>C10</th>
<th>C100</th>
<th>%IMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAWNS - SANDY</td>
<td>0.53</td>
<td>0.00</td>
<td>0.10</td>
<td>0.20</td>
<td>0.50</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>ROOFS</td>
<td>0.35</td>
<td>0.80</td>
<td>0.85</td>
<td>0.90</td>
<td>0.90</td>
<td>90.00</td>
<td></td>
</tr>
<tr>
<td>DRIVES AND WALKS</td>
<td>0.35</td>
<td>0.85</td>
<td>0.87</td>
<td>0.90</td>
<td>0.92</td>
<td>96.00</td>
<td></td>
</tr>
<tr>
<td>TOTAL AREA</td>
<td>1.23</td>
<td>0.47</td>
<td>0.53</td>
<td>0.60</td>
<td>0.73</td>
<td>53.22</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Proposed Basin A1 North Side of Lot</th>
<th>SURFACE</th>
<th>AREA</th>
<th>C2</th>
<th>C5</th>
<th>C10</th>
<th>C100</th>
<th>%IMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAWNS - SANDY</td>
<td>0.08</td>
<td>0.00</td>
<td>0.10</td>
<td>0.20</td>
<td>0.50</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>ROOFS</td>
<td>0.00</td>
<td>0.80</td>
<td>0.85</td>
<td>0.90</td>
<td>0.90</td>
<td>90.00</td>
<td></td>
</tr>
<tr>
<td>DRIVES AND WALKS</td>
<td>0.01</td>
<td>0.85</td>
<td>0.87</td>
<td>0.90</td>
<td>0.92</td>
<td>96.00</td>
<td></td>
</tr>
<tr>
<td>TOTAL AREA</td>
<td>0.09</td>
<td>0.10</td>
<td>0.19</td>
<td>0.28</td>
<td>0.55</td>
<td>10.99</td>
<td></td>
</tr>
<tr>
<td>Proposed Basin A2</td>
<td>SURFACE</td>
<td>AREA</td>
<td>C2</td>
<td>C5</td>
<td>C10</td>
<td>C100</td>
<td>%IMP</td>
</tr>
<tr>
<td>------------------</td>
<td>------------------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>East side of Lot</td>
<td>LAWNS - SANDY</td>
<td>0.01</td>
<td>0.00</td>
<td>0.10</td>
<td>0.20</td>
<td>0.50</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>ROOFS</td>
<td>0.00</td>
<td>0.80</td>
<td>0.85</td>
<td>0.90</td>
<td>0.90</td>
<td>90.00</td>
</tr>
<tr>
<td></td>
<td>DRIVES AND WALKS</td>
<td>0.01</td>
<td>0.85</td>
<td>0.87</td>
<td>0.90</td>
<td>0.92</td>
<td>96.00</td>
</tr>
<tr>
<td></td>
<td>TOTAL AREA</td>
<td>0.02</td>
<td>0.53</td>
<td>0.58</td>
<td>0.64</td>
<td>0.76</td>
<td>59.96</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Proposed Basin A3</th>
<th>SURFACE</th>
<th>AREA</th>
<th>C2</th>
<th>C5</th>
<th>C10</th>
<th>C100</th>
<th>%IMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pond Tributary Area</td>
<td>LAWNS - SANDY</td>
<td>0.44</td>
<td>0.00</td>
<td>0.10</td>
<td>0.20</td>
<td>0.50</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>ROOFS</td>
<td>0.35</td>
<td>0.80</td>
<td>0.85</td>
<td>0.90</td>
<td>0.90</td>
<td>90.00</td>
</tr>
<tr>
<td></td>
<td>DRIVES AND WALKS</td>
<td>0.33</td>
<td>0.85</td>
<td>0.87</td>
<td>0.90</td>
<td>0.92</td>
<td>96.00</td>
</tr>
<tr>
<td></td>
<td>TOTAL AREA</td>
<td>1.12</td>
<td>0.50</td>
<td>0.56</td>
<td>0.62</td>
<td>0.75</td>
<td>56.39</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Proposed Basin B</th>
<th>SURFACE</th>
<th>AREA</th>
<th>C2</th>
<th>C5</th>
<th>C10</th>
<th>C100</th>
<th>%IMP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LAWNS - SANDY</td>
<td>0.00</td>
<td>0.00</td>
<td>0.10</td>
<td>0.20</td>
<td>0.50</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>ROOFS</td>
<td>0.00</td>
<td>0.80</td>
<td>0.85</td>
<td>0.90</td>
<td>0.90</td>
<td>90.00</td>
</tr>
<tr>
<td></td>
<td>MFR</td>
<td>1.22</td>
<td>0.50</td>
<td>0.55</td>
<td>0.60</td>
<td>0.75</td>
<td>50.00</td>
</tr>
<tr>
<td></td>
<td>TOTAL AREA</td>
<td>1.22</td>
<td>0.50</td>
<td>0.55</td>
<td>0.60</td>
<td>0.75</td>
<td>50.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Proposed Basin C</th>
<th>SURFACE</th>
<th>AREA</th>
<th>C2</th>
<th>C5</th>
<th>C10</th>
<th>C100</th>
<th>%IMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block 3</td>
<td>LAWNS - SANDY</td>
<td>0.00</td>
<td>0.00</td>
<td>0.10</td>
<td>0.20</td>
<td>0.50</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>ROOFS</td>
<td>0.00</td>
<td>0.80</td>
<td>0.85</td>
<td>0.90</td>
<td>0.90</td>
<td>90.00</td>
</tr>
<tr>
<td></td>
<td>SFR</td>
<td>0.83</td>
<td>0.40</td>
<td>0.45</td>
<td>0.50</td>
<td>0.70</td>
<td>40.00</td>
</tr>
<tr>
<td></td>
<td>TOTAL AREA</td>
<td>0.83</td>
<td>0.40</td>
<td>0.45</td>
<td>0.50</td>
<td>0.70</td>
<td>40.00</td>
</tr>
</tbody>
</table>
APPENDIX B

WATER QUALITY AND DETENTION CALCULATIONS
10 Year Pond Volume - 2180 Violet - Pond A

Based on FAA Method, per Urban Storm Drainage Criteria Manual, Vol. 2, Storage - Section 4

Allowable Release Rate = 0.90 cfs (10 year historic runoff) (Allowable 10-year rate less undetained runoff)

Composite "C" Factor = 0.60 (Based on 10 year Developed conditions)

Basin Designation = A

Basin Size = 1.23 acres

<table>
<thead>
<tr>
<th>TIME min</th>
<th>TIME sec</th>
<th>C</th>
<th>A</th>
<th>CXA</th>
<th>I in/hr</th>
<th>INFLOW cf</th>
<th>OUTFLOW cf</th>
<th>STORAGE cf</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0</td>
<td>300</td>
<td>0.60</td>
<td>1.23</td>
<td>0.74</td>
<td>7.40</td>
<td>1645</td>
<td>269</td>
<td>1377</td>
</tr>
<tr>
<td>10.0</td>
<td>600</td>
<td>0.60</td>
<td>1.23</td>
<td>0.74</td>
<td>5.70</td>
<td>2535</td>
<td>537</td>
<td>1997</td>
</tr>
<tr>
<td>15.0</td>
<td>900</td>
<td>0.60</td>
<td>1.23</td>
<td>0.74</td>
<td>4.55</td>
<td>3035</td>
<td>806</td>
<td>2229</td>
</tr>
<tr>
<td>20.0</td>
<td>1200</td>
<td>0.60</td>
<td>1.23</td>
<td>0.74</td>
<td>3.80</td>
<td>3380</td>
<td>1075</td>
<td>2305</td>
</tr>
<tr>
<td>25.0</td>
<td>1500</td>
<td>0.60</td>
<td>1.23</td>
<td>0.74</td>
<td>3.35</td>
<td>3724</td>
<td>1343</td>
<td>2381</td>
</tr>
<tr>
<td>30.0</td>
<td>1800</td>
<td>0.60</td>
<td>1.23</td>
<td>0.74</td>
<td>2.90</td>
<td>3869</td>
<td>1612</td>
<td>2256</td>
</tr>
<tr>
<td>35.0</td>
<td>2100</td>
<td>0.60</td>
<td>1.23</td>
<td>0.74</td>
<td>2.65</td>
<td>4124</td>
<td>1881</td>
<td>2243</td>
</tr>
<tr>
<td>40.0</td>
<td>2400</td>
<td>0.60</td>
<td>1.23</td>
<td>0.74</td>
<td>2.40</td>
<td>4269</td>
<td>2150</td>
<td>2119</td>
</tr>
<tr>
<td>45.0</td>
<td>2700</td>
<td>0.60</td>
<td>1.23</td>
<td>0.74</td>
<td>2.20</td>
<td>4402</td>
<td>2418</td>
<td>1984</td>
</tr>
<tr>
<td>50.0</td>
<td>3000</td>
<td>0.60</td>
<td>1.23</td>
<td>0.74</td>
<td>2.05</td>
<td>4558</td>
<td>2687</td>
<td>1871</td>
</tr>
<tr>
<td>55.0</td>
<td>3300</td>
<td>0.60</td>
<td>1.23</td>
<td>0.74</td>
<td>1.90</td>
<td>4647</td>
<td>2956</td>
<td>1691</td>
</tr>
<tr>
<td>60.0</td>
<td>3600</td>
<td>0.60</td>
<td>1.23</td>
<td>0.74</td>
<td>1.80</td>
<td>4802</td>
<td>3224</td>
<td>1578</td>
</tr>
</tbody>
</table>

Maximum Volume: 2,381

110% 2,619
**100 Year Pond Volume - 2180 Violet - Pond A**

Based on FAA Method, per Urban Storm Drainage Criteria Manual, Vol. 2, Storage - Section 4

Allowable Release Rate = 3.18 cfs  
(100 year historic runoff)  
(Allowable 100-year rate less undetained runoff)

Composite "C" Factor = 0.73  
(Based on 100 year Developed conditions)

Basin Designation = A

Basin Size = 1.23 acres

<table>
<thead>
<tr>
<th>TIME min</th>
<th>TIME sec</th>
<th>C</th>
<th>A acres</th>
<th>CXA</th>
<th>I in/hr</th>
<th>INFLOW cf</th>
<th>OUTFLOW cf</th>
<th>STORAGE cf</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0</td>
<td>300</td>
<td>0.73</td>
<td>1.23</td>
<td>0.91</td>
<td>10.40</td>
<td>2829</td>
<td>955</td>
<td>1874</td>
</tr>
<tr>
<td>10.0</td>
<td>600</td>
<td>0.73</td>
<td>1.23</td>
<td>0.91</td>
<td>8.30</td>
<td>4515</td>
<td>1909</td>
<td>2605</td>
</tr>
<tr>
<td>15.0</td>
<td>900</td>
<td>0.73</td>
<td>1.23</td>
<td>0.91</td>
<td>6.60</td>
<td>5385</td>
<td>2864</td>
<td>2521</td>
</tr>
<tr>
<td>20.0</td>
<td>1200</td>
<td>0.73</td>
<td>1.23</td>
<td>0.91</td>
<td>5.50</td>
<td>5984</td>
<td>3819</td>
<td>2165</td>
</tr>
<tr>
<td>25.0</td>
<td>1500</td>
<td>0.73</td>
<td>1.23</td>
<td>0.91</td>
<td>4.70</td>
<td>6392</td>
<td>4774</td>
<td>1618</td>
</tr>
<tr>
<td>30.0</td>
<td>1800</td>
<td>0.73</td>
<td>1.23</td>
<td>0.91</td>
<td>4.15</td>
<td>6772</td>
<td>5728</td>
<td>1044</td>
</tr>
<tr>
<td>35.0</td>
<td>2100</td>
<td>0.73</td>
<td>1.23</td>
<td>0.91</td>
<td>3.75</td>
<td>7139</td>
<td>6683</td>
<td>456</td>
</tr>
<tr>
<td>40.0</td>
<td>2400</td>
<td>0.73</td>
<td>1.23</td>
<td>0.91</td>
<td>3.45</td>
<td>7507</td>
<td>7638</td>
<td>-131</td>
</tr>
<tr>
<td>45.0</td>
<td>2700</td>
<td>0.73</td>
<td>1.23</td>
<td>0.91</td>
<td>3.15</td>
<td>7711</td>
<td>8593</td>
<td>-882</td>
</tr>
<tr>
<td>50.0</td>
<td>3000</td>
<td>0.73</td>
<td>1.23</td>
<td>0.91</td>
<td>2.90</td>
<td>7887</td>
<td>9547</td>
<td>-1660</td>
</tr>
<tr>
<td>55.0</td>
<td>3300</td>
<td>0.73</td>
<td>1.23</td>
<td>0.91</td>
<td>2.70</td>
<td>8078</td>
<td>10502</td>
<td>-2424</td>
</tr>
<tr>
<td>60.0</td>
<td>3600</td>
<td>0.73</td>
<td>1.23</td>
<td>0.91</td>
<td>2.50</td>
<td>8159</td>
<td>11457</td>
<td>-3297</td>
</tr>
</tbody>
</table>

Maximum Volume: 2,605

110% 2,866
10 Year Pond Volume - 2100 Violet - Pond B

Based on FAA Method, per Urban Storm Drainage Criteria Manual, Vol. 2, Storage - Section 4

Allowable Release Rate = 1.07 cfs (Basin H2)
(10 year historic runoff)
(Allowable 10-year rate less undetained runoff)

Composite "C" Factor = 0.60 (Based on 10 year Developed conditions)

Basin Designation = A
Basin Size = 1.22 acres

<table>
<thead>
<tr>
<th>TIME min</th>
<th>TIME sec</th>
<th>C</th>
<th>A acres</th>
<th>CXA</th>
<th>I in/hr</th>
<th>INFLOW cf</th>
<th>OUTFLOW cf</th>
<th>STORAGE cf</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0</td>
<td>300</td>
<td>0.60</td>
<td>1.22</td>
<td>0.73</td>
<td>7.40</td>
<td>1620</td>
<td>321</td>
<td>1300</td>
</tr>
<tr>
<td>10.0</td>
<td>600</td>
<td>0.60</td>
<td>1.22</td>
<td>0.73</td>
<td>5.70</td>
<td>2496</td>
<td>641</td>
<td>1855</td>
</tr>
<tr>
<td>15.0</td>
<td>900</td>
<td>0.60</td>
<td>1.22</td>
<td>0.73</td>
<td>4.55</td>
<td>2989</td>
<td>962</td>
<td>2027</td>
</tr>
<tr>
<td>20.0</td>
<td>1200</td>
<td>0.60</td>
<td>1.22</td>
<td>0.73</td>
<td>3.80</td>
<td>3329</td>
<td>1282</td>
<td>2046</td>
</tr>
<tr>
<td>25.0</td>
<td>1500</td>
<td>0.60</td>
<td>1.22</td>
<td>0.73</td>
<td>3.35</td>
<td>3668</td>
<td>1603</td>
<td>2065</td>
</tr>
<tr>
<td>30.0</td>
<td>1800</td>
<td>0.60</td>
<td>1.22</td>
<td>0.73</td>
<td>2.90</td>
<td>3810</td>
<td>1924</td>
<td>1887</td>
</tr>
<tr>
<td>35.0</td>
<td>2100</td>
<td>0.60</td>
<td>1.22</td>
<td>0.73</td>
<td>2.65</td>
<td>4062</td>
<td>2244</td>
<td>1818</td>
</tr>
<tr>
<td>40.0</td>
<td>2400</td>
<td>0.60</td>
<td>1.22</td>
<td>0.73</td>
<td>2.40</td>
<td>4204</td>
<td>2565</td>
<td>1640</td>
</tr>
<tr>
<td>45.0</td>
<td>2700</td>
<td>0.60</td>
<td>1.22</td>
<td>0.73</td>
<td>2.20</td>
<td>4336</td>
<td>2886</td>
<td>1450</td>
</tr>
<tr>
<td>50.0</td>
<td>3000</td>
<td>0.60</td>
<td>1.22</td>
<td>0.73</td>
<td>2.05</td>
<td>4489</td>
<td>3206</td>
<td>1283</td>
</tr>
<tr>
<td>55.0</td>
<td>3300</td>
<td>0.60</td>
<td>1.22</td>
<td>0.73</td>
<td>1.90</td>
<td>4577</td>
<td>3527</td>
<td>1050</td>
</tr>
<tr>
<td>60.0</td>
<td>3600</td>
<td>0.60</td>
<td>1.22</td>
<td>0.73</td>
<td>1.80</td>
<td>4730</td>
<td>3847</td>
<td>883</td>
</tr>
</tbody>
</table>

Maximum Volume: 2,065
110% 2,271
100 Year Pond Volume - 2100 Violet - Pond B

Based on FAA Method, per Urban Storm Drainage Criteria Manual, Vol. 2, Storage - Section 4

Allowable Release Rate = 3.73 cfs (Basin H2)  
(100 year historic runoff)  
(Allowable 100-year rate less undetained runoff)

Composite "C" Factor = 0.75 (Based on 100 year Developed conditions)

<table>
<thead>
<tr>
<th>TIME min</th>
<th>TIME sec</th>
<th>C</th>
<th>A acres</th>
<th>CXA</th>
<th>INFLOW in/hr</th>
<th>OUTFLOW cf</th>
<th>STORAGE cf</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0</td>
<td>300</td>
<td>0.75</td>
<td>1.22</td>
<td>0.91</td>
<td>10.40</td>
<td>2847</td>
<td>1119</td>
</tr>
<tr>
<td>10.0</td>
<td>600</td>
<td>0.75</td>
<td>1.22</td>
<td>0.91</td>
<td>8.30</td>
<td>4544</td>
<td>2239</td>
</tr>
<tr>
<td>15.0</td>
<td>900</td>
<td>0.75</td>
<td>1.22</td>
<td>0.91</td>
<td>6.60</td>
<td>5420</td>
<td>3358</td>
</tr>
<tr>
<td>20.0</td>
<td>1200</td>
<td>0.75</td>
<td>1.22</td>
<td>0.91</td>
<td>5.50</td>
<td>6022</td>
<td>4478</td>
</tr>
<tr>
<td>25.0</td>
<td>1500</td>
<td>0.75</td>
<td>1.22</td>
<td>0.91</td>
<td>4.70</td>
<td>6433</td>
<td>5597</td>
</tr>
<tr>
<td>30.0</td>
<td>1800</td>
<td>0.75</td>
<td>1.22</td>
<td>0.91</td>
<td>4.15</td>
<td>6816</td>
<td>6717</td>
</tr>
<tr>
<td>35.0</td>
<td>2100</td>
<td>0.75</td>
<td>1.22</td>
<td>0.91</td>
<td>3.75</td>
<td>7185</td>
<td>7836</td>
</tr>
<tr>
<td>40.0</td>
<td>2400</td>
<td>0.75</td>
<td>1.22</td>
<td>0.91</td>
<td>3.45</td>
<td>7555</td>
<td>8956</td>
</tr>
<tr>
<td>45.0</td>
<td>2700</td>
<td>0.75</td>
<td>1.22</td>
<td>0.91</td>
<td>3.15</td>
<td>7760</td>
<td>10075</td>
</tr>
<tr>
<td>50.0</td>
<td>3000</td>
<td>0.75</td>
<td>1.22</td>
<td>0.91</td>
<td>2.90</td>
<td>7938</td>
<td>11195</td>
</tr>
<tr>
<td>55.0</td>
<td>3300</td>
<td>0.75</td>
<td>1.22</td>
<td>0.91</td>
<td>2.70</td>
<td>8130</td>
<td>12314</td>
</tr>
<tr>
<td>60.0</td>
<td>3600</td>
<td>0.75</td>
<td>1.22</td>
<td>0.91</td>
<td>2.50</td>
<td>8212</td>
<td>13434</td>
</tr>
</tbody>
</table>

Maximum Volume: 2,305

110% 2,535
10 Year Pond Volume - 2145 Upland - Pond C

Based on FAA Method, per Urban Storm Drainage Criteria Manual, Vol. 2, Storage - Section 4

Allowable Release Rate = 0.76 cfs (Basin H3)
(10 year historic runoff) (Allowable 10-year rate less undetained runoff)

Composite "C" Factor = 0.50 (Based on 10 year Developed conditions)
Basin Designation = A
Basin Size = 0.83 acres

<table>
<thead>
<tr>
<th>TIME</th>
<th>TIME sec</th>
<th>C</th>
<th>A acres</th>
<th>CXA</th>
<th>I in/hr</th>
<th>INFLOW cf</th>
<th>OUTFLOW cf</th>
<th>STORAGE cf</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0</td>
<td>300</td>
<td>0.50</td>
<td>0.83</td>
<td>0.42</td>
<td>7.40</td>
<td>922</td>
<td>227</td>
<td>695</td>
</tr>
<tr>
<td>10.0</td>
<td>600</td>
<td>0.50</td>
<td>0.83</td>
<td>0.42</td>
<td>5.70</td>
<td>1420</td>
<td>453</td>
<td>967</td>
</tr>
<tr>
<td>15.0</td>
<td>900</td>
<td>0.50</td>
<td>0.83</td>
<td>0.42</td>
<td>4.55</td>
<td>1700</td>
<td>680</td>
<td>1020</td>
</tr>
<tr>
<td>20.0</td>
<td>1200</td>
<td>0.50</td>
<td>0.83</td>
<td>0.42</td>
<td>3.80</td>
<td>1893</td>
<td>906</td>
<td>987</td>
</tr>
<tr>
<td>25.0</td>
<td>1500</td>
<td>0.50</td>
<td>0.83</td>
<td>0.42</td>
<td>3.35</td>
<td>2086</td>
<td>1133</td>
<td>953</td>
</tr>
<tr>
<td>30.0</td>
<td>1800</td>
<td>0.50</td>
<td>0.83</td>
<td>0.42</td>
<td>2.90</td>
<td>2167</td>
<td>1359</td>
<td>808</td>
</tr>
<tr>
<td>35.0</td>
<td>2100</td>
<td>0.50</td>
<td>0.83</td>
<td>0.42</td>
<td>2.65</td>
<td>2310</td>
<td>1586</td>
<td>725</td>
</tr>
<tr>
<td>40.0</td>
<td>2400</td>
<td>0.50</td>
<td>0.83</td>
<td>0.42</td>
<td>2.40</td>
<td>2391</td>
<td>1812</td>
<td>579</td>
</tr>
<tr>
<td>45.0</td>
<td>2700</td>
<td>0.50</td>
<td>0.83</td>
<td>0.42</td>
<td>2.20</td>
<td>2466</td>
<td>2039</td>
<td>427</td>
</tr>
<tr>
<td>50.0</td>
<td>3000</td>
<td>0.50</td>
<td>0.83</td>
<td>0.42</td>
<td>2.05</td>
<td>2553</td>
<td>2265</td>
<td>288</td>
</tr>
<tr>
<td>55.0</td>
<td>3300</td>
<td>0.50</td>
<td>0.83</td>
<td>0.42</td>
<td>1.90</td>
<td>2603</td>
<td>2492</td>
<td>111</td>
</tr>
<tr>
<td>60.0</td>
<td>3600</td>
<td>0.50</td>
<td>0.83</td>
<td>0.42</td>
<td>1.80</td>
<td>2690</td>
<td>2719</td>
<td>-28</td>
</tr>
</tbody>
</table>

Maximum Volume: 1,020
110% 1,122
100 Year Pond Volume - 2145 Upland - Pond C

Based on FAA Method, per Urban Storm Drainage Criteria Manual, Vol. 2, Storage - Section 4

Allowable Release Rate = 2.64 cfs (Basin H3)
(100 year historic runoff)
(Allowable 100-year rate less undetained runoff)

Composite "C" Factor = 0.70 (Based on 100 year Developed conditions)
Basin Designation = A
Basin Size = 0.83 acres

<table>
<thead>
<tr>
<th>TIME</th>
<th>TIME</th>
<th>C</th>
<th>A</th>
<th>CXA</th>
<th>I</th>
<th>INFLOW</th>
<th>OUTFLOW</th>
<th>STORAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>min</td>
<td>sec</td>
<td></td>
<td></td>
<td></td>
<td>in/hr</td>
<td>cf</td>
<td>cf</td>
<td>cf</td>
</tr>
<tr>
<td>5.0</td>
<td>300</td>
<td>0.70</td>
<td>0.83</td>
<td>0.58</td>
<td>10.40</td>
<td>1813</td>
<td>791</td>
<td>1022</td>
</tr>
<tr>
<td>10.0</td>
<td>600</td>
<td>0.70</td>
<td>0.83</td>
<td>0.58</td>
<td>8.30</td>
<td>2895</td>
<td>1582</td>
<td>1312</td>
</tr>
<tr>
<td>15.0</td>
<td>900</td>
<td>0.70</td>
<td>0.83</td>
<td>0.58</td>
<td>6.60</td>
<td>3452</td>
<td>2373</td>
<td>1079</td>
</tr>
<tr>
<td>20.0</td>
<td>1200</td>
<td>0.70</td>
<td>0.83</td>
<td>0.58</td>
<td>5.50</td>
<td>3836</td>
<td>3164</td>
<td>672</td>
</tr>
<tr>
<td>25.0</td>
<td>1500</td>
<td>0.70</td>
<td>0.83</td>
<td>0.58</td>
<td>4.70</td>
<td>4098</td>
<td>3955</td>
<td>143</td>
</tr>
<tr>
<td>30.0</td>
<td>1800</td>
<td>0.70</td>
<td>0.83</td>
<td>0.58</td>
<td>4.15</td>
<td>4342</td>
<td>4746</td>
<td>-404</td>
</tr>
<tr>
<td>35.0</td>
<td>2100</td>
<td>0.70</td>
<td>0.83</td>
<td>0.58</td>
<td>3.75</td>
<td>4577</td>
<td>5537</td>
<td>-960</td>
</tr>
<tr>
<td>40.0</td>
<td>2400</td>
<td>0.70</td>
<td>0.83</td>
<td>0.58</td>
<td>3.45</td>
<td>4813</td>
<td>6328</td>
<td>-1516</td>
</tr>
<tr>
<td>45.0</td>
<td>2700</td>
<td>0.70</td>
<td>0.83</td>
<td>0.58</td>
<td>3.15</td>
<td>4943</td>
<td>7119</td>
<td>-2176</td>
</tr>
<tr>
<td>50.0</td>
<td>3000</td>
<td>0.70</td>
<td>0.83</td>
<td>0.58</td>
<td>2.90</td>
<td>5057</td>
<td>7910</td>
<td>-2854</td>
</tr>
<tr>
<td>55.0</td>
<td>3300</td>
<td>0.70</td>
<td>0.83</td>
<td>0.58</td>
<td>2.70</td>
<td>5179</td>
<td>8701</td>
<td>-3523</td>
</tr>
<tr>
<td>60.0</td>
<td>3600</td>
<td>0.70</td>
<td>0.83</td>
<td>0.58</td>
<td>2.50</td>
<td>5231</td>
<td>9492</td>
<td>-4261</td>
</tr>
</tbody>
</table>

Maximum Volume: 1,312
110% 1,444
Calculate Water Quality Capture Volume - 2180 Violet Avenue - Pond A
Reference UDFCD Manual - Volume 3

1. Basin Storage Volume
   A. Imperviousness Ratio \( (I = I_a / 100) \)
      \( I_a = 53.22\% \)
      \( i = 0.532 \)

   B. Contributing Watershed
      \( A = 1.23 \) Acres

   C. Water Quality Capture Volume \( (\text{WQCV}) \)
      \[ \text{WQCV} = 0.8 \times (0.91 \times i^3 - 1.19 \times i^2 + 0.78 \times i) \]
      \[ \text{WQCV} = 0.172 \text{ in} / \text{acre} \]

   D. Design Volume
      \[ \text{Volume} = \left( \frac{\text{WQCV}}{12} \right) \times \text{Area} \]
      \[ \text{Volume} = 0.0177 \text{ acre - feet} \]
      For Bioretention Facility
      \[ \text{WATER QUALITY CAPTURE VOLUME (WQCV)} = 771 \text{ cubic feet} \]

Required Pond Volume for both Water Quality and Detention

<table>
<thead>
<tr>
<th></th>
<th>FAA</th>
<th>cubic feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-year Storm Water Detention Volume</td>
<td>2,619</td>
<td></td>
</tr>
<tr>
<td>100% of required Water Quality Volume</td>
<td>771</td>
<td></td>
</tr>
<tr>
<td><strong>Required Total Volume</strong></td>
<td></td>
<td>3,390</td>
</tr>
<tr>
<td>100-year Storm Water Detention Volume</td>
<td>2,866</td>
<td></td>
</tr>
<tr>
<td>50% of required Water Quality Volume</td>
<td>386</td>
<td></td>
</tr>
<tr>
<td><strong>Required Total Volume</strong></td>
<td></td>
<td>3,252</td>
</tr>
</tbody>
</table>

Larger of the two required Volumes

\[ 3,390 \text{ cubic feet} \]
Calculate Water Quality Capture Volume - 2100 Violet Avenue - Pond B
Reference UDFCD Manual - Volume 3

1. Basin Storage Volume
   A. Imperviousness Ratio (I = I_a / 100)  \( I_a = 50.00\% \)
       \( i = 0.500 \)

   B. Contributing Watershed
       \( A = 1.22 \) Acres

   C. Water Quality Capture Volume (WQCV)
       \[ \text{WQCV} = 0.8 \times (0.91 \times i^3 - 1.19 \times i^2 + 0.78 \times i) \]
       \[ \text{WQCV} = 0.165 \text{ in} / \text{acre} \]

   D. Design Volume
       \[ \text{Volume} = (\text{WQCV} / 12) \times \text{Area} \]
       \[ \text{Volume} = 0.0167 \text{ acre - feet} \]
       For Bioretention Facility
       \[ 729 \text{ cubic feet} \]

   \[ \text{WATER QUALITY CAPTURE VOLUME (WQCV)} = 729 \text{ cubic feet} \]

Required Pond Volume for both Water Quality and Detention

   10-year Storm Water Detention Volume  FAA 2,271 cubic feet
   100\% of required Water Quality Volume 729 cubic feet
   \[ \text{Required Total Volume} = 3,000 \text{ cubic feet} \]

   100-year Storm Water Detention Volume  FAA 2,535 cubic feet
   50\% of required Water Quality Volume 364 cubic feet
   \[ \text{Required Total Volume} = 2,900 \text{ cubic feet} \]

   Larger of the two required Volumes 3,000 cubic feet
Calculate Water Quality Capture Volume - 2145 Upland Avenue - Pond B
Reference UDFCD Manual - Volume 3

1. Basin Storage Volume
   A. Imperviousness Ratio \((I = I_a / 100)\)
      \(I_a = 40.00\%\)
      \(i = 0.400\)

   B. Contributing Watershed
      \(A = 0.83\) Acres

   C. Water Quality Capture Volume (WQCV)
      \[WQCV = 0.8 \times (0.91 \times i^3 - 1.19 \times i^2 + 0.78 \times i)\]
      \(WQCV = 0.144 \text{ in} / \text{acre}\)

   D. Design Volume
      \[Volume = (WQCV / 12) \times Area\]
      \(Volume = 0.0100 \text{ acre - feet}\)
      For Bioretention Facility
      \(434\) cubic feet

      \textbf{WATER QUALITY CAPTURE VOLUME (WQCV) = 434 cubic feet}

Required Pond Volume for both Water Quality and Detention

\[
\begin{align*}
10\text{-year Storm Water Detention Volume} & \quad \text{FAA} \quad 1,122 \text{ cubic feet} \\
100\% \text{ of required Water Quality Volume} & \quad 434 \text{ cubic feet} \\
\textbf{Required Total Volume} & \quad 1,556 \text{ cubic feet}
\end{align*}
\]

\[
\begin{align*}
100\text{-year Storm Water Detention Volume} & \quad \text{FAA} \quad 1,444 \text{ cubic feet} \\
50\% \text{ of required Water Quality Volume} & \quad 217 \text{ cubic feet} \\
\textbf{Required Total Volume} & \quad 1,661 \text{ cubic feet}
\end{align*}
\]

\textbf{Larger of the two required Volumes} \quad 1,661 \text{ cubic feet}
Pond Volume Calculation - 2180 Violet Avenue - Pond A

<table>
<thead>
<tr>
<th>ELEVATION</th>
<th>DEPTH</th>
<th>AREA</th>
<th>WEIGHTED AREA AVG</th>
<th>INCREMENTAL VOLUME</th>
<th>CUMMULATIVE VOLUME</th>
</tr>
</thead>
<tbody>
<tr>
<td>39.0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>40.0</td>
<td>1.0</td>
<td>1,373</td>
<td>687</td>
<td>687</td>
<td>687</td>
</tr>
<tr>
<td>41.0</td>
<td>1.0</td>
<td>2,882</td>
<td>2,128</td>
<td>2,128</td>
<td>2,814</td>
</tr>
<tr>
<td>42.0</td>
<td>1.0</td>
<td>4,347</td>
<td>3,615</td>
<td>3,615</td>
<td>6,429</td>
</tr>
</tbody>
</table>

TOTAL (CUBIC FEET) 6,429

STAGE/STORAGE

<table>
<thead>
<tr>
<th>STAGE(SF)</th>
<th>CUM VOL(CF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>39.00</td>
<td>0</td>
</tr>
<tr>
<td>40.00</td>
<td>687</td>
</tr>
<tr>
<td>40.15</td>
<td>1,006</td>
</tr>
<tr>
<td>40.95</td>
<td>2,708</td>
</tr>
<tr>
<td>41.00</td>
<td>2,814</td>
</tr>
<tr>
<td>41.20</td>
<td>3,537</td>
</tr>
<tr>
<td>42.00</td>
<td>6,429</td>
</tr>
</tbody>
</table>

PROPOSED STAGE VS. STORAGE
2180 VIOLET AVENUE, BOULDER, COLORADO

100-YEAR W.S.E.=41.20
VOL=3,537 CF
Pond Volume Calculation - 2100 Violet Avenue - Pond B

<table>
<thead>
<tr>
<th>ELEVATION</th>
<th>DEPTH</th>
<th>AREA</th>
<th>WEIGHTED AVG</th>
<th>INCREMENTAL VOLUME</th>
<th>CUMMULATIVE VOLUME</th>
</tr>
</thead>
<tbody>
<tr>
<td>36.0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td>267</td>
</tr>
<tr>
<td>37.0</td>
<td>1.0</td>
<td>533</td>
<td>267</td>
<td>1,301</td>
<td>1,567</td>
</tr>
<tr>
<td>38.0</td>
<td>1.0</td>
<td>2,068</td>
<td>2,594</td>
<td>4,161</td>
<td></td>
</tr>
<tr>
<td>39.0</td>
<td>1.0</td>
<td>3,119</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TOTAL (CUBIC FEET) 4,161

STAGE/STORAGE

<table>
<thead>
<tr>
<th>STAGE (SF)</th>
<th>CUM VOL (CF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>36.00</td>
<td>0</td>
</tr>
<tr>
<td>37.00</td>
<td>267</td>
</tr>
<tr>
<td>37.30</td>
<td>657</td>
</tr>
<tr>
<td>37.60</td>
<td>1,047</td>
</tr>
<tr>
<td>38.00</td>
<td>1,567</td>
</tr>
<tr>
<td>38.30</td>
<td>2,345</td>
</tr>
<tr>
<td>39.00</td>
<td>4,161</td>
</tr>
</tbody>
</table>

PROPOSED STAGE VS. STORAGE

2100 VIOLET AVENUE, BOULDER, COLORADO

100-YEAR W.S.E. = 39.00

VOL = 4,162 CF
Pond Volume Calculation - 2145 Upland Avenue - Pond C

<table>
<thead>
<tr>
<th>ELEVATION</th>
<th>DEPTH</th>
<th>AREA S.F.</th>
<th>WEIGHTED AVG AREA S.F.</th>
<th>INCREMENTAL VOLUME C.F.</th>
<th>CUMMULATIVE VOLUME C.F.</th>
</tr>
</thead>
<tbody>
<tr>
<td>32.5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>33.0</td>
<td>0.5</td>
<td>295</td>
<td>148</td>
<td>148</td>
<td>148</td>
</tr>
<tr>
<td>34.0</td>
<td>1.0</td>
<td>875</td>
<td>1,023</td>
<td>2,553</td>
<td>2,553</td>
</tr>
<tr>
<td>35.0</td>
<td>1.0</td>
<td>1,530</td>
<td>2,553</td>
<td>2,553</td>
<td>2,553</td>
</tr>
</tbody>
</table>

TOTAL (CUBIC FEET) 2,553

STAGE/STORAGE

<table>
<thead>
<tr>
<th>STAGE(SF)</th>
<th>CUM VOL(CF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>32.50</td>
<td>0</td>
</tr>
<tr>
<td>33.00</td>
<td>148</td>
</tr>
<tr>
<td>33.60</td>
<td>673</td>
</tr>
<tr>
<td>34.00</td>
<td>1,023</td>
</tr>
<tr>
<td>34.00</td>
<td>1,023</td>
</tr>
<tr>
<td>34.20</td>
<td>1,329</td>
</tr>
<tr>
<td>35.00</td>
<td>2,553</td>
</tr>
</tbody>
</table>

PROPOSED STAGE VS. STORAGE
2145 UPLAND AVENUE, BOULDER, COLORADO

100-YEAR W.S.E. = 35.00
VOL = 2,553 CF
Channel Report

2180 Violet Avenue - Basin A - Flow under bridge - Q is twice developed 100-year flow

User-defined
Invert Elev (ft) = 39.95
Slope (%) = 0.50
N-Value = 0.030

Highlighted
Depth (ft) = 0.66
Q (cfs) = 11.38
Area (sqft) = 5.30
Velocity (ft/s) = 2.15
Wetted Perim (ft) = 11.03
Crit Depth, Yc (ft) = 0.47
Top Width (ft) = 10.88
EGL (ft) = 0.73

(Sta, El, n)-(Sta, El, n)...
(0.00, 41.20)-(0.80, 41.00, 0.030)-(4.80, 40.00, 0.030)-(7.80, 39.95, 0.030)-(10.80, 40.00, 0.030)-(14.80, 41.00, 0.030)-(15.60, 41.20, 0.030)
2100 Violet Avenue - Basin B - 2-year flow - Pond B

**Triangular**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Side Slopes (z:1)</td>
<td>5.00, 5.00</td>
</tr>
<tr>
<td>Total Depth (ft)</td>
<td>1.00</td>
</tr>
</tbody>
</table>

| Invert Elev (ft)   | 100.00 |
| Slope (%)          | 1.00   |
| N-Value            | 0.035  |

**Highlighted**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth (ft)</td>
<td>0.45</td>
</tr>
<tr>
<td>Q (cfs)</td>
<td>1.490</td>
</tr>
<tr>
<td>Area (sqft)</td>
<td>1.01</td>
</tr>
<tr>
<td>Velocity (ft/s)</td>
<td>1.47</td>
</tr>
<tr>
<td>Wetted Perim (ft)</td>
<td>4.59</td>
</tr>
<tr>
<td>Crit Depth, Yc (ft)</td>
<td>0.36</td>
</tr>
<tr>
<td>Top Width (ft)</td>
<td>4.50</td>
</tr>
<tr>
<td>EGL (ft)</td>
<td>0.48</td>
</tr>
</tbody>
</table>

**Calculations**

Compute by: Known Q

Known Q (cfs) = 1.49
Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

2100 Violet Avenue - Basin B - 100-year flow - Pond B

Triangular
Side Slopes (z:1) = 5.00, 5.00
Total Depth (ft) = 1.00
Invert Elev (ft) = 100.00
Slope (%) = 1.00
N-Value = 0.035

Calculations
Compute by: Known Q
Known Q (cfs) = 5.82

Highlighted
Depth (ft) = 0.74
Q (cfs) = 5.820
Area (sqft) = 2.74
Velocity (ft/s) = 2.13
Wetted Perim (ft) = 7.55
Crit Depth, Yc (ft) = 0.61
Top Width (ft) = 7.40
EGL (ft) = 0.81

Elev (ft)

Section

Depth (ft)

Reach (ft)
2145 Upland Avenue - Basin C - 2-year flow - Pond C

**Triangular**
- Side Slopes (z:1) = 3.00, 3.00
- Total Depth (ft) = 1.00

**Invert Elev (ft)** = 100.00
**Slope (%)** = 1.00
**N-Value** = 0.035

**Highlighted**
- Depth (ft) = 0.43
- Q (cfs) = 0.810
- Area (sqft) = 0.55
- Velocity (ft/s) = 1.46
- Wetted Perim (ft) = 2.72
- Crit Depth, Yc (ft) = 0.34
- Top Width (ft) = 2.58
- EGL (ft) = 0.46

**Calculations**
- Compute by: Known Q
- Known Q (cfs) = 0.81

---

**Graph:**
- Elev (ft) vs. Depth (ft)
- Section view
- Reach (ft) from 0 to 8
2145 Upland Avenue - Basin C - 100-year flow - Pond C

**Triangular**
- Side Slopes (z:1) = 3.00, 3.00
- Total Depth (ft) = 1.00

**Invert Elev (ft)** = 100.00
**Slope (%)** = 1.00
**N-Value** = 0.035

**Highlighted**
- Depth (ft) = 0.76
- Q (cfs) = 3.690
- Area (sqft) = 1.73
- Velocity (ft/s) = 2.13
- Wetted Perim (ft) = 4.81
- Crit Depth, Yc (ft) = 0.63
- Top Width (ft) = 4.56
- EGL (ft) = 0.83

**Calculations**
- Compute by: Known Q
- Known Q (cfs) = 3.69

---

**Graph:**
- Elev (ft)
- Depth (ft)
- Reach (ft)

---

City Council Meeting Page 438 of 518
A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants.

Custom Soil Resource Report for Boulder County Area, Colorado
Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require
alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.
Contents

Preface .......................................................................................................................... 2
How Soil Surveys Are Made ......................................................................................... 5
Soil Map ....................................................................................................................... 8
  Soil Map................................................................................................................... 9
  Legend....................................................................................................................... 10
Map Unit Legend ........................................................................................................ 11
Map Unit Descriptions .............................................................................................. 11
  Boulder County Area, Colorado ............................................................................ 13
    NdD—Nederland very cobbly sandy loam, 1 to 12 percent slopes.................... 13
References ............................................................................................................... 15
How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil
scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and
identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.
### MAP LEGEND

<table>
<thead>
<tr>
<th>Area of Interest (AOI)</th>
<th>Spoil Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soils</td>
<td>Stony Spot</td>
</tr>
<tr>
<td>Soil Map Unit Polygons</td>
<td>Very Stony Spot</td>
</tr>
<tr>
<td>Soil Map Unit Lines</td>
<td>Wet Spot</td>
</tr>
<tr>
<td>Soil Map Unit Points</td>
<td>Other</td>
</tr>
<tr>
<td>Special Point Features</td>
<td>Special Line Features</td>
</tr>
<tr>
<td>Blowout</td>
<td>Streams and Canals</td>
</tr>
<tr>
<td>Borrow Pit</td>
<td>Transportation</td>
</tr>
<tr>
<td>Clay Spot</td>
<td>Rails</td>
</tr>
<tr>
<td>Closed Depression</td>
<td>Interstate Highways</td>
</tr>
<tr>
<td>Gravel Pit</td>
<td>US Routes</td>
</tr>
<tr>
<td>Gravelly Spot</td>
<td>Major Roads</td>
</tr>
<tr>
<td>Landfill</td>
<td>Local Roads</td>
</tr>
<tr>
<td>Lava Flow</td>
<td>Background</td>
</tr>
<tr>
<td>Marsh or swamp</td>
<td>Aerial Photography</td>
</tr>
<tr>
<td>Mine or Quarry</td>
<td></td>
</tr>
<tr>
<td>Miscellaneous Water</td>
<td></td>
</tr>
<tr>
<td>Perennial Water</td>
<td></td>
</tr>
<tr>
<td>Rock Outcrop</td>
<td></td>
</tr>
<tr>
<td>Saline Spot</td>
<td></td>
</tr>
<tr>
<td>Sandy Spot</td>
<td></td>
</tr>
<tr>
<td>Severely Eroded Spot</td>
<td></td>
</tr>
<tr>
<td>Sinkhole</td>
<td></td>
</tr>
<tr>
<td>Slide or Slip</td>
<td></td>
</tr>
<tr>
<td>Sodic Spot</td>
<td></td>
</tr>
</tbody>
</table>

### MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

**Warning:** Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

**Source of Map:** Natural Resources Conservation Service  
**Web Soil Survey URL:** Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

**Soil Survey Area:** Boulder County Area, Colorado  
**Survey Area Data:** Version 13, Sep 23, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

**Date(s) aerial images were photographed:** Aug 30, 2014—Sep 18, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.
Map Unit Legend

<table>
<thead>
<tr>
<th>Map Unit Symbol</th>
<th>Map Unit Name</th>
<th>Acres in AOI</th>
<th>Percent of AOI</th>
</tr>
</thead>
<tbody>
<tr>
<td>NdD</td>
<td>Nederland very cobbly sandy loam, 1 to 12 percent slopes</td>
<td>2.7</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Totals for Area of Interest

2.7
100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrastng, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,
onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a soil series. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into soil phases. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A complex consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An association is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An undifferentiated group is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include miscellaneous areas. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.
Boulder County Area, Colorado

NdD—Nederland very cobbly sandy loam, 1 to 12 percent slopes

Map Unit Setting
- **National map unit symbol**: jps7
- **Elevation**: 5,500 to 6,500 feet
- **Mean annual precipitation**: 15 to 20 inches
- **Mean annual air temperature**: 48 to 52 degrees F
- **Frost-free period**: 140 to 155 days
- **Farmland classification**: Not prime farmland

Map Unit Composition
- **Nederland and similar soils**: 80 percent
- **Minor components**: 20 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Nederland

Setting
- **Landform**: Alluvial fans, terraces
- **Landform position (three-dimensional)**: Base slope, tread
- **Down-slope shape**: Linear
- **Across-slope shape**: Linear
- **Parent material**: Cobbly loamy alluvium

Typical profile
- **H1** - 0 to 7 inches: very cobbly sandy loam
- **H2** - 7 to 20 inches: very cobbly sandy clay loam
- **H3** - 20 to 60 inches: very cobbly sandy loam

Properties and qualities
- **Slope**: 1 to 12 percent
- **Depth to restrictive feature**: More than 80 inches
- **Natural drainage class**: Well drained
- **Runoff class**: Medium
- **Capacity of the most limiting layer to transmit water (Ksat)**: Moderately high to high (0.20 to 2.00 in/hr)
- **Depth to water table**: More than 80 inches
- **Frequency of flooding**: None
- **Frequency of ponding**: None
- **Available water storage in profile**: Low (about 3.9 inches)

Interpretive groups
- **Land capability classification (irrigated)**: None specified
- **Land capability classification (nonirrigated)**: 6s
- **Hydrologic Soil Group**: B
- **Ecological site**: Cobbly Foothills (R048AY346CO)
- **Hydric soil rating**: No

Minor Components

Valmont
- **Percent of map unit**: 20 percent
- **Hydric soil rating**: No
Custom Soil Resource Report
References


August 1, 2017

Mr. Don Ash
Scott, Cox & Associates, Inc.
1530 55th Street
Boulder, CO 80303

Re: 22nd & Violet Residential
Boulder, CO
LSC #160481

Dear Mr. Ash:

In response to your request, LSC Transportation Consultants, Inc. has prepared this Trip Generation and Assignment Report for the proposed residential development at 22nd Street and Violet Avenue. As shown on Figure 1, the site is located south of Violet Avenue and west of 22nd Street in Boulder, Colorado.

IMPACT AREA

Figure 1 shows the vicinity map.

Area Roadways

The major roadways in the site’s vicinity are shown on Figure 1 and are described below.

- **Violet Avenue** is an east-west, two-lane collector roadway north of the site. The intersections with 22nd Street and 28th Street are stop-sign controlled. The posted speed limit in the vicinity of the site is 35 mph.

- **22nd Street** is a north-south, two-lane local roadway east of the site. The intersection with Violet Avenue is stop-sign controlled. No speed limit is posted.

- **Upland Avenue** is an east-west, two-lane local roadway south of the site. It provides local access from 19th Street to the west. The intersection with 19th Street is stop-sign controlled.

- **28th Street (US 36)** is a north-south, two-lane street east of the site. It is classified as NR-A (Non-Rural Principal Highway) by CDOT. The intersection with Violet Avenue is unsignalized. The posted speed limit in the vicinity of the site is 45 mph.

- **19th Street** is a north-south, two-lane collector roadway west of the site. The intersection with Violet Avenue is all-way stop-sign controlled. The posted speed limit in the vicinity of the site is 25 mph.
PROPOSED LAND USE AND ACCESS

The development is proposed to include 19 townhome dwelling units and nine single-family detached dwelling units. Full movement access is proposed to Violet Avenue via 22nd Street for all but one unit which will directly access Upland Avenue. The conceptual site plan is shown in Figure 2.

ALTERNATIVE TRAVEL MODES

An alternate travel mode share of 20 percent is expected. This reduction is supported by a Travel Demand Management (TDM) plan.

TRIP GENERATION

Table 1 shows the estimated typical weekday, morning peak-hour, and afternoon peak-hour trip generation for the site based on the rates from *Trip Generation, 9th Edition, 2012*, by the Institute of Transportation Engineers (ITE) and the implementation of a TDM Plan.

The proposed land use on the site is projected to generate about 157 new vehicle-trips on the average weekday, with about half entering and half exiting the site during a 24-hour period. During the morning peak-hour, which generally occurs for one hour between 6:30 and 8:30 a.m., about two vehicles would enter and about ten vehicles would exit the site. During the afternoon peak-hour, which generally occurs for one hour between 4:00 and 6:30 p.m., about ten vehicles would enter and about five vehicles would exit the site.

TRIP DISTRIBUTION

Figure 3 shows the estimated distribution of site-generated traffic.

TRIP ASSIGNMENT

Figure 4 shows the assignment of site-generated traffic.

* * * * *

We trust this information will assist you in planning for the proposed 22nd & Violet residential development.

Respectfully submitted,

LSC Transportation Consultants, Inc.

By: Christopher S. McGranahan, P.E., PE
Principal

CSM/wc

Enclosure: Table 1
Figures 1 - 4
<table>
<thead>
<tr>
<th>Trip Generating Category</th>
<th>Quantity</th>
<th>Trip Generation Rates&lt;sup&gt;(1)&lt;/sup&gt;</th>
<th>Vehicle - Trips Generated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Average Weekday AM Peak Hour PM Peak Hour</td>
<td>Average Weekday AM Peak Hour PM Peak - Hour</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In Out In Out</td>
<td>In Out In Out</td>
</tr>
<tr>
<td>Townhomes&lt;sup&gt;(2)&lt;/sup&gt;</td>
<td>19 DU&lt;sup&gt;(3)&lt;/sup&gt;</td>
<td>5.81 0.075 0.365 0.348 0.172</td>
<td>110 1 7 7 3</td>
</tr>
<tr>
<td>Single-Family Detached&lt;sup&gt;(4)&lt;/sup&gt;</td>
<td>9 DU</td>
<td>9.52 0.188 0.563 0.630 0.370</td>
<td>86 2 5 6 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>196 3 12 13 6</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>20% Alternative Travel Mode Reduction&lt;sup&gt;(5)&lt;/sup&gt; = 39 1 2 3 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Net Total Trips = 157 2 10 10 5</td>
<td></td>
</tr>
</tbody>
</table>

Notes:

2. ITE Land Use No. 230 - Residential Condominium/Townhouse
3. DU = Dwelling Units
4. ITE Land Use No. 210 - Single-Family Detached Housing
5. Will be supported by a future Travel Demand Management (TDM) plan.
Figure 2
Site Plan

22nd & Violet Residential- Boulder, Co. (LSC #160481)
Figure 3

Directional Distribution of Site-Generated Traffic

22nd & Violet Residential- Boulder, Co. (LSC #160481)
Tree Inventory
at 2145 Upland Avenue

August 25, 2017

Inventory Performed For:
Don Ash
Scott, Cox & Associates Inc.
1530 55th Street
Boulder, CO 80303

Inventory Performed By:
Stefan Ringgenberg
Boulder Tree & Landscape Consulting
7289 Petursdale Ct.
Boulder, CO 80301
303-530-0640
Tree Inventory at 2145 Upland Ave.
Boulder, Colorado

Boulder Tree & Landscape Consulting
August 25, 2017

I, Stef Ringgenberg of Boulder Tree & Landscape Consulting, was asked to perform a tree inventory at 2145 Upland Avenue in Boulder, Colorado. I visited the site on August 24th and 25th, 2017.

There are 218 significant trees on the property. There are more trees, mostly under one inch in diameter, crowded in with the others. The trees in the front yard have good spacing, but the trees in the backyard are often too close together. There is a cluster of about 57 honeylocusts in the northeast corner of the property that are way too close together. The largest tree in the cluster is dead. The rest of the north end of the property is crowded with Siberian elms that are too close together.

These trees, especially the thickets at the north end of the property, have received no maintenance or care, and many are in bad shape. Many of the biggest trees are dead.
The condition of each tree was rated on a percentage basis. The factors used to rate a tree’s condition included general tree health and vitality, structural integrity for future growth and the likelihood of failure, evidence of disease and significant insect problems, and any defects in the trees such as decay or injuries. Also considered were the surrounding trees. If the tree was crowded by its neighbors and had little room to grow, the tree’s condition factor was lowered.

The trees were measured at breast height (54 inches) unless branching or other issues prevented measuring at that height. If not measured at breast height, trees were measured lower on the trunk below the swell of branches or forking. The trees are identified on a map that will accompany this survey.

Tree #7 in the front yard has twelve leads but was counted as one tree. The leads are too close together and some of the leads are dead.
New thicket of Narrowleaf Cottonwoods growing west of the house

A row of young elms along the bikepath on the west side of the property. None were large enough to be counted.

Tree #10 - a plains cottonwood in the front yard

Tree #19 - a boxelder in the backyard
# Tree Inventory - 2145 Upland Ave. Boulder

<table>
<thead>
<tr>
<th>Tree #</th>
<th>Species</th>
<th>Diameter</th>
<th>Condition</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Siberian Elm</td>
<td>2 inches</td>
<td>50%</td>
<td>Crowded</td>
</tr>
<tr>
<td>2</td>
<td>Siberian Elm</td>
<td>5</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Lanceleaf Cottonwood</td>
<td>2</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Siberian Elm</td>
<td>4,2</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Siberian Elm</td>
<td>2,2</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Siberian Elm</td>
<td>2,2,1,1</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Siberian Elm</td>
<td>12,6,6,4,7,7,5,7,6,8,6,7</td>
<td>60</td>
<td>The leads are too crowded and some are dead</td>
</tr>
<tr>
<td>8</td>
<td>Hackberry</td>
<td>2,5</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Boxelder</td>
<td>11</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Cottonwood</td>
<td>25</td>
<td>50</td>
<td>Declining, Lots of smaller dead.</td>
</tr>
<tr>
<td>11</td>
<td>Siberian Elm</td>
<td>2.5</td>
<td>0</td>
<td>Girdled by squirrel</td>
</tr>
<tr>
<td>12</td>
<td>Narrowleaf Cottonwood</td>
<td>18</td>
<td>65</td>
<td>Crowded on its west side</td>
</tr>
<tr>
<td>13</td>
<td>Narrowleaf Cottonwood</td>
<td>6</td>
<td>70</td>
<td>Crowded by #12</td>
</tr>
<tr>
<td>14</td>
<td>Narrowleaf Cottonwood</td>
<td>3</td>
<td>50</td>
<td>Crowded</td>
</tr>
<tr>
<td>15</td>
<td>Narrowleaf Cottonwood</td>
<td>4,3</td>
<td>20</td>
<td>Diseased trunk, 2nd lead on the fence</td>
</tr>
<tr>
<td>16</td>
<td>Narrowleaf Cottonwood</td>
<td>3,2</td>
<td>20</td>
<td>Leans badly, Growing into wires</td>
</tr>
<tr>
<td>17</td>
<td>Siberian Elm</td>
<td>3</td>
<td>40</td>
<td>Crowded</td>
</tr>
<tr>
<td>18</td>
<td>Narrowleaf Cottonwood</td>
<td>4,3,2,2</td>
<td>70</td>
<td>Near wires, room for only one of the leads</td>
</tr>
<tr>
<td>19</td>
<td>Boxelder</td>
<td>25</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Plum</td>
<td>3</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Locust</td>
<td>2</td>
<td>50</td>
<td>Crowded by neighbor’s spruce</td>
</tr>
<tr>
<td>22</td>
<td>Locust</td>
<td>5</td>
<td>70</td>
<td>Crowded by neighbor’s spruce</td>
</tr>
<tr>
<td>23</td>
<td>Locust</td>
<td>4,4</td>
<td>60</td>
<td>Codominant attachment</td>
</tr>
<tr>
<td>24</td>
<td>Siberian Elm</td>
<td>2</td>
<td>20</td>
<td>No room, under locust</td>
</tr>
<tr>
<td>25</td>
<td>Locust</td>
<td>4,3,5</td>
<td>30</td>
<td>Bent over</td>
</tr>
<tr>
<td>26</td>
<td>Locust</td>
<td>4,5,5,5,5,4</td>
<td>50</td>
<td>Too many leads</td>
</tr>
<tr>
<td>27</td>
<td>Siberian Elm</td>
<td>2,2,2</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>28</td>
<td>Siberian Elm</td>
<td>20</td>
<td>40</td>
<td>Codominant attachment, 1 main lead dead</td>
</tr>
<tr>
<td>29</td>
<td>Siberian Elm</td>
<td>26</td>
<td>50</td>
<td>Codominant attachment, 1 lead dead</td>
</tr>
<tr>
<td>30</td>
<td>Siberian Elm</td>
<td>5</td>
<td>50</td>
<td>Crowded</td>
</tr>
<tr>
<td>31</td>
<td>Siberian Elm</td>
<td>3</td>
<td>35</td>
<td>Bent over</td>
</tr>
<tr>
<td>32</td>
<td>Siberian Elm</td>
<td>10,9,8</td>
<td>45</td>
<td>Appears healthy but has serious bark death</td>
</tr>
<tr>
<td>33</td>
<td>Siberian Elm</td>
<td>5</td>
<td>30</td>
<td>Broken top, Bent over, Squirrel injury</td>
</tr>
<tr>
<td>34</td>
<td>Siberian Elm</td>
<td>2</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>Siberian Elm</td>
<td>3</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>Siberian Elm</td>
<td>7</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>Siberian Elm</td>
<td>4</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>Siberian Elm</td>
<td>3</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>Siberian Elm</td>
<td>4</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>Siberian Elm</td>
<td>3</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>Siberian Elm</td>
<td>9,6</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>42</td>
<td>Siberian Elm</td>
<td>4</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>Siberian Elm</td>
<td>4</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>Siberian Elm</td>
<td>3</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Tree #</td>
<td>Species</td>
<td>Diameter</td>
<td>Condition</td>
<td>Notes</td>
</tr>
<tr>
<td>--------</td>
<td>-----------------</td>
<td>----------</td>
<td>-----------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>45</td>
<td>Siberian Elm</td>
<td>7 inches</td>
<td>70%</td>
<td>Codominant Attachment</td>
</tr>
<tr>
<td>46</td>
<td>Siberian Elm</td>
<td>6</td>
<td>20</td>
<td>Codominant Attachment, Dead lead</td>
</tr>
<tr>
<td>47</td>
<td>Siberian Elm</td>
<td>8</td>
<td>40</td>
<td>Codominant Attachment, Bent Over</td>
</tr>
<tr>
<td>48</td>
<td>Siberian Elm</td>
<td>8</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>49</td>
<td>Siberian Elm</td>
<td>5</td>
<td>50</td>
<td>Broken top</td>
</tr>
<tr>
<td>50</td>
<td>Siberian Elm</td>
<td>6</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>Siberian Elm</td>
<td>4</td>
<td>50</td>
<td>Codominant Attachment</td>
</tr>
<tr>
<td>52</td>
<td>Siberian Elm</td>
<td>2</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>53</td>
<td>Siberian Elm</td>
<td>3,3,1,</td>
<td>40</td>
<td>Three leads are too crowded</td>
</tr>
<tr>
<td>54</td>
<td>Siberian Elm</td>
<td>5,4,3</td>
<td>40</td>
<td>Codominant Attachment, Crowded leads</td>
</tr>
<tr>
<td>55</td>
<td>Siberian Elm</td>
<td>5,4,3</td>
<td>40</td>
<td>Too close to fence</td>
</tr>
<tr>
<td>56</td>
<td>Siberian Elm</td>
<td>2,2,2</td>
<td>30</td>
<td>Tangled</td>
</tr>
<tr>
<td>57</td>
<td>Siberian Elm</td>
<td>2</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>58</td>
<td>Siberian Elm</td>
<td>2</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>Locust</td>
<td>2,2</td>
<td>40</td>
<td>Half dead</td>
</tr>
<tr>
<td>60</td>
<td>Locust</td>
<td>3,2</td>
<td>40</td>
<td>Leans and twists</td>
</tr>
<tr>
<td>61</td>
<td>Locust</td>
<td>2,2,2</td>
<td>40</td>
<td>Two of three leads dead</td>
</tr>
<tr>
<td>62</td>
<td>Locust</td>
<td>3</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>63</td>
<td>Locust</td>
<td>2</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>64</td>
<td>Locust</td>
<td>5</td>
<td>40</td>
<td>Partially dead</td>
</tr>
<tr>
<td>65</td>
<td>Locust</td>
<td>5</td>
<td>50</td>
<td>Crowded</td>
</tr>
<tr>
<td>66</td>
<td>Locust</td>
<td>4</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>67</td>
<td>Locust</td>
<td>4</td>
<td>50</td>
<td>Crowded</td>
</tr>
<tr>
<td>68</td>
<td>Locust</td>
<td>4</td>
<td>50</td>
<td>Crowded</td>
</tr>
<tr>
<td>69</td>
<td>Locust</td>
<td>4</td>
<td>40</td>
<td>Crowded</td>
</tr>
<tr>
<td>70</td>
<td>Locust</td>
<td>3</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>71</td>
<td>Locust</td>
<td>2</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>72</td>
<td>Locust</td>
<td>5</td>
<td>50</td>
<td>Crowded</td>
</tr>
<tr>
<td>73</td>
<td>Locust</td>
<td>2.5</td>
<td>30</td>
<td>Bent over</td>
</tr>
<tr>
<td>74</td>
<td>Locust</td>
<td>5</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>75</td>
<td>Locust</td>
<td>2</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>76</td>
<td>Locust</td>
<td>3</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>77</td>
<td>Locust</td>
<td>4</td>
<td>35</td>
<td>Bent over</td>
</tr>
<tr>
<td>78</td>
<td>Locust</td>
<td>5</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>79</td>
<td>Locust</td>
<td>4</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>Locust</td>
<td>6</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>81</td>
<td>Locust</td>
<td>6</td>
<td>50</td>
<td>Crowded</td>
</tr>
<tr>
<td>82</td>
<td>Locust</td>
<td>5</td>
<td>45</td>
<td>Crowded</td>
</tr>
<tr>
<td>83</td>
<td>Locust</td>
<td>14.5</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>84</td>
<td>Locust</td>
<td>4</td>
<td>45</td>
<td>Crowded</td>
</tr>
<tr>
<td>85</td>
<td>Locust</td>
<td>2</td>
<td>30</td>
<td>Bent over</td>
</tr>
<tr>
<td>86</td>
<td>Locust</td>
<td>4</td>
<td>50</td>
<td>Crowded</td>
</tr>
<tr>
<td>87</td>
<td>Locust</td>
<td>3</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>88</td>
<td>Locust</td>
<td>4</td>
<td>50</td>
<td>Crowded</td>
</tr>
<tr>
<td>89</td>
<td>Siberian Elm</td>
<td>1,1</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>90</td>
<td>Siberian Elm</td>
<td>4</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>91</td>
<td>Siberian Elm</td>
<td>2,1</td>
<td>50</td>
<td>Room for only one lead</td>
</tr>
<tr>
<td>Tree #</td>
<td>Species</td>
<td>Diameter</td>
<td>Condition</td>
<td>Notes</td>
</tr>
<tr>
<td>--------</td>
<td>----------------</td>
<td>----------</td>
<td>-----------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>92</td>
<td>Siberian Elm</td>
<td>2.2 inches</td>
<td>50%</td>
<td>Room for only one lead</td>
</tr>
<tr>
<td>93</td>
<td>Siberian Elm</td>
<td>7</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>94</td>
<td>Siberian Elm</td>
<td>2</td>
<td>50</td>
<td>Crowded</td>
</tr>
<tr>
<td>95</td>
<td>Locust</td>
<td>2.2</td>
<td>40</td>
<td>Room for only one lead</td>
</tr>
<tr>
<td>96</td>
<td>Locust</td>
<td>2</td>
<td>50</td>
<td>Crowded</td>
</tr>
<tr>
<td>97</td>
<td>Siberian Elm</td>
<td>12</td>
<td>60</td>
<td>Codominant Attachment, Crowded by #98</td>
</tr>
<tr>
<td>98</td>
<td>Siberian Elm</td>
<td>7</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>99</td>
<td>Siberian Elm</td>
<td>4</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>Siberian Elm</td>
<td>15</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>101</td>
<td>Siberian Elm</td>
<td>6</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>102</td>
<td>Siberian Elm</td>
<td>2</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>103</td>
<td>Siberian Elm</td>
<td>2</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>104</td>
<td>Siberian Elm</td>
<td>2</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>105</td>
<td>Siberian Elm</td>
<td>4.5</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>106</td>
<td>Siberian Elm</td>
<td>4.5</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>107</td>
<td>Siberian Elm</td>
<td>3</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>108</td>
<td>Siberian Elm</td>
<td>3,2</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>109</td>
<td>Siberian Elm</td>
<td>2</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>110</td>
<td>Siberian Elm</td>
<td>2</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>111</td>
<td>Siberian Elm</td>
<td>8,4,4,4</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>112</td>
<td>Siberian Elm</td>
<td>3</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>113</td>
<td>Siberian Elm</td>
<td>2</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>114</td>
<td>Siberian Elm</td>
<td>3</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>115</td>
<td>Siberian Elm</td>
<td>5</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>116</td>
<td>Siberian Elm</td>
<td>3</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>117</td>
<td>Siberian Elm</td>
<td>6,4,3</td>
<td>40</td>
<td>Leads twisted around each other</td>
</tr>
<tr>
<td>118</td>
<td>Siberian Elm</td>
<td>3</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>119</td>
<td>Siberian Elm</td>
<td>3</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>120</td>
<td>Siberian Elm</td>
<td>4</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>121</td>
<td>Siberian Elm</td>
<td>3</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>122</td>
<td>Siberian Elm</td>
<td>5</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>123</td>
<td>Siberian Elm</td>
<td>4</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>124</td>
<td>Siberian Elm</td>
<td>5</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>125</td>
<td>Siberian Elm</td>
<td>5</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>126</td>
<td>Siberian Elm</td>
<td>3</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>127</td>
<td>Siberian Elm</td>
<td>2</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>128</td>
<td>Siberian Elm</td>
<td>7</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>129</td>
<td>Siberian Elm</td>
<td>4</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>130</td>
<td>Siberian Elm</td>
<td>5</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>131</td>
<td>Siberian Elm</td>
<td>2</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>132</td>
<td>Siberian Elm</td>
<td>2</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>133</td>
<td>Siberian Elm</td>
<td>2</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>134</td>
<td>Siberian Elm</td>
<td>2</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>135</td>
<td>Siberian Elm</td>
<td>2</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>136</td>
<td>Siberian Elm</td>
<td>4,3</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>137</td>
<td>Siberian Elm</td>
<td>4</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>138</td>
<td>Siberian Elm</td>
<td>12</td>
<td>70</td>
<td>Codominant Attachment</td>
</tr>
<tr>
<td>139</td>
<td>Siberian Elm</td>
<td>3</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Tree #</td>
<td>Species</td>
<td>Diameter</td>
<td>Condition</td>
<td>Notes</td>
</tr>
<tr>
<td>--------</td>
<td>---------------</td>
<td>----------</td>
<td>-----------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>141</td>
<td>Siberian Elm</td>
<td>4 inches</td>
<td>60%</td>
<td></td>
</tr>
<tr>
<td>142</td>
<td>Siberian Elm</td>
<td>3,2</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>143</td>
<td>Siberian Elm</td>
<td>2.5</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>144</td>
<td>Siberian Elm</td>
<td>2</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>145</td>
<td>Siberian Elm</td>
<td>6</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>146</td>
<td>Siberian Elm</td>
<td>3</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>147</td>
<td>Siberian Elm</td>
<td>2</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>148</td>
<td>Siberian Elm</td>
<td>4</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>149</td>
<td>Siberian Elm</td>
<td>2</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>150</td>
<td>Siberian Elm</td>
<td>4</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>151</td>
<td>Siberian Elm</td>
<td>2</td>
<td>30</td>
<td>Bent over</td>
</tr>
<tr>
<td>152</td>
<td>Siberian Elm</td>
<td>4</td>
<td>30</td>
<td>Crowded, Squirrel feeding injury</td>
</tr>
<tr>
<td>153</td>
<td>Siberian Elm</td>
<td>8</td>
<td>65</td>
<td>Codominant Attachment</td>
</tr>
<tr>
<td>154</td>
<td>Siberian Elm</td>
<td>2</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>155</td>
<td>Siberian Elm</td>
<td>10</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>156</td>
<td>Siberian Elm</td>
<td>6</td>
<td>50</td>
<td>Crowded</td>
</tr>
<tr>
<td>157</td>
<td>Siberian Elm</td>
<td>15</td>
<td>70</td>
<td>Codominant Attachment</td>
</tr>
<tr>
<td>158</td>
<td>Locust</td>
<td>2</td>
<td>40</td>
<td>Crowded</td>
</tr>
<tr>
<td>159</td>
<td>Siberian Elm</td>
<td>2.5</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>160</td>
<td>Locust</td>
<td>2</td>
<td>10</td>
<td>Trunk canker</td>
</tr>
<tr>
<td>161</td>
<td>Locust</td>
<td>2</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>162</td>
<td>Locust</td>
<td>2</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>163</td>
<td>Locust</td>
<td>4</td>
<td>30</td>
<td>Dead Lead</td>
</tr>
<tr>
<td>164</td>
<td>Locust</td>
<td>3,3</td>
<td>40</td>
<td>One lead dead</td>
</tr>
<tr>
<td>165</td>
<td>Locust</td>
<td>3</td>
<td>50</td>
<td>Crowded</td>
</tr>
<tr>
<td>166</td>
<td>Locust</td>
<td>3</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>167</td>
<td>Locust</td>
<td>2</td>
<td>40</td>
<td>Crowded</td>
</tr>
<tr>
<td>168</td>
<td>Locust</td>
<td>2</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>169</td>
<td>Locust</td>
<td>4</td>
<td>40</td>
<td>Crowded</td>
</tr>
<tr>
<td>170</td>
<td>Locust</td>
<td>5</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>171</td>
<td>Siberian Elm</td>
<td>5</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>172</td>
<td>Locust</td>
<td>4</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>173</td>
<td>Locust</td>
<td>4</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>174</td>
<td>Locust</td>
<td>2</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>175</td>
<td>Locust</td>
<td>2</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>176</td>
<td>Locust</td>
<td>4</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>177</td>
<td>Locust</td>
<td>2</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>178</td>
<td>Locust</td>
<td>5</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>179</td>
<td>Locust</td>
<td>4,3</td>
<td>30</td>
<td>Leads twisted around each other</td>
</tr>
<tr>
<td>180</td>
<td>Locust</td>
<td>4</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>181</td>
<td>Locust</td>
<td>2</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>182</td>
<td>Locust</td>
<td>5</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>183</td>
<td>Locust</td>
<td>3,5</td>
<td>40</td>
<td>Bent over</td>
</tr>
<tr>
<td>184</td>
<td>Locust</td>
<td>4</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>185</td>
<td>Locust</td>
<td>3</td>
<td>40</td>
<td>Bent over</td>
</tr>
<tr>
<td>186</td>
<td>Locust</td>
<td>2</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>187</td>
<td>Locust</td>
<td>2,1</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Tree #</td>
<td>Species</td>
<td>Diameter</td>
<td>Condition</td>
<td>Notes</td>
</tr>
<tr>
<td>--------</td>
<td>---------------</td>
<td>----------</td>
<td>-----------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>188</td>
<td>Siberian Elm</td>
<td>4 inches</td>
<td>70%</td>
<td></td>
</tr>
<tr>
<td>189</td>
<td>Siberian Elm</td>
<td>3</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>190</td>
<td>Siberian Elm</td>
<td>4</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>191</td>
<td>Siberian Elm</td>
<td>6</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>192</td>
<td>Siberian Elm</td>
<td>4</td>
<td>20</td>
<td>Squirrel feeding injury</td>
</tr>
<tr>
<td>193</td>
<td>Siberian Elm</td>
<td>5</td>
<td>40</td>
<td>Leans</td>
</tr>
<tr>
<td>194</td>
<td>Siberian Elm</td>
<td>8</td>
<td>55</td>
<td>Codominant Attachment</td>
</tr>
<tr>
<td>195</td>
<td>Siberian Elm</td>
<td>6</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>196</td>
<td>Siberian Elm</td>
<td>3</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>197</td>
<td>Siberian Elm</td>
<td>3</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>198</td>
<td>Siberian Elm</td>
<td>2</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>199</td>
<td>Siberian Elm</td>
<td>5,8</td>
<td>55</td>
<td>Codominant Attachment, Dead lead</td>
</tr>
<tr>
<td>200</td>
<td>Siberian Elm</td>
<td>6</td>
<td>0</td>
<td>Dying</td>
</tr>
<tr>
<td>201</td>
<td>Siberian Elm</td>
<td>5</td>
<td>30</td>
<td>One lead dead</td>
</tr>
<tr>
<td>202</td>
<td>Siberian Elm</td>
<td>5</td>
<td>60</td>
<td>Crowded</td>
</tr>
<tr>
<td>203</td>
<td>Siberian Elm</td>
<td>4</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>204</td>
<td>Siberian Elm</td>
<td>2</td>
<td>0</td>
<td>Dying</td>
</tr>
<tr>
<td>205</td>
<td>Siberian Elm</td>
<td>2</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>206</td>
<td>Siberian Elm</td>
<td>2</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>207</td>
<td>Siberian Elm</td>
<td>2</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>208</td>
<td>Siberian Elm</td>
<td>2</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>209</td>
<td>Siberian Elm</td>
<td>2</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>210</td>
<td>Siberian Elm</td>
<td>2</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>211</td>
<td>Siberian Elm</td>
<td>2</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>212</td>
<td>Siberian Elm</td>
<td>3</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>213</td>
<td>Siberian Elm</td>
<td>4</td>
<td>30</td>
<td>Leans, Broken limb</td>
</tr>
<tr>
<td>214</td>
<td>Siberian Elm</td>
<td>4</td>
<td>30</td>
<td>Dead leader</td>
</tr>
<tr>
<td>215</td>
<td>Siberian Elm</td>
<td>2</td>
<td>0</td>
<td>Dead - Squirrel injury</td>
</tr>
<tr>
<td>216</td>
<td>Siberian Elm</td>
<td>3</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>217</td>
<td>Siberian Elm</td>
<td>2</td>
<td>30</td>
<td>Broken top</td>
</tr>
<tr>
<td>218</td>
<td>Siberian Elm</td>
<td>8,5</td>
<td>70</td>
<td>Codominant, leads to close, Broken limbs</td>
</tr>
</tbody>
</table>

The site map included with this inventory shows the trees by number in only approximate locations. No actual survey of tree locations was taken.

Survey Performed by Stef Ringgenberg
Boulder Tree & Landscape Consulting
7289 Petursdale Ct. Boulder, CO 80301
303-530-0640
rsrtree@aol.com
www.bouldertree.com
Assumptions, Exclusions, and Limiting Conditions

R. Stefan Ringgenberg

1. The ownership of the property and the description of the events are assumed to be consistent with the description given by Don Ash to R. Stefan Ringgenberg on August 21, 2017.

2. Care has been taken to obtain all information from reliable sources; however, the appraiser can neither guarantee nor be responsible for the accuracy of information provided by others.

3. The appraiser shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services.

4. Loss or alteration of any part of this report invalidates the entire report.

5. Possession of this report or a copy thereof does not imply the right of publication or use for any purpose by any other than the person to whom it is addressed, without the expressed written or verbal consent of the author.

6. This report and values expressed herein represent the opinion of the author, and the author’s fee is in no way contingent upon the reporting of a specified content nor upon any finding to be reported.

7. Sketches, diagrams, and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as surveys or engineering reports. The heights of trees given in this report are estimates; the tree heights have not been measured.

8. Unless expressed otherwise, information contained in this report covers only those items that were examined and reflect the condition of the property in question at the time of its inspection. Unless expressed otherwise, the inspection is limited to visual examination of accessible components without disassembly, excavation, or probing. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the property in question may not arise in the future.
R. Stefan Ringgenberg

7289 Petursdale Ct.
Boulder, CO 80301
(303) 530-0640

Education: B.A. University of Colorado - May 1972

Work History:
Boulder Tree and Landscape Co.
Owner and President - 1972 to January 2003 when company assets were sold.

January to December 2003 - Davey Tree Expert Company
Technical Advisor and Consultant

January 2004 to the present - Arboricultural and Management Consulting

Affiliations:
American Society of Consulting Arborists, Registered Member #302 retired
Past Instructor, ASCA Tree Appraisal Workshops

National Arborist Association
Former Vice Chairman, Standards Committee

International Society of Arboriculture
Past Member of the Board of Directors - representing the Rocky Mountain Chapter (six states)
Certified Arborist

Technical Services:

Tree Health Maintenance
  Diagnosis and Analysis
  Disease Prevention and Insect Control
  Pruning
  Cabling and Bracing
  Nutrition and Soil Problem Mitigation

Plant Health Care Programs
Assessment of Tree Failure Risk
Tree Surveys and Inspections
Tree Care Specifications
Tree and Landscape Appraisal
Prevention of Construction Damage to Trees
Pesticide Application Safety
Nursery Inspections
Tree Service Computer Systems
Training of Personnel
Publications for Tree ID and Training of Personnel
Tree Inventory
at 2180 Violet Ave
South Section

August 22, 2017

Inventory Performed For:
Don Ash
Scott, Cox & Associates Inc.
1530 55th Street
Boulder, CO 80303

Inventory Performed By:
Stefan Ringgenberg
Boulder Tree & Landscape Consulting
7289 Petursdale Ct.
Boulder, CO 80301
303-530-0640
I, Stef Ringgenberg of Boulder Tree & Landscape Consulting, was asked to perform a tree inventory at the south section of 2180 Violet Avenue in Boulder, Colorado. A tree survey was performed previously at the north section of that address. I visited the site on August 22nd and 23rd, 2017.

There are 280 significant trees on the property, growing mainly in clusters. There are more trees, mostly under one inch in diameter, crowded in with the others. All but four of the trees are Siberian elms. These trees have received no maintenance or care, and many are in bad shape. Many of the biggest trees are dead. Most of the trees are overly crowded in groups. There may be ten or more trees in the space where only one could grow healthily. The groups of trees could be more accurately described as thickets. Many trees have broken limbs.

The condition of each tree was rated on a percentage basis. The factors used to rate a tree’s condition included general tree health and vitality, structural integrity for future growth and the likelihood of failure, evidence of disease and significant insect problems, and any defects in the trees such as decay or injuries. Also considered were the surrounding trees. If the tree was crowded by its neighbors and had little room to grow, the tree’s condition factor was lowered.

Many of the larger trees are dead. Many Siberian elms were killed by the November 2014 flash freeze. Many of those that survived had bark killed on their trunks.
The elms grow in thickets. There are too many trees for the space they grown in. In some cases, as many as 20 trees are growing in the space that could only support one tree.

The trees were measured at breast height (54 inches) unless branching or other issues prevented measuring at that height. If not measured at breast height, trees were measured lower on the trunk below the swell of branches or forking. The trees are identified on a map that will accompany this survey.

A few large trees survived the freeze.
This is tree # 61
# Tree Inventory - 2180 Violet Ave. Boulder

<table>
<thead>
<tr>
<th>Tree #</th>
<th>Species</th>
<th>Diameter</th>
<th>Condition</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Siberian Elm</td>
<td>25 inches</td>
<td>25%</td>
<td>Major limbs broken and dead. Trunk bark dead</td>
</tr>
<tr>
<td>2</td>
<td>Siberian Elm</td>
<td>17</td>
<td>70</td>
<td>Codominant crotch. Leaf Miner.</td>
</tr>
<tr>
<td>3</td>
<td>Siberian Elm</td>
<td>19</td>
<td>45</td>
<td>One lead dead</td>
</tr>
<tr>
<td>4</td>
<td>Siberian Elm</td>
<td>12</td>
<td>30</td>
<td>Codominant crotch. Dead lead and trunk bark.</td>
</tr>
<tr>
<td>5</td>
<td>Siberian Elm</td>
<td>7</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>6</td>
<td>Siberian Elm</td>
<td>14</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>7</td>
<td>Siberian Elm</td>
<td>9</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>8</td>
<td>Siberian Elm</td>
<td>5</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>9</td>
<td>Siberian Elm</td>
<td>11</td>
<td>50</td>
<td>Leads badly crowded</td>
</tr>
<tr>
<td>10</td>
<td>Siberian Elm</td>
<td>9</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>11</td>
<td>Siberian Elm</td>
<td>8</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>12</td>
<td>Siberian Elm</td>
<td>12</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>13</td>
<td>Siberian Elm</td>
<td>14</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>14</td>
<td>Siberian Elm</td>
<td>9</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>15</td>
<td>Siberian Elm</td>
<td>12</td>
<td>50</td>
<td>One lead dead</td>
</tr>
<tr>
<td>16</td>
<td>Siberian Elm</td>
<td>4</td>
<td>75</td>
<td>Crowded by #15</td>
</tr>
<tr>
<td>17</td>
<td>Siberian Elm</td>
<td>6</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>18</td>
<td>Siberian Elm</td>
<td>5</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>19</td>
<td>Siberian Elm</td>
<td>2</td>
<td>90</td>
<td>Young</td>
</tr>
<tr>
<td>20</td>
<td>Siberian Elm</td>
<td>14</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>21</td>
<td>Siberian Elm</td>
<td>9,8</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>22</td>
<td>Siberian Elm</td>
<td>12</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>23</td>
<td>Siberian Elm</td>
<td>5</td>
<td>75</td>
<td>Codominant Crotch</td>
</tr>
<tr>
<td>24</td>
<td>Siberian Elm</td>
<td>12</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>25</td>
<td>Siberian Elm</td>
<td>10</td>
<td>0</td>
<td>Mostly Dead</td>
</tr>
<tr>
<td>26</td>
<td>Siberian Elm</td>
<td>16,7</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>27</td>
<td>Siberian Elm</td>
<td>2</td>
<td>75</td>
<td>Young</td>
</tr>
<tr>
<td>28</td>
<td>Siberian Elm</td>
<td>3,5</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>29</td>
<td>Siberian Elm</td>
<td>9,5</td>
<td>40</td>
<td>Half Dead</td>
</tr>
<tr>
<td>30</td>
<td>Siberian Elm</td>
<td>2</td>
<td>80</td>
<td>Young</td>
</tr>
<tr>
<td>31</td>
<td>Siberian Elm</td>
<td>4</td>
<td>80</td>
<td>Young</td>
</tr>
<tr>
<td>32</td>
<td>Siberian Elm</td>
<td>3</td>
<td>70</td>
<td>Crowded</td>
</tr>
<tr>
<td>33</td>
<td>Siberian Elm</td>
<td>9</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>34</td>
<td>Siberian Elm</td>
<td>14</td>
<td>25</td>
<td>Main lead dead</td>
</tr>
<tr>
<td>35</td>
<td>Siberian Elm</td>
<td>3</td>
<td>70</td>
<td>Crossing leads</td>
</tr>
<tr>
<td>36</td>
<td>Siberian Elm</td>
<td>3</td>
<td>90</td>
<td>Young</td>
</tr>
<tr>
<td>37</td>
<td>Siberian Elm</td>
<td>4</td>
<td>70</td>
<td>Codominat crotch. Broken</td>
</tr>
<tr>
<td>38</td>
<td>Siberian Elm</td>
<td>4</td>
<td>70</td>
<td>Poor form</td>
</tr>
<tr>
<td>39</td>
<td>Black Locust</td>
<td>4</td>
<td>70</td>
<td>Crowded</td>
</tr>
<tr>
<td>40</td>
<td>Black Locust</td>
<td>3</td>
<td>60</td>
<td>Crowded</td>
</tr>
<tr>
<td>41</td>
<td>Siberian Elm</td>
<td>23</td>
<td>40</td>
<td>Codominant, Dead trunk bark, leans</td>
</tr>
<tr>
<td>42</td>
<td>Siberian Elm</td>
<td>4</td>
<td>65</td>
<td>Crowded</td>
</tr>
<tr>
<td>43</td>
<td>Cottonwood</td>
<td>18</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>Tree #</td>
<td>Species</td>
<td>Diameter</td>
<td>Condition</td>
<td>Notes</td>
</tr>
<tr>
<td>-------</td>
<td>--------------</td>
<td>----------</td>
<td>-----------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>44</td>
<td>Siberian Elm</td>
<td>34 inches</td>
<td>0%</td>
<td>Dead</td>
</tr>
<tr>
<td>45</td>
<td>Siberian Elm</td>
<td>3</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>46</td>
<td>Siberian Elm</td>
<td>9</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>47</td>
<td>Siberian Elm</td>
<td>14</td>
<td>50</td>
<td>Dead lead and trunk bark</td>
</tr>
<tr>
<td>48</td>
<td>Siberian Elm</td>
<td>4,3,3</td>
<td>50</td>
<td>Only room for one of the leads</td>
</tr>
<tr>
<td>49</td>
<td>Siberian Elm</td>
<td>12,8,6</td>
<td>40</td>
<td>Dead leads</td>
</tr>
<tr>
<td>50</td>
<td>Siberian Elm</td>
<td>15</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>51</td>
<td>Siberian Elm</td>
<td>2</td>
<td>80</td>
<td>Young</td>
</tr>
<tr>
<td>52</td>
<td>Siberian Elm</td>
<td>2</td>
<td>80</td>
<td>Young</td>
</tr>
<tr>
<td>53</td>
<td>Siberian Elm</td>
<td>2</td>
<td>80</td>
<td>Young</td>
</tr>
<tr>
<td>54</td>
<td>Siberian Elm</td>
<td>2</td>
<td>60</td>
<td>Codominat crotch.</td>
</tr>
<tr>
<td>55</td>
<td>Siberian Elm</td>
<td>4,3</td>
<td>60</td>
<td>Poor form</td>
</tr>
<tr>
<td>56</td>
<td>Siberian Elm</td>
<td>10,4</td>
<td>55</td>
<td>Dead lead but lots of live growth</td>
</tr>
<tr>
<td>57</td>
<td>Boxelder</td>
<td>2</td>
<td>85</td>
<td>Young</td>
</tr>
<tr>
<td>58</td>
<td>Siberian Elm</td>
<td>4</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>Siberian Elm</td>
<td>2</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>Siberian Elm</td>
<td>9</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>61</td>
<td>Siberian Elm</td>
<td>33</td>
<td>70</td>
<td>Healthy but lots of smaller dead limbs</td>
</tr>
<tr>
<td>62</td>
<td>Siberian Elm</td>
<td>26</td>
<td>65</td>
<td>Codominant crotch. Healthy for big tree here.</td>
</tr>
<tr>
<td>63</td>
<td>Siberian Elm</td>
<td>2</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>64</td>
<td>Siberian Elm</td>
<td>33</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>65</td>
<td>Siberian Elm</td>
<td>8</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>66</td>
<td>Siberian Elm</td>
<td>3</td>
<td>60</td>
<td>Crowded</td>
</tr>
<tr>
<td>67</td>
<td>Siberian Elm</td>
<td>3</td>
<td>60</td>
<td>Crowded</td>
</tr>
<tr>
<td>68</td>
<td>Siberian Elm</td>
<td>3</td>
<td>60</td>
<td>Crowded</td>
</tr>
<tr>
<td>69</td>
<td>Siberian Elm</td>
<td>7</td>
<td>60</td>
<td>Crowded</td>
</tr>
<tr>
<td>70</td>
<td>Siberian Elm</td>
<td>6</td>
<td>60</td>
<td>Crowded</td>
</tr>
<tr>
<td>71</td>
<td>Siberian Elm</td>
<td>2</td>
<td>60</td>
<td>Crowded</td>
</tr>
<tr>
<td>72</td>
<td>Siberian Elm</td>
<td></td>
<td></td>
<td>Group of 20+ trees less than one inch diameter</td>
</tr>
<tr>
<td>73</td>
<td>Siberian Elm</td>
<td>3</td>
<td>70</td>
<td>Young</td>
</tr>
<tr>
<td>74</td>
<td>Siberian Elm</td>
<td>5</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>75</td>
<td>Siberian Elm</td>
<td>3</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>76</td>
<td>Siberian Elm</td>
<td>3</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>77</td>
<td>Siberian Elm</td>
<td>6</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>78</td>
<td>Siberian Elm</td>
<td>4</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>79</td>
<td>Siberian Elm</td>
<td>3</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>Siberian Elm</td>
<td>4</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>81</td>
<td>Siberian Elm</td>
<td>6</td>
<td>70</td>
<td>Leans</td>
</tr>
<tr>
<td>82</td>
<td>Siberian Elm</td>
<td>3</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>83</td>
<td>Siberian Elm</td>
<td>3</td>
<td>50</td>
<td>Crowded</td>
</tr>
<tr>
<td>84</td>
<td>Siberian Elm</td>
<td>3</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>85</td>
<td>Siberian Elm</td>
<td>2</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>86</td>
<td>Siberian Elm</td>
<td>4</td>
<td>40</td>
<td>Bent Over</td>
</tr>
<tr>
<td>87</td>
<td>Siberian Elm</td>
<td>4</td>
<td>30</td>
<td>Squirrel Feeding Injury</td>
</tr>
<tr>
<td>88</td>
<td>Siberian Elm</td>
<td>3</td>
<td>50</td>
<td>Crowded</td>
</tr>
<tr>
<td>89</td>
<td>Siberian Elm</td>
<td>3</td>
<td>0</td>
<td>Leans and crowded</td>
</tr>
<tr>
<td>90</td>
<td>Siberian Elm</td>
<td>2</td>
<td>50</td>
<td>Crowded</td>
</tr>
<tr>
<td>Tree #</td>
<td>Species</td>
<td>Diameter</td>
<td>Condition</td>
<td>Notes</td>
</tr>
<tr>
<td>--------</td>
<td>------------</td>
<td>----------</td>
<td>-----------</td>
<td>---------------------------------------------------------</td>
</tr>
<tr>
<td>91</td>
<td>Siberian Elm</td>
<td>3 inches</td>
<td>70%</td>
<td></td>
</tr>
<tr>
<td>92</td>
<td>Siberian Elm</td>
<td>2</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>93</td>
<td>Siberian Elm</td>
<td>2</td>
<td>0</td>
<td>Dead. Wraps around #92</td>
</tr>
<tr>
<td>94</td>
<td>Siberian Elm</td>
<td>3</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>95</td>
<td>Siberian Elm</td>
<td>4</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>96</td>
<td>Siberian Elm</td>
<td>5</td>
<td>30</td>
<td>Dead top</td>
</tr>
<tr>
<td>97</td>
<td>Siberian Elm</td>
<td>4</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>98</td>
<td>Siberian Elm</td>
<td>14</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>99</td>
<td>Siberian Elm</td>
<td>4</td>
<td>40</td>
<td>Bent Over</td>
</tr>
<tr>
<td>100</td>
<td>Siberian Elm</td>
<td>5</td>
<td>30</td>
<td>Broken Main Lead</td>
</tr>
<tr>
<td>101</td>
<td>Siberian Elm</td>
<td>3</td>
<td>40</td>
<td>Bent Over</td>
</tr>
<tr>
<td>102</td>
<td>Siberian Elm</td>
<td>3</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>103</td>
<td>Siberian Elm</td>
<td>3</td>
<td>40</td>
<td>Crowded</td>
</tr>
<tr>
<td>104</td>
<td>Siberian Elm</td>
<td>3</td>
<td>40</td>
<td>Crowded</td>
</tr>
<tr>
<td>105</td>
<td>Siberian Elm</td>
<td>3</td>
<td>40</td>
<td>Crowded</td>
</tr>
<tr>
<td>106</td>
<td>Siberian Elm</td>
<td>2</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>107</td>
<td>Siberian Elm</td>
<td>3</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>108</td>
<td>Siberian Elm</td>
<td>5</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>109</td>
<td>Siberian Elm</td>
<td>2</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>110</td>
<td>Siberian Elm</td>
<td>3</td>
<td>20</td>
<td>Leans</td>
</tr>
<tr>
<td>111</td>
<td>Siberian Elm</td>
<td>3</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>112</td>
<td>Siberian Elm</td>
<td>4</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>113</td>
<td>Siberian Elm</td>
<td>4</td>
<td>30</td>
<td>Broken main leader, Squirrel feeding inj.</td>
</tr>
<tr>
<td>114</td>
<td>Siberian Elm</td>
<td>4</td>
<td>30</td>
<td>Crowded</td>
</tr>
<tr>
<td>115</td>
<td>Siberian Elm</td>
<td>4</td>
<td>30</td>
<td>Broken leader</td>
</tr>
<tr>
<td>116</td>
<td>Siberian Elm</td>
<td>10</td>
<td>40</td>
<td>Two dead leads</td>
</tr>
<tr>
<td>117</td>
<td>Siberian Elm</td>
<td>4</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>118</td>
<td>Siberian Elm</td>
<td>6</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>119</td>
<td>Siberian Elm</td>
<td>4,4</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>120</td>
<td>Siberian Elm</td>
<td>4</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>121</td>
<td>Siberian Elm</td>
<td>5</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>122</td>
<td>Siberian Elm</td>
<td>3</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>123</td>
<td>Siberian Elm</td>
<td>9</td>
<td>55</td>
<td>Codominant crotch</td>
</tr>
<tr>
<td>124</td>
<td>Siberian Elm</td>
<td>2</td>
<td>20</td>
<td>Too close to #123</td>
</tr>
<tr>
<td>125</td>
<td>Siberian Elm</td>
<td>3</td>
<td>40</td>
<td>Bent Over</td>
</tr>
<tr>
<td>126</td>
<td>Siberian Elm</td>
<td>4,3,3</td>
<td>20</td>
<td>Two dead leads</td>
</tr>
<tr>
<td>127</td>
<td>Siberian Elm</td>
<td>6</td>
<td>50</td>
<td>Broken Limbs</td>
</tr>
<tr>
<td>128</td>
<td>Siberian Elm</td>
<td>4</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>129</td>
<td>Siberian Elm</td>
<td>5</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>130</td>
<td>Siberian Elm</td>
<td>3</td>
<td>0</td>
<td>Squirrel Feeding Injury</td>
</tr>
<tr>
<td>131</td>
<td>Siberian Elm</td>
<td>3</td>
<td>40</td>
<td>Broken leader</td>
</tr>
<tr>
<td>132</td>
<td>Siberian Elm</td>
<td>3,2</td>
<td>30</td>
<td>Trunk injury, leans</td>
</tr>
<tr>
<td>133</td>
<td>Siberian Elm</td>
<td>4,2</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>134</td>
<td>Siberian Elm</td>
<td>2</td>
<td>50</td>
<td>Bent Over</td>
</tr>
<tr>
<td>135</td>
<td>Siberian Elm</td>
<td>6</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>136</td>
<td>Siberian Elm</td>
<td>4,2</td>
<td>50</td>
<td>Crowded by #135</td>
</tr>
<tr>
<td>137</td>
<td>Siberian Elm</td>
<td>4</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>138</td>
<td>Siberian Elm</td>
<td>6,6,4,3</td>
<td>50</td>
<td>Two leads are dead</td>
</tr>
<tr>
<td>Tree #</td>
<td>Species</td>
<td>Diameter</td>
<td>Condition</td>
<td>Notes</td>
</tr>
<tr>
<td>--------</td>
<td>---------------</td>
<td>----------</td>
<td>-----------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>139</td>
<td>Siberian Elm</td>
<td>4 Inches</td>
<td>60%</td>
<td></td>
</tr>
<tr>
<td>140</td>
<td>Siberian Elm</td>
<td>3</td>
<td>60</td>
<td>Leans a little</td>
</tr>
<tr>
<td>141</td>
<td>Siberian Elm</td>
<td>3</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>142</td>
<td>Siberian Elm</td>
<td>3</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>143</td>
<td>Siberian Elm</td>
<td>4</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>144</td>
<td>Siberian Elm</td>
<td>5</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>145</td>
<td>Siberian Elm</td>
<td>2</td>
<td>20</td>
<td>The top is dead</td>
</tr>
<tr>
<td>146</td>
<td>Siberian Elm</td>
<td>4,4</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>147</td>
<td>Siberian Elm</td>
<td>4</td>
<td>50</td>
<td>Codominant attachment, dead limbs</td>
</tr>
<tr>
<td>148</td>
<td>Siberian Elm</td>
<td>4</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>149</td>
<td>Siberian Elm</td>
<td>5</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>150</td>
<td>Siberian Elm</td>
<td>2</td>
<td>10</td>
<td>Broken top</td>
</tr>
<tr>
<td>151</td>
<td>Siberian Elm</td>
<td>2</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>152</td>
<td>Siberian Elm</td>
<td>3</td>
<td>40</td>
<td>Half Dead</td>
</tr>
<tr>
<td>153</td>
<td>Siberian Elm</td>
<td>3</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>154</td>
<td>Siberian Elm</td>
<td>2</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>155</td>
<td>Siberian Elm</td>
<td>3</td>
<td>10</td>
<td>Broken top</td>
</tr>
<tr>
<td>156</td>
<td>Siberian Elm</td>
<td>3</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>157</td>
<td>Siberian Elm</td>
<td>4</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>158</td>
<td>Siberian Elm</td>
<td>6</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>159</td>
<td>Siberian Elm</td>
<td>5</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>160</td>
<td>Siberian Elm</td>
<td>2</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>161</td>
<td>Siberian Elm</td>
<td>2</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>162</td>
<td>Siberian Elm</td>
<td>3</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>163</td>
<td>Siberian Elm</td>
<td>4</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>164</td>
<td>Siberian Elm</td>
<td>3</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>165</td>
<td>Siberian Elm</td>
<td>4,3</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>166</td>
<td>Siberian Elm</td>
<td>5,3,3,2</td>
<td>20</td>
<td>Main leads dead</td>
</tr>
<tr>
<td>167</td>
<td>Siberian Elm</td>
<td>2</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>168</td>
<td>Siberian Elm</td>
<td>6,6,4,4,4</td>
<td>50</td>
<td>Leads are too crowded and some are dead</td>
</tr>
<tr>
<td>169</td>
<td>Siberian Elm</td>
<td>9,8,6,5,</td>
<td>65</td>
<td>Leads are crowded</td>
</tr>
<tr>
<td>170</td>
<td>Siberian Elm</td>
<td>4</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>171</td>
<td>Siberian Elm</td>
<td>6,5</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>172</td>
<td>Siberian Elm</td>
<td>4</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>173</td>
<td>Siberian Elm</td>
<td>4</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>174</td>
<td>Siberian Elm</td>
<td>7</td>
<td>60</td>
<td>Codominant attachment</td>
</tr>
<tr>
<td>175</td>
<td>Siberian Elm</td>
<td>2</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>176</td>
<td>Siberian Elm</td>
<td>9</td>
<td>45</td>
<td>Lots of broken limbs, Trunk injury, crowded</td>
</tr>
<tr>
<td>177</td>
<td>Siberian Elm</td>
<td>4</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>178</td>
<td>Siberian Elm</td>
<td>3</td>
<td>40</td>
<td>Crowded</td>
</tr>
<tr>
<td>179</td>
<td>Siberian Elm</td>
<td>4</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>180</td>
<td>Siberian Elm</td>
<td>3</td>
<td>40</td>
<td>Bent Over</td>
</tr>
<tr>
<td>181</td>
<td>Siberian Elm</td>
<td>3</td>
<td>0</td>
<td>Broken top</td>
</tr>
<tr>
<td>182</td>
<td>Siberian Elm</td>
<td>2</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>183</td>
<td>Siberian Elm</td>
<td>5</td>
<td>40</td>
<td>Codominant attachment</td>
</tr>
<tr>
<td>184</td>
<td>Siberian Elm</td>
<td>3</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>185</td>
<td>Siberian Elm</td>
<td>2.5</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>186</td>
<td>Siberian Elm</td>
<td>4.5</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Tree #</td>
<td>Species</td>
<td>Diameter</td>
<td>Condition</td>
<td>Notes</td>
</tr>
<tr>
<td>--------</td>
<td>--------------------</td>
<td>----------</td>
<td>-----------</td>
<td>------------------------------------</td>
</tr>
<tr>
<td>187</td>
<td>Siberian Elm</td>
<td>3 inches</td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td>188</td>
<td>Siberian Elm</td>
<td>4</td>
<td>40</td>
<td>Codominat attachment, Dead limbs</td>
</tr>
<tr>
<td>189</td>
<td>Siberian Elm</td>
<td>2</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>190</td>
<td>Siberian Elm</td>
<td>4</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>191</td>
<td>Siberian Elm</td>
<td>6,5</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>192</td>
<td>Siberian Elm</td>
<td>7</td>
<td>65</td>
<td>Codominant main crotch</td>
</tr>
<tr>
<td>193</td>
<td>Siberian Elm</td>
<td>12</td>
<td>65</td>
<td>Codominant main crotch</td>
</tr>
<tr>
<td>194</td>
<td>Siberian Elm</td>
<td>4,3,3</td>
<td>60</td>
<td>Triple Codominant</td>
</tr>
<tr>
<td>195</td>
<td>Siberian Elm</td>
<td>6</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>196</td>
<td>Siberian Elm</td>
<td>2</td>
<td>40</td>
<td>Crowded by #195</td>
</tr>
<tr>
<td>197</td>
<td>Siberian Elm</td>
<td>3</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>198</td>
<td>Siberian Elm</td>
<td>4</td>
<td>40</td>
<td>Leans</td>
</tr>
<tr>
<td>199</td>
<td>Siberian Elm</td>
<td>3</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>200</td>
<td>Siberian Elm</td>
<td>2</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>201</td>
<td>Siberian Elm</td>
<td>4</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>202</td>
<td>Siberian Elm</td>
<td>5,5,4</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>203</td>
<td>Siberian Elm</td>
<td>9.5</td>
<td>60</td>
<td>Codominant attachment, dead limbs</td>
</tr>
<tr>
<td>204</td>
<td>Siberian Elm</td>
<td>9</td>
<td>55</td>
<td>Codominant attachment, Crowded</td>
</tr>
<tr>
<td>205</td>
<td>Siberian Elm</td>
<td>7</td>
<td>60</td>
<td>Leans a little</td>
</tr>
<tr>
<td>206</td>
<td>Siberian Elm</td>
<td>4</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>207</td>
<td>Siberian Elm</td>
<td>3</td>
<td>40</td>
<td>Crowded, Leans</td>
</tr>
<tr>
<td>208</td>
<td>Siberian Elm</td>
<td>5</td>
<td>50</td>
<td>Codominant attachment, Crowded</td>
</tr>
<tr>
<td>209</td>
<td>Siberian Elm</td>
<td>8</td>
<td>60</td>
<td>Codominant attachment</td>
</tr>
<tr>
<td>210</td>
<td>Siberian Elm</td>
<td>6</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>211</td>
<td>Siberian Elm</td>
<td>4</td>
<td>40</td>
<td>Crowded</td>
</tr>
<tr>
<td>212</td>
<td>Siberian Elm</td>
<td>7,5</td>
<td>65</td>
<td>Codominant attachment</td>
</tr>
<tr>
<td>213</td>
<td>Siberian Elm</td>
<td>3</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>214</td>
<td>Siberian Elm</td>
<td>5,5,3</td>
<td>35</td>
<td>Two leads are dead</td>
</tr>
<tr>
<td>215</td>
<td>Siberian Elm</td>
<td>6,4,4</td>
<td>50</td>
<td>Double Codominant</td>
</tr>
<tr>
<td>216</td>
<td>Siberian Elm</td>
<td>3</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>217</td>
<td>Siberian Elm</td>
<td>4,2</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>218</td>
<td>Siberian Elm</td>
<td>4</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>219</td>
<td>Siberian Elm</td>
<td>4</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>220</td>
<td>Siberian Elm</td>
<td>3</td>
<td>50</td>
<td>Leans</td>
</tr>
<tr>
<td>221</td>
<td>Siberian Elm</td>
<td>4</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>222</td>
<td>Siberian Elm</td>
<td>6</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>223</td>
<td>Siberian Elm</td>
<td>5</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>224</td>
<td>Siberian Elm</td>
<td>5</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>225</td>
<td>Siberian Elm</td>
<td>4</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>226</td>
<td>Siberian Elm</td>
<td>4,4</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>227</td>
<td>Siberian Elm</td>
<td>6</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>228</td>
<td>Siberian Elm</td>
<td>3</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>229</td>
<td>Siberian Elm</td>
<td>4</td>
<td>40</td>
<td>Broken hanging limb</td>
</tr>
<tr>
<td>230</td>
<td>Siberian Elm</td>
<td>7</td>
<td>50</td>
<td>Codominant attachment, Trunk Wound</td>
</tr>
<tr>
<td>231</td>
<td>Siberian Elm</td>
<td>3</td>
<td>40</td>
<td>Crowded</td>
</tr>
<tr>
<td>232</td>
<td>Siberian Elm</td>
<td>3</td>
<td>40</td>
<td>Crowded</td>
</tr>
<tr>
<td>233</td>
<td>Siberian Elm</td>
<td>4</td>
<td>40</td>
<td>Crowded</td>
</tr>
<tr>
<td>234</td>
<td>Siberian Elm</td>
<td>3</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Tree #</td>
<td>Species</td>
<td>Diameter</td>
<td>Condition</td>
<td>Notes</td>
</tr>
<tr>
<td>--------</td>
<td>---------------</td>
<td>----------</td>
<td>-----------</td>
<td>------------------------------------------------</td>
</tr>
<tr>
<td>235</td>
<td>Siberian Elm</td>
<td>7</td>
<td>50</td>
<td>Bent Over</td>
</tr>
<tr>
<td>236</td>
<td>Siberian Elm</td>
<td>4,2,1,1</td>
<td>30</td>
<td>Crowded</td>
</tr>
<tr>
<td>237</td>
<td>Siberian Elm</td>
<td>3</td>
<td>30</td>
<td>Crowded</td>
</tr>
<tr>
<td>238</td>
<td>Siberian Elm</td>
<td>6</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>239</td>
<td>Siberian Elm</td>
<td>4</td>
<td>40</td>
<td>Crowded</td>
</tr>
<tr>
<td>240</td>
<td>Siberian Elm</td>
<td>6</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>241</td>
<td>Siberian Elm</td>
<td>5,5</td>
<td>40</td>
<td>Leads cross</td>
</tr>
<tr>
<td>242</td>
<td>Siberian Elm</td>
<td>3</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>243</td>
<td>Siberian Elm</td>
<td>3,3</td>
<td>30</td>
<td>Half Dead</td>
</tr>
<tr>
<td>244</td>
<td>Siberian Elm</td>
<td>6,5</td>
<td>30</td>
<td>Half Dead</td>
</tr>
<tr>
<td>245</td>
<td>Siberian Elm</td>
<td>5</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>246</td>
<td>Siberian Elm</td>
<td>5</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>247</td>
<td>Siberian Elm</td>
<td>3</td>
<td>40</td>
<td>Crowded</td>
</tr>
<tr>
<td>248</td>
<td>Siberian Elm</td>
<td>6</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>251</td>
<td>Siberian Elm</td>
<td>3</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>252</td>
<td>Siberian Elm</td>
<td>4</td>
<td>40</td>
<td>Crowded</td>
</tr>
<tr>
<td>253</td>
<td>Siberian Elm</td>
<td>6</td>
<td>50</td>
<td>Crowded</td>
</tr>
<tr>
<td>254</td>
<td>Siberian Elm</td>
<td>11,9</td>
<td>55</td>
<td>Multiple Codominant, Bark wounds on trunk</td>
</tr>
<tr>
<td>255</td>
<td>Siberian Elm</td>
<td>7.5</td>
<td>55</td>
<td>Trunk hitting sidewalk</td>
</tr>
<tr>
<td>256</td>
<td>Siberian Elm</td>
<td>10</td>
<td>45</td>
<td>Codominat, Crowded by #255</td>
</tr>
<tr>
<td>257</td>
<td>Siberian Elm</td>
<td>4</td>
<td>60</td>
<td>Broken Limbs</td>
</tr>
<tr>
<td>258</td>
<td>Siberian Elm</td>
<td>6</td>
<td>30</td>
<td>Trunk woun, broken limbs</td>
</tr>
<tr>
<td>259</td>
<td>Siberian Elm</td>
<td>2</td>
<td>40</td>
<td>Crowded</td>
</tr>
<tr>
<td>260</td>
<td>Siberian Elm</td>
<td>3</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>261</td>
<td>Siberian Elm</td>
<td>4</td>
<td>35</td>
<td>Crowded</td>
</tr>
<tr>
<td>262</td>
<td>Siberian Elm</td>
<td>2</td>
<td>40</td>
<td>Crowded</td>
</tr>
<tr>
<td>263</td>
<td>Siberian Elm</td>
<td>5,4</td>
<td>50</td>
<td>Codominant attachment, broken limbs</td>
</tr>
<tr>
<td>264</td>
<td>Siberian Elm</td>
<td>4</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>265</td>
<td>Siberian Elm</td>
<td>4</td>
<td>40</td>
<td>Crowded</td>
</tr>
<tr>
<td>266</td>
<td>Siberian Elm</td>
<td>5</td>
<td>45</td>
<td>Crowded</td>
</tr>
<tr>
<td>267</td>
<td>Siberian Elm</td>
<td>3</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>268</td>
<td>Siberian Elm</td>
<td>4</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>269</td>
<td>Siberian Elm</td>
<td>6</td>
<td>50</td>
<td>Crowded by #270</td>
</tr>
<tr>
<td>270</td>
<td>Siberian Elm</td>
<td>14</td>
<td>35</td>
<td>East half dead</td>
</tr>
<tr>
<td>271</td>
<td>Siberian Elm</td>
<td>11</td>
<td>60</td>
<td>Freeze injury to the trunk</td>
</tr>
<tr>
<td>272</td>
<td>Siberian Elm</td>
<td>6</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>273</td>
<td>Siberian Elm</td>
<td>5,6</td>
<td>45</td>
<td>Codominant attachment, Crowded, leans</td>
</tr>
<tr>
<td>274</td>
<td>Siberian Elm</td>
<td>4</td>
<td>50</td>
<td>Codominant attachment</td>
</tr>
<tr>
<td>275</td>
<td>Siberian Elm</td>
<td>2</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>276</td>
<td>Siberian Elm</td>
<td>5</td>
<td>0</td>
<td>Dead</td>
</tr>
<tr>
<td>277</td>
<td>Siberian Elm</td>
<td>4</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>278</td>
<td>Siberian Elm</td>
<td>2</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>279</td>
<td>Siberian Elm</td>
<td>3</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>280</td>
<td>Siberian Elm</td>
<td>5</td>
<td>65</td>
<td></td>
</tr>
</tbody>
</table>
The site map included with this inventory shows the trees by number in only approximate locations. No actual survey of tree locations was taken.

Survey Performed by Stef Ringgenberg
Boulder Tree & Landscape Consulting
7289 Petursdale Ct. Boulder, CO 80301
303-530-0640
rsrtree@aol.com
www.bouldertree.com
Assumptions, Exclusions, and Limiting Conditions

R. Stefan Ringgenberg

1. The ownership of the property and the description of the events are assumed to be consistent with the description given by Don Ash to R. Stefan Ringgenberg on August 21, 2017.

2. Care has been taken to obtain all information from reliable sources; however, the appraiser can neither guarantee nor be responsible for the accuracy of information provided by others.

3. The appraiser shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services.

4. Loss or alteration of any part of this report invalidates the entire report.

5. Possession of this report or a copy thereof does not imply the right of publication or use for any purpose by any other than the person to whom it is addressed, without the expressed written or verbal consent of the author.

6. This report and values expressed herein represent the opinion of the author, and the author’s fee is in no way contingent upon the reporting of a specified content nor upon any finding to be reported.

7. Sketches, diagrams, and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as surveys or engineering reports. The heights of trees given in this report are estimates; the tree heights have not been measured.

8. Unless expressed otherwise, information contained in this report covers only those items that were examined and reflect the condition of the property in question at the time of its inspection. Unless expressed otherwise, the inspection is limited to visual examination of accessible components without disassembly, excavation, or probing. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the property in question may not arise in the future.
R. Stefan Ringgenberg

7289 Petursdale Ct.
Boulder, CO 80301
(303) 530-0640

Education:  B.A. University of Colorado - May 1972

Work History:  Boulder Tree and Landscape Co.
Owner and President - 1972 to January 2003 when company assets were sold.

January to December 2003  -  Davey Tree Expert Company
Technical Advisor and Consultant

January 2004 to the present -  Arboricultural and Management Consulting

Affiliations:

American Society of Consulting Arborists, Registered Member #302 retired
   Past Instructor, ASCA Tree Appraisal Workshops

National Arborist Association
   Former Vice Chairman, Standards Committee

International Society of Arboriculture
   Past Member of the Board of Directors - representing the
   Rocky Mountain Chapter (six states)
   Certified Arborist

Technical Services:

Tree Health Maintenance
   Diagnosis and Analysis
   Disease Prevention and Insect Control
   Pruning
   Cabling and Bracing
   Nutrition and Soil Problem Mitigation

Plant Health Care Programs
Assessment of Tree Failure Risk
Tree Surveys and Inspections
Tree Care Specifications
Tree and Landscape Appraisal
Prevention of Construction Damage to Trees
Pesticide Application Safety
Nursery Inspections
Tree Service Computer Systems
Training of Personnel
Publications for Tree ID and Training of Personnel
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 designated as Medium Density Residential (2180 Violet Ave.) and Low Density Residential (2100 Violet Ave., 1917 Upland Ave., and 2145 Upland Ave.) under the BVCP Land Use Map. On page 112 of the Comprehensive Plan, the Medium Density Residential land use is described as follows:

Characteristics and Locations: MR is characterized by a variety of housing types. Medium-density areas are generally situated near neighborhood and community shopping areas or along some of the major arterials of the city.

Uses: Consists of a variety of housing types ranging from single-family detached to attached residential units such as townhomes, multiplexes and some small lot detached units (e.g., patio homes), not necessarily all on one site.

BVCP Density/Intensity: 6 to 14 dwelling units per acre.

And the Low Density Residential land use is described as follows:

Characteristics and Locations: LR is the most prevalent land use designation in the city, covering the primarily single-family home neighborhoods including the historic neighborhoods and Post-WWII neighborhoods.

Uses: Consists predominantly of single-family detached units.

BVCP Density/Intensity: 2 to 6 dwelling units per acre.

Staff finds that the current proposal for medium and low density residential development is consistent with the goals, objectives and recommendations of the BVCP. The project supports opportunities for a variety of housing types for low- and moderate-income households and is generally consistent with established neighborhood character. In support of housing policies, the proposal contributes to providing a diverse mix of housing types for a full-range of households as well as balancing the housing supply with the employment base.
Specifically, the project has been found to meet the following BVCP goals and policies:

<table>
<thead>
<tr>
<th>BVCP Policy</th>
<th>Excerpt from BVCP</th>
<th>How the Proposal is Consistent with BVCP Policies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Use Pattern</td>
<td>&quot;... ensure that development will take place in an orderly fashion... The city prefers redevelopment and infill as compared to development... to prevent urban sprawl and create a compact community.&quot;</td>
<td>The infill of housing on this property supports a compact development pattern.</td>
</tr>
<tr>
<td>2.03 Compact Development Pattern</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neighborhoods</td>
<td>&quot;... protect and enhance neighborhood character and livability... seek appropriate building scale and compatible character in new development or redevelopment... encourage neighborhood schools and safe routes to school.&quot;</td>
<td>The character of the neighborhood is eclectic with a range of low and medium density residential buildings. The mass and scale of the Habitat development is appropriate given the context. The detailed design guidelines for the single-family development will ensure that buildings will have compatible architecture and forms with the surrounding context. The addition of detached sidewalks, a north-south path connection, and internal connections will contribute to safe routes to Crest View Elementary School.</td>
</tr>
<tr>
<td>2.10 Preservation &amp; Support for Residential Neighborhoods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Core Value</td>
<td>&quot;A diversity of housing types and price ranges&quot;</td>
<td>The proposal helps to meet the housing needs of the Boulder Valley population by contributing to a diversity of housing types and price ranges. The proposal is for 19 permanently affordable townhome style units for sale and 8 market rate single-family homes. (The existing single-family home is proposed to remain). The townhomes would be 17 three-bedroom units and 2 one-bedroom units. The three-bedroom units are suitable for families and the one-bedroom units will be accessible. There is diversity in the types of private open space provided.</td>
</tr>
<tr>
<td>7.06 Mixture of Housing Types</td>
<td>&quot;The city and county, through their land use regulations and housing policies will encourage the private sector to provide and maintain a mixture of housing types with varied prices, sizes and densities, to meet the housing needs of the full range of the Boulder Valley population.&quot;</td>
<td></td>
</tr>
<tr>
<td>Housing Choices; Diversity</td>
<td>&quot;The city and county will encourage preservation and development of housing attractive to current and future households, persons at all stages of life and to a variety of household configurations. This includes singles, couples, families with children and other dependents, extended families, non-traditional households and seniors.&quot;</td>
<td></td>
</tr>
<tr>
<td>7.09 Housing for a Full Range of Households</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Housing Supply

<table>
<thead>
<tr>
<th>BVCP Policy</th>
<th>Excerpt from BVCP</th>
<th>How the Proposal is Consistent with BVCP Policies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.19 Jobs:Housing Balance</td>
<td>&quot;Boulder is a major employment center, with more jobs than housing for people who work here...encouraging new housing and mixed use neighborhoods in areas close to where people work...&quot;</td>
<td>The provision of 27 units contributes to balancing the housing supply with the employment base. The permanently affordable townhomes could serve as workforce house and are appropriate for families. The proposal represents multi-family development along an arterial street and in proximity to transit and services.</td>
</tr>
<tr>
<td>7.10 Balancing Housing Supply with Employment Base</td>
<td>&quot;...housing supply should reflect to the extent possible employer workforce housing needs, locations, and salary ranges. Key considerations include housing type, mix and affordability...increase housing for Boulder workers and their families by fostering mixed-use and multi-family development in proximity to transit, employment or services...&quot;</td>
<td></td>
</tr>
</tbody>
</table>

### Urban Design Linkages

<table>
<thead>
<tr>
<th>BVCP Policy</th>
<th>Excerpt from BVCP</th>
<th>How the Proposal is Consistent with BVCP Policies</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.24 Commitment to a Walkable and Accessible City</td>
<td>&quot;...promote the development of a walkable and accessible city...provide easy and safe access by foot to places such as neighborhood centers, community facilities, transit stops or centers, and shared public spaces and amenities. (...)&quot;</td>
<td>The proposed site plan gives pedestrian and bicyclists priority over the vehicle. The site design includes connections for use by pedestrians and bicyclists, which connect to the existing multi-model network. The proposal includes the construction of a north-south 6-foot path to connect Vine Avenue to Violet Avenue, a 6-foot detached sidewalk and a 5-foot bike lane along Violet Avenue, and a 5-foot detached sidewalk adjacent to the property on 22nd Street. TDM strategies includes the creation of separate “Alternative Transportation Subsidy Funds”, which can be used for expenses such as B-cycle and car-share memberships, additional bicycle parking racks for the project, and transit passes. The design incorporated landscaping and open space to enhance the pedestrian experience.</td>
</tr>
<tr>
<td>2.25 Improve Mobility Grid &amp; Grid</td>
<td>&quot;The walkability, bikeability and transit access should be improved in parts of the city that need better connectivity and mobility...will occur through both public investment and private development.”</td>
<td></td>
</tr>
<tr>
<td>2.36 Physical Design for People</td>
<td>&quot;...ensure that public and private development and redevelopment be designed in a manner that is sensitive to social, health and psychological needs...provision of coordinated facilities for pedestrians, bicyclists and bus-riders; provision of functional landscaping and open space; and the appropriate scale and massing of buildings related to neighborhood context.</td>
<td>The proposal represents a realization of connections envisioned in the NBSP and the Crestview East annexations. Vine Street and a mid-block alley will be constructed to the west property lines and 22nd Street will be extended to the south to connect to Vine Street. The alley and Vine Street are planned to extend to the west to 19th Street and construction of such is a condition of annexation for properties that annexed as part of the larger Crestview East annexation in 2009.</td>
</tr>
<tr>
<td>BVCP Policy</td>
<td>Excerpt from BVCP</td>
<td>How the Proposal is Consistent with BVCP Policies</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Design Quality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.41 Enhanced Design for All Projects</td>
<td>“b. The context. Projects should become a coherent part of the neighborhood in which they are placed…”</td>
<td>Buildings are oriented toward the street and the requested setback modifications would contribute to creating a building forward design that enhances the pedestrian experience along Violet Avenue and Vine Avenue. Pedestrian scale architectural features and materials are utilized at the pedestrian level, adding to the pedestrian interest at the street. Each building has four-sided design, facing the street and internal open spaces.</td>
</tr>
<tr>
<td></td>
<td>“c. Relationship to the public realm. Projects should relate positively to public streets, plazas, sidewalks, paths 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…”</td>
<td>A complete network of multi-modal connections will be provided, as described above. The street system has been minimized for the development as much as possible, given the general site layout.</td>
</tr>
<tr>
<td></td>
<td>“e. Transportation connections. Projects should provide a complete network of vehicular, bicycle and pedestrian connections both internal to the project and connecting to adjacent properties, streets and paths, including dedication of public rights-of-way and easements where required.”</td>
<td>The site design allows for open space that is visually continuous. Outdoor spaces will be useful, attractive, and interesting and include both sun and shade.</td>
</tr>
<tr>
<td></td>
<td>“f. Parking. The primary focus of any site should be quality site design. Parking should play a subordinate role to site and building design and not jeopardize open space or other opportunities on the property. Parking should be integrated between or within buildings and be compact and dense…”</td>
<td>The development would have a compact design with buildings with prominent porches and entries oriented directly to streets and open spaces. Given these architectural and site design aspects, the project would relate well to the streetscape and lend strongly to pedestrian interest.</td>
</tr>
<tr>
<td></td>
<td>“i. On-site open spaces. Projects should incorporate well-designed functional open spaces with quality landscaping, access to sunlight and places to sit comfortably. Where public parks or open spaces are not within close proximity, shared open spaces for a variety of activities should also be provided within developments.”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“j. Buildings. Buildings should be designed with a cohesive design that enhances the streetscape and is comfortable to the pedestrian. Buildings should demonstrate approachability and a relationship to the street, with inviting entries that are visible from public rights of way, multiple entrances and four-sided design. Foster appeal of buildings through attractive, well-designed architecture made of high-quality, long-lasting materials and innovative approaches to design.”</td>
<td></td>
</tr>
</tbody>
</table>
✓ (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,

Habitat Development – 2180 Violet Ave.
The site is designated for a Medium Density Residential land use and the density is not permitted to exceed 14 dwelling units per acre. The proposed multi-family development at 2180 Violet Ave. is 13.38 du/acre (gross density). Note, the densities described in the BVCP are gross densities and include rights-of-way and outlots to be dedicated.

Single-Family Development
The properties at 2100 Violet Ave., 2145 Upland Avenue are designated for a Low Density Residential land use, with a planned density of 2 to 6 dwelling units per acre. The proposed single-family development is 4.4 du/acre (gross density).

✓ (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 single-family development planned for the areas within the RL-1 zone district will meet the intensity standards (minimum of 7,000 square feet of lot area per dwelling unit and maximum of 6.2 du/acre). In addition, the single-family development within the RE zone district will meet the intensity standards (minimum of 15,000 square feet of lot area per dwelling unit and maximum of 2.9 du/acre).

However, an ordinance is requested for the multi-family development to allow the development to exceed the allowed intensity in the RM-2 zone district, which is the minimum of 3,500 square feet of lot area per dwelling unit and the maximum of 12.4 du/acre. Note that this density represents net density (not including rights-of-way, outlots, etc.). The proposal is for 19 dwelling units where 15 would be allowed per the intensity standards. This criterion will be met if and when the ordinance is approved by City Council.

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

The development would not be rendered infeasible in meeting the BVCP policies or the site review criteria based upon the requirements and recommendations made within these comments.

(2) Site Design: Projects should preserve and enhance the community's unique sense of place through creative design that respects historic character, relationship to the natural environment, multi-modal transportation connectivity and its physical setting. Projects should utilize site design techniques which are consistent with the purpose of site review in subsection (a) of this section and enhance the quality of the project. In determining whether this subsection is met, the approving agency will consider the following factors:
(A) **Open Space:** Open space, including, without limitation, parks, recreation areas, and playgrounds:

The Habitat proposal includes the provision of a variety of usable open space, including a central common area with play area, amphitheater with boulder seating, informal natural areas, landscaped areas, patios, and porches. For the single-family residential development, the majority of the open space is private on each lot. Reduced front yard setbacks will allow for larger, more functional, back yards.

(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;

Open space would constitute approximately 49% of the Habitat site (26,192 square feet). The usable open space for the proposed Habitat development consists of both private open space (front porches and patios) and public open space (formal common area with play area, gathering spaces, landscaped areas). Areas for active and passive recreation are provided. The areas for more active gathering include the play area and amphitheater with boulder seating. The project provides areas for passive activities with a pergola with seating, rear patios, porches. The common area is centrally located and is easily accessed by the residents and visitors by various sidewalk connections. Street trees will be provided on Violet Avenue, 22nd Street and the alley. The usable open space has a variety of landscaping types including an open lawn area, a native grass meadow and several more formal gathering spaces including a plaza with shade structure and quality landscaping within the backyards of the multi-family buildings and at building entrances.

The usable open space for the single-family development consists primarily of private open space, in the form of front and rear yards. The open space will be accessible and functional for the single-family use for both active and passive uses. The design guidelines and annexation agreement require front porches. The requested reduced setbacks will allow for larger, more usable, back yards. Street trees will be provided on 22nd Street, the alley, and Vine Avenue.

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

Each single-family residential lot contains appropriate private open space.

(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 ludovicianus), which is a species of local concern, and their habitat;

There are no natural features or species that are of a special concern on the property.

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

All multi-family units have private open spaces as porches and rear patios, which will provide a relief in density within the development. The common areas also provide internal relief to the density. Building setbacks will provide open space within the single-family development to provide interior relief to the density. Landscape setbacks and street tree plantings along Violet Avenue, 22nd Street, and Vine Avenue provide relief to the site’s density from the surrounding
developments. Detention and storm water ponds on the eastern sides of each block also provide relief to the surrounding developments.

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

The common open space, including the play lawn and meadow areas, are easily accessed by the development and the neighborhood at large. The site is designed so that all of the townhomes are located directly adjacent to common open space. The amphitheater with stage and the play area are sized appropriately for their purposes.

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

There are no sensitive environmental features or natural areas in the vicinity.

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

The property is not located in the vicinity of an open space system.

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

✓ (C) Landscaping

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

The multi-family development has a significant amount of variety and detail within the planting plan to signify public and private spaces as well as add interest for users of all ages. Different surface treatments are utilized to create a hierarchy of usable open space and gathering areas. Native vegetation is incorporated into the multi-family design and single-family design guidelines.

✓ (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;

No important native species, plant communities or threatened and endangered species or habitat were identified on the site. The plans and design guidelines indicate many native plant species will be utilized or encouraged within 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

Plant material and trees specified are above and beyond the minimum quantity, quality, and sizes.
(iv) The setbacks, yards and usable 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 rights-of-way meet or exceed the streetscape requirements. Trees and landscaping within the setbacks and open space enhance architectural features and direct pedestrians by highlighting entrances and screening private yard areas. The design guidelines for the single-family lots also ensure that the setbacks will be landscaped to enhance the pedestrian experience and provide a cohesive development expectation.

(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;

Vine Street and 22nd Street were designed in the NBSP to discourage high speeds. An on-street bike land and detached sidewalk with tree lawn are proposed along Violet Ave., which will help to calm traffic and separate the project from the street. Vine Street will be constructed consistent with the NBSP, with a detached sidewalk and street trees on the north side of the street. Likewise, 22nd Street will have a detached sidewalk and tree lawn. Detention areas will also provide a buffer to 22nd Street. Tree lawns and sidewalks provide a safe physical separation from automobile traffic. Vehicular traffic is isolated along the alley, with landscape setbacks and open space areas to buffer the multi-family development from vehicular traffic.

(ii) Potential conflicts with vehicles are minimized;

As described above, the site design is such that automobiles are physically separated from and made subordinate to bicyclists and pedestrians. Potential conflicts with vehicles are minimized through strong pedestrian connections throughout the project. The Habitat development will be accessed from the alley, with one access point on 22nd Street. In addition, the single-family homes on the north side of Vine Street are required to access from the alley, which will limit conflicts with vehicles.

(iii) Safe and convenient connections are provided that support multi-modal mobility through and between properties, accessible to the public within the project and between the project and the existing and proposed transportation systems, including, without limitation, streets, bikeways, pedestrianways and trails;

The site design includes frequent pedestrian connections for use by pedestrians and bicyclists, which connect to the existing multi-model network. The design includes the construction of a north-south 6-foot path to connect Vine Avenue to Violet Avenue. An existing north-south multi-use path is located adjacent to the property at 2145 Upland Avenue to connect Vine Avenue to Upland Avenue. A six-foot wide detached sidewalk with an eight-foot wide landscape strip is proposed adjacent to the property on Violet Avenue. A five-foot bike lane is proposed along
Violet Avenue. A five-foot wide detached sidewalk with an eight-foot tree lawn is proposed adjacent to the property on 22nd Street. This sidewalk will connect to the five-foot detached sidewalk planned along the north side of Vine Avenue. The detached sidewalks will provide a physical separation between the streets and the pedestrian.

A network of internal sidewalks connects the multi-family residential buildings to proposed open space areas and to the surrounding bicycle and pedestrian network. An enhanced pedestrian entrance is proposed on Violet Avenue with enhanced landscaping with a north-south sidewalk connection to welcome residents and visitors to the central open space and gazebo. The planned connections, coupled with the interior connections, support multi-model mobility on the site.

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

The project contains a number of elements that support and encourage walking and biking. The design includes frequent and convenient connections for pedestrians and bicyclists (see above). In addition to the multi-modal connections and traffic calming measures, this project will include bike parking (short-term and long-term) scattered throughout the site in order to maximize accessibility and encourage biking for residents. The proposed TDM plan includes the creation of an Alternative Transportation Subsidy Fund to support alternative modes of transportation (see below).

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

The applicant has submitted a Transportation Demand Management (TDM) plan, which has been reviewed and approved. A significant shift away from single-occupant vehicles may not be entirely practical or realistic given that public transit opportunities are limited. The closest transit route is located on 19th Street, which is only served by transit route. The site is well connected for bicyclists and pedestrians. The TDM includes the provision of excess long-term bike parking. The proposed TDM plan includes the creation of separate “Alternative Transportation Subsidy Funds” for the multi-family and single-family developments. The developer will contribute to the fund equal to the cost of a 3-year participation in the Eco Pass program. For the Habitat for Humanity development, this fund will be managed by the HOA, and can be used for expenses such as B-cycle and car-share memberships, additional bicycle parking racks for the project, transit (RTD) passes, and other HOA approved items. For the single-family development, the developer will work with city staff to timing and participation in the program. If there is an HOA, the HOA will manage the fund.

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

See (iv) above.
The amount of land devoted to the street system is minimized; and

As required per the annexation agreements for the properties, Vine Street and a mid-block alley will be constructed to the west property lines and 22nd Street will be extended to the south to connect to Vine Street as part of Phase I of the development. The amount of land devoted to the street system is the minimum necessary to accommodate access to the buildings and satisfy requirements in the annexation agreements. In fact, a vacation is requested to reduce the amount of right-of-way for Vine Street.

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

The project is designed and scaled to accommodate all modes of travel. Low vehicular traffic is expected within the development and the project will emulate a typical neighborhood feel with front porches and units oriented to streets. Detached sidewalk with tree lawns provide separation for the pedestrian. The design of the multi-family buildings, including the front porches and the placement of windows and doors are such that a transparency and activity is reinforced at the ground level of all proposed buildings, which enhances the pedestrian experience. The design guidelines ensure that the single-family homes will address the street as well.

Parking

The project incorporates into the design of parking areas measures to provide safety, convenience, and separation of pedestrian movements from vehicular movements;

As described above, the multi-family development and single-family development at 2100 and 2180 Violet Avenue will be accessed via the alley from 22nd Street. The single-family homes at 2145 Upland Avenue will be accessed from Vine Avenue and Upland Avenue. Parking will be provided on the individual single-family lots. For the multi-family development, 30 parking spaces are proposed, 20 head-in spaces in carports off the alley and 10 spaces in the surface parking lot. The parking area is located off the alley, which separates the parking area from pedestrian movements.

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;

As described above, parking will be provided on each single-family lot. A 16.7% parking reduction has been requested for the Habitat development in order to utilize the minimum amount of land necessary to meet the parking needs and provide the greatest amount of open space.
Parking areas and lighting are designed to reduce the visual impact on the project, adjacent properties, and adjacent streets; and

As stated above, parking has been designed to reduce visual impact by siting the parking area away from the public realm and through the use of landscaping. No lighting is expected to create adverse visual impacts. Any lighting installations will be subject to the Outdoor Lighting requirements of section 9-9-16, B.R.C.

Parking areas utilize landscaping materials to provide shade in excess of the requirements in subsection 9-9-6(d), and section 9-9-14, "Parking Lot Landscaping Standards," B.R.C. 1981.

The project provided solar canopies over most of the parking spaces for the multi-family lot, however a balance of landscaping above the requirements was coordinated with the canopies and within the uncovered parking area. Also, alley trees will provide shading for any of the single-family lots that may not have garages.

Building Design, Livability, and Relationship to the Existing or Proposed Surrounding Area

Building elevations, materials, and architectural details have been provided for the Habitat development. The building design for the future single-family homes will be informed by detailed design guidelines meant to ensure a cohesiveness for the development and that buildings would have compatible architecture and forms with the surrounding context.

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 project would be consistent with the character established by the NBSP. The NBSP established a cascading density gradient from Violet Avenue to the south towards Tamarack Avenue. The buildings will be well designed with porches facing the street. The design meets the objectives for residential areas, including compatibility with the surrounding context, fronts of buildings and lots that face the street and one another, and a diversity of housing types, sizes, and price ranges. In addition, the proposed development would be consistent with the following development guidelines that apply to all neighborhoods:

- Position houses so that their front doors and front yards face the street
- Leave front yards open wherever possible. When front yard fences are provided, they should be low and open.
- Design houses so that garage doors do not dominate the front facade. Locate garage doors no less than 20' behind the principal plane of the front of the houses; detached garages are preferred.
- Except in areas recommended for low density rural-type character, position buildings close to the street to create a more pedestrian friendly atmosphere. Rather than a conventional "setback", create a "build-to" line.
- Provide high quality building design with attention to detail. Avoid monotonous building designs: include human scale features such as porches, varied building elevations, and varied sizes and styles.
• In higher density areas where parking lots are needed, design the lots so that they are small and clustered. Locate parking in the back of buildings, not in the front.
• Use alleys wherever possible to provide a “service” side to properties. Reduce curb cuts and sidewalk interruptions on the “public” side of lots.

The multi-family buildings are two stories in height. The single-family homes will be no taller than 35-feet. In addition, the single-family homes must comply with the compatible development regulations that relate to building coverage, side yard wall articulation and side yard bulk plane.

Based on these factors, it is concluded that the building height, mass, scale, orientation, and configuration are compatible with the existing character of the area and the character established by the NBSP.

(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 in the Habitat development are one- or two-stories in height, which is consistent with the existing Habitat development to the east. All buildings in the development will be required to comply with the 35-foot height limitation per the measurement method within the code.

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

As indicated in the submitted Shadow Analysis, the multifamily development will shade adjacent properties. All proposed buildings in the Habitat development are subject to, and the applicant has demonstrated compliance with, the Solar Access standards for Solar Access Area II, as required by section 9-9-17, B.R.C. 1981. There are no shadows projected in the deepest part of the winter that would encroach on the rooftop, the area protected under Solar Access Area II. New single-family buildings will be required to meet the solar access standards for Solar Access Area I. Due to the relatively flat nature of the properties and the limited height the blocking of view will be minimal. The construction of 22nd Street and Vine Street will open up views to the west and the foothills.

(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 context of the area is eclectic with a range of low and medium density residential buildings, the latter being built closer to the street and on smaller lots. The proposed project would be consistent with other medium and low density developments in North Boulder, but will be somewhat of a change in character considering its immediate context. Nevertheless, the attractive, human-scaled buildings will be move towards a more improved character for the area. In addition, the character of the development is consistent with the NBSP.
Projects are designed to a human scale and promote a safe and vibrant pedestrian experience through the location of building frontages along public streets, plazas, sidewalks and paths, and through the use of building elements, design details and landscape materials that include, without limitation, the location of entrances and windows, and the creation of transparency and activity at the pedestrian level;

As stated above, the project will promote a safe and vibrant pedestrian experience with detached sidewalks and a planned multi-use path. Landscaping provides a mix of small and large trees to accent and bring down the scale of the multi-family units. The design guidelines for the single-family lots will ensure that landscaping compliments the architecture and provides for interest within the pedestrian experience from the street or alleys. Buildings front directly to street with attractive front porches, entries, and rear patios making the development inviting and attractive. A pedestrian level of detailing, such as windows, railings, porch detailing and other architectural elements, are given prominence. Various secondary pedestrian pathways cross through the development. Detailed design guidelines are included in the project approval that would require high quality materials and fenestration to ensure the single-family homes are built to a human scale.

To the extent practical, the project provides public amenities and planned public facilities;

The project includes the construction of several planned street and path connections, as described above.

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 project will contain a mix of residential densities with a diversity of housing types. The multi-family development will contain 19 permanently affordable townhome-style units appropriate for families. The total unit mix would be 17 three-bedroom units and 2 one-bedroom units. The one-bedroom units are fully accessible and will house “age-in-place” individuals. The townhome units will be for purchase. The proposal also includes 8 single-family homes and the preservation of one existing single-family home.

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 states that the multi-family units will be constructed using staggered stud demising walls and floors with acoustically insulating components which provide STC ratings of approximately 60 between units. Each of the units will use insulated glass in the windows and solid core front doors to reduce sound impacts from the street. Setbacks and landscaping provide sound buffers throughout the project and to adjacent properties.

A lighting plan is provided which augments security, energy conservation, safety, and aesthetics;

The submitted lighting plan for the multi-family provides safe and comfortable lighting levels in
The parking areas and along the pedestrian paths with down-lighting at unit entries and lamp post lighting along the main sidewalks. Motion activated lighting fixtures are proposed under the carports to conserve energy and provide safety in that area.

Final lighting will be evaluated at the Technical Documents review process. All proposed lighting fixtures must comply with the Outdoor Lighting Ordinance.

The project incorporates the natural environment into the design and avoids, minimizes, or mitigates impacts to natural systems;

There are no natural environments that should be incorporated, and no trees are worthy of preservation. The proposed open space and water quality and detention ponds will minimize impacts on the natural systems, including water quality.

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 proposed project will be required to meet the city's rigorous standards for energy: the International Energy Efficiency Code (IECC) 2012 plus 30 percent additional efficiency. (Note the site review was submitted prior to the adoption of the Energy Conservation Code). The applicant is exploring all opportunities to meet the rigorous energy efficiency standards of the city. In general, buildings are oriented to take advantage of renewable energy systems and will be required at the building permit stage to demonstrate compliance with the city’s green points program. All buildings in the multi-family development have either significant south or east facing roofs. The design guidelines for the single-family homes include standards for PV panels and shade elements for south facing windows.

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 proposed building materials for the Habitat development include engineered horizontal wood lap and shingle siding with trim, vinyl windows, and asphalt shingle roofing. The applicant has submitted details on the materials to demonstrate that the materials are durable and authentic. Exposed foundations will be screened with enhanced landscaping. A pedestrian level of detailing, such as railings, porch detailing, and other architectural elements is given prominence. The proposal includes comprehensive design guidelines for the single-family development that ensure authentic building materials and appropriate building material detailing.

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;

Cut and fill are minimized by maintaining the existing drainage patterns of the site. The site generally drains from northwest to southeast currently and will continue the same general
pattern after development. See civil plans for current and proposed contours.

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

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

(G) **Solar Siting and Construction:** For the purpose of ensuring the maximum potential for utilization of solar energy in the City, all applicants for residential site reviews shall place streets, lots, open spaces, and buildings so as to maximize the potential for the use of solar energy in accordance with the following solar siting criteria:

(i) *Placement of Open Space and Streets:* Open space areas are located wherever practical to protect buildings from shading by other buildings within the development or from buildings on adjacent properties. Topography and other natural features and constraints may justify deviations from this criterion.

Buildings in the Habitat development are oriented to take advantage of solar energy systems and have either south or east facing roofs to accommodate PV systems. As demonstrated in the Solar Analysis, all buildings will have access to solar energy. The open space is centralized on the site, with the majority of buildings being located along the north property line. This minimizes any shading on the proposed buildings by adjacent development to the south, both now and in the future. The single-family lots are platted so that the future homes will have solar access.

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

See above. The setbacks and positioning of buildings on the multi-family site is conducive to solar access for all buildings on the site. The proposed site plan locates four of the five buildings along the north lot line to maximize open space and minimize solar shading. This layout also minimizes the shading effect on the proposed buildings by adjacent properties, and maximizes the solar access of the buildings on the site. The single-family lots are platted so that the future homes will have solar access.


As described above, the orientation of the multi-family buildings on the east-west axis and their location along the north lot line with generous open space to the south of the buildings maximizes the residents' access to solar energy. Building forms are conducive to solar panel
installation. There are no shadows projected in the deepest part of the winter that would encroach on the rooftop, the area protected under Solar Access Area II. Thus, solar panels could effectively be installed on the rooftops. In addition, the design guidelines for the single-family homes include standards for PV panels and shade elements for south facing windows.

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

There are no identified conditions where proposed plantings could negatively affect solar access of buildings in the future. Trees within the rights-of-way will have minimal if any impact on future rooftop solar. The alley tree requirements are balanced to reduce conflicts with the solar canopies over parking.

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

N/A (I) Land Use Intensity Modifications

The applicant is requesting a density bonus for the provision of 19 affordable units, where 15 units are allowed under RM-2 zoning. However, this request is not required to meet the criteria of this section since the ordinance is related to the annexation agreement amendment.

N/A (i) Potential Land Use Intensity Modifications:

(a) The density of a project may be increased in the BR-1 district through a reduction of the lot area requirement or in the Downtown (DT), BR-2, or MU-3 districts through a reduction in the open space requirements.

(b) The open space requirements in all Downtown (DT) districts may be reduced by up to one hundred percent.

(c) The open space per lot requirements for the total amount of open space required on the lot in the BR-2 district may be reduced by up to fifty percent.

(d) Land use intensity may be increased up to 25 percent in the BR-1 district through a reduction of the lot area requirement.

N/A (ii) Additional Criteria for Land Use Intensity Modifications: A land use intensity increase will be permitted up to the maximum amount set forth below if the approving agency finds that the criteria in paragraph (h)(1) through subparagraph (h)(2)(H) of this section and following criteria have been met:

N/A (J) Additional Criteria for Floor Area Ratio Increase for Buildings in the BR-1 District
(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 proposal is for a 16.7 percent parking reduction to provide 30 parking spaces, where 36 are required.

(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;

The applicant is requesting a 16.7 percent parking reduction for the Habitat development based on Transportation Demand Management (TDM) strategies and multi-modal access. The subject property is served by the 204 transit route, which provides bus service along 19th Street. Several pedestrian and bicycle connections are proposed that connect to the larger multi-modal network, including a north-south 6-foot path to connect Vine Avenue to Violet Avenue and detached sidewalks along Violet and Vine Avenues and 22nd Street. Since the property is proposed to be 100 percent permanently affordable housing for low- to moderate-income households, the applicant states that the parking demand is anticipated to be short of typical parking requirements.

The proposed off-street parking is proposed to be partially unbundled, where 19 of the 30 spaces will be bundled at one parking space per unit, and the remaining 11 spaces will be unbundled to accommodate any additional resident or visitor parking. The proposed parking reduction will also encourage the use of alternative transportation methods that will be supported by the proposed robust Transportation Management Plan.

The submitted TDM plan for 2180 Violet Avenue includes several strategies to limit the need for automobiles. First, an "Alternative Transportation Subsidy Fund" will be created by the developer. The developer will contribute to the fund equal to the cost of a 3-year participation in the Eco Pass program. This amount will equal $360 per unit ($120 per unit, per year, for 3 years), for a total of $6,840. Acknowledging that transit services are limited, the fund can be used for expenses such as B-cycle and car-share memberships, additional bicycle parking racks for the project, transit (RTD) passes, and other HOA approved items. An eGo car share is located in the Holiday neighborhood on Yellow Pine Avenue. Second, orientation packets will be provided to each new resident that includes brochures, maps, and other resources to inform residents of their transportation options. Third, the proposal exceeds the required long-term bicycle parking with 38 parking spaces in the private storage sheds. Lastly, 19 of the parking spaces will be reserved for the residential units (one per unit), with the balance being unbundled. The 11 unbundled spaces will be on a first-come, first-serve basis. The proposed TDM strategies ensure that alternative modes of transportation will continue to reduce the need to for on-site parking on an ongoing basis. Staff finds that the parking reduction meets...
the review criteria based on TDM strategies, access to multi-modal networks, the population served by the proposal, and the availability of on-street parking following the proposal.

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

*Not applicable.*

(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;

*Not applicable.*

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

*Not applicable.*

(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 development will be permanently affordable with covenants on the property. Therefore, the nature of the occupancy will not change.*

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:
CITY OF BOULDER
PLANNING BOARD ACTION MINUTES
December 7, 2017
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 Putnam, Chair
Liz Payton, Vice Chair
Bryan Bowen
David Ensign
Crystal Gray
Peter Vitale
Harmon Zuckerman

PLANNING BOARD MEMBERS ABSENT:
N/A

STAFF PRESENT:
Charles Ferro, Development Review Manager
Hella Pannewig, Assistant City Attorney
Cindy Spence, Administrative Specialist III
Sloane Walbert, Planner II
Beth Roberts, Planner I
Caitlin Zacharias, Planner I
Jim Robertson, Director of PH+S
Jean Gatza, Senior Planner
Lauren Holm, Associate Planner
Chris Ranglos, Associate Planner
Lesli Ellis, Comprehensive Planning Manager, PH+S
Molly Scarbrough, Senior Project Manager, Public Works

1. CALL TO ORDER
Chair, J. Putnam, declared a quorum at 6:05 p.m. and the following business was conducted.

2. APPROVAL OF MINUTES
On a motion by D. Ensign, seconded by H. Zuckerman, the Planning Board voted 6-0 (C. Gray absent) to approve the October 19, 2017, November 2, 2017 and November 16, 2017 minutes as amended.

3. PUBLIC PARTICIPATION
a) Alan Delamere (pooling time with Sheila Delamere), spoke regarding the proposed
project at 311 Mapleton. He stated that the project appears to be more massive than originally declared and that the public has not been informed of the three concurrent reviews. He informed the board that the project’s information is inaccessible and overwhelming.

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

A. Call-Up Item: FINAL PLAT to subdivide the existing 44.9-acre property at 2655 63rd Street into three lots and two outlots. A Site Review Amendment (#LUR2016-00109) was approved earlier this year to allow for the consolidation of three lots (previously Lots 3, 4 and 5) into one lot (proposed Lot 3) for a bus transportation and maintenance facility. Case no. TEC2016-00060. The call-up period expires on December 12, 2017.

This item was not called up.

5. PUBLIC HEARING ITEMS

A. AGENDA TITLE: Public hearing and consideration of the following items relating to four properties in Crestview East:

(1) Recommendation to City Council on proposed amendments to the annexation agreements for 2180 Violet Ave., 2100 Violet Ave., 1917 Upland Ave. and 2145 Upland Ave. to allow the affordable housing requirements of all the properties to be meet at 2180 Violet Ave. Proposal includes an amendment to allow an increase in density at 2180 Violet Ave. for a total of 19 dwelling units and amendments to reduce the required dedication of right-of-way for future Vine Street (LUR2017-00010);

(2) Recommendation to City Council on an ordinance amending the Boulder Revised Code and annexation Ordinance No. 5932 to authorize development of 2180 Violet Ave. in the RM-2 zoning district with 19 dwelling units consistent with the proposed amendment to the annexation agreement for 2180 Violet Ave.; and

(3) Public hearing and consideration of a Site Review (case no. LUR2017-00011) to develop the three properties at 2180 Violet Ave., 2100 Violet Ave., and 2145 Upland Ave. as follows:

a. 2180 Violet Ave. Proposal for the construction of 19 residential units in five buildings. The development would be 100 percent permanently affordable for-sale residences built by Flatirons Habitat for Humanity. Seventeen of the units are proposed to be two-story, three-bedroom townhouses and two units would be one-story, one-bedroom accessible residences. Thirty parking spaces are proposed.

b. 2100 Violet Ave. Proposal to subdivide the property into 6 lots for single-family development. Design guidelines are proposed to guide the design of the homes.

c. 2145 Upland Ave. Proposal to subdivide the property into 3 lots for single-family development. Design guidelines would be used to guide the design of the homes.
Board members were asked to reveal any ex-parte contacts they may have had on this item.

- **H. Zuckerman, B. Bowen, L. Payton** and **C. Gray** all stated that they had been on Planning Board when the Concept Review was presented in 2016. All members mentioned they had conducted site visits except for **P. Vitale** and **L. Payton**. Both **B. Bowen** and **C. Gray** stated they had reviewed the packet but had no other ex-parte contacts. **H. Zuckerman** said that he had worked for Habitat for Humanity in the past, but that he could remain impartial. Finally, **P. Vitale** stated he had sat on the Habitat of Humanity Board prior to being on Planning Board, but that he also could remain impartial.

Staff Presentation:
**C. Ferro** introduced the item.
**S. Walbert** presented the item to the board.

Board Questions:
**S. Walbert** and **C. Ferro** answered questions from the board, primarily related to planned connections for the area, proposed TDM measures, and accessory dwelling units.

Applicant Presentation:
**Robert Naumann, Susan Lythgoe**, with Flatirons Habitat for Humanity, **Don Ash**, with Scott, Cox and Associates, Inc., and **Jeff Dawson**, with Studio Architecture, presented the item to the board.

Board Questions:
**Don Ash, Jeff Dawson** and **Susan Lythgoe** representing the Applicant, answered questions from the board, primarily related to wiring for solar on rooftops and utility outlets for charging stations in the carports.

**S. Walbert, C. Ferro** and **B. Roberts** answered questions from the board, primarily related to livability standards, the proposed design guidelines, on-street parking, compatible development and floor area, and affordable housing.

Public Hearing:
1) **Janet Meyer** spoke in support of the project with two concerns regarding the proposed parking and the planned construction schedule. The proposed parking reduction would be inadequate for the number of proposed units. The construction schedule is proposed to be six years, which is an unreasonable impact on the neighborhood.

2) **Nolan Rosall**, speaking as the President of the Board of Directors of Flatirons Habitat for Humanity, spoke in support of the project. It will help support the mission of providing quality affordable homes.

3) **Jan Morzel** spoke in support of the project and encouraged Habitat for Humanity to develop an ECO pass or Carshare program with the existing neighborhood. He also encouraged Habitat to communicate TDM measures to residents before they move in to limit car ownership. However, he is opposed the developer of 2100 Violet Ave. and 2145 Upland Ave. reducing their affordable housing requirements due to the
advantages they have already received through the original annexation.

**Board Comments:**

**Key Issue #1: Is the proposal consistent with Boulder Valley Comprehensive Plan (BVCP) and North Boulder (NBSP) Subcommunity Plan?**

- All board members agreed with the staff recommendation that the proposal is consistent with the BVCP and NBSP.
- L. Payton stated the BVCP has polices regarding middle-income housing, and the goals may not be consistent with these policies.

**Key Issue #2: Are the proposed annexation agreement amendments consistent with the Boulder Valley Comprehensive Plan (BVCP) policies of annexation and the intent of the original annexation terms?**

- B. Bowen added that it is positive to be able to adjust the annexation agreements around affordable housing.
- L. Payton voiced concerns about the size of the proposed single-family homes, referring to the newly constructed Trail Head development as an example. She stated that she may propose a condition or modification to the annexation amendment to address the potential square footage of the homes, specifically maximum floor area ratio (FAR). She asked H. Pannewig to assist in the drafting of a condition or modification.

**Key Issue #3: Is the proposed land use intensity increase consistent with the BVCP land use map and policies?**

- The board agreed with the staff recommendation that the proposal is consistent with the BVCP.

**Key Issue #4: Does the development proposal meet the Site Review criteria found in Section 9-2-14(h), B.R.C. 1981?**

- B. Bowen said that this was a strong proposal and the applicant adjusted the design to respond to the Planning Board’s Concept Review recommendations. He complimented the architecture, open space and focusing on diversity in affordability and age. He suggested a few conditions to consider, such as requiring an EVSE mount, convenience outlets in each storage unit or carport, and conduit for future PV on the rooftops of each home. He clarified that there is no way to solar energy from the carports to feed back into individual homes, due to the electrical code and Xcel.
- C. Gray appreciated that the applicant listened to the Planning Board’s comments from the Concept Plan Review. She approved of the proposed community space and placing the detention to the side rather than incorporating it into the open space.
- D. Ensign approved of the proposed multiple colors on the buildings. He agreed with B. Bowen’s proposed condition regarding conduits on the rooftops.
- L. Payton stated that the project meets the Site Review criteria.
- H. Zuckerman approved of the site design. He said that he would have like to have seen the height of the porch floors to be three or four steps high, rather than just 12-18 inches.
- J. Putman agreed that carports are a benefit to the site design and long-term livability.
EV provisions are important because that will make for affordable transportation in the future. The condition should be not be too prescriptive and allow for flexibility. If it is not incorporated now it will be a real barrier in the future.

- **B. Bowen** encouraged the Applicant to take advantage of grants for EV and PV.

**Key Issue #5: Is the requested 16.7 percent parking reduction for the multi-family development consistent with the criteria for parking reductions set forth in Subsection 9-2-14(h)(2)(K), B.R.C. 1981?**

- **B. Bowen** suggested an alternative parking design and granting a smaller parking reduction of four stalls, with an associated parking deferral for parking in front of the proposed play lawn (six spaces). This would allow the parking lot to get smaller and play area to get larger. On-street parking may not offer much relief to the development. In this case, the developer would not be incumbered with the cost of building the parking now if it is not necessary. The HOA and Habitat for Humanity could come back to request the deferred parking (six stalls) if they realize that there is increased parking demand in the future. He proposed that the deferred parking stalls would be on-plan, but not constructed. In this case, the city has a mechanism in the future to build it.

- Staff agreed that conceptually, it could be done.

- **D. Ensign** said there may be some concern by the residents regarding a future decision to build the parking and may create the probability of conflict.

- **B. Bowen** disagreed stating that residents would already have one space per unit and the decision to implement the deferred parking would be made by the entire group.

- **H. Zuckerman** agreed that there may be an advantage to **B. Bowen’s** idea because it may be a better design and have more permeable surface in the beginning.

- **P. Vitale** stated that **B. Bowen’s** idea would be “future-proofing” the site and there is the notion that there would be less vehicles in the future, not more.

- **L. Payton** said if the residents do realize that there are not enough parking spaces, they may park in other neighborhoods rather than eliminate the play lawn.

- **H. Zuckerman** added that scenario would be the trigger for staff to perform a parking analysis and enact the parking deferral.

  - **Jeff Dawson**, representing the applicant, was asked his opinion regarding the deferred parking concept. He stated that there was some support for the idea; however, they would prefer head-in parking along the alley rather than designing a partial parking lot with four spaces. He suggested using tandem parking spaces. He asked for some flexibility within the condition.

- The board discussed the construction phasing of the project.

  - **Susan Lythgoe**, representing the Applicant, stated that the funding for the project is over five years, one building per year. They build 3 days a week, bet 8 am and 4 pm, Wednesday, Friday and Saturday. There is some flexibility is that schedule if the neighborhood requests it.

- The board determined that due to the timing of funding, the phasing plan was unavoidable.
Motion #1:
On a motion by L. Payton, seconded by H. Zuckerman, the Planning Board voted 7-0 to approve Site Review case no. LUR2017-00011, adopting the staff memorandum as findings of fact, including the attached analysis of review criteria, and subject to the recommended conditions of approval.

Friendly amendment by D. Ensign, accepted by L. Payton and H. Zuckerman, to add a condition that conduit for future photovoltaic systems be brought to the rooftops of the residential units.

Friendly amendment by J. Putnam, accepted by L. Payton and H. Zuckerman, that the Applicant provide measures to facilitate the future installation of electrical vehicle (EV) charging stations in the carports on Vine Alley at the technical document review stage.

- The board deliberated proposing the following motion regarding parking at 2180 Violet, but after discussion, it was not made:

“The final site plans shall show that two additional parking spaces can be accommodated on site, meeting all applicable standards of the Boulder Revised Code. If the city manager finds that the parking needs of the Property are not adequately met on the Property, the Applicant shall construct such additional two parking spaces and commence construction within 90 days’ notice by mail.”

Motion #2:
On a motion by L. Payton, seconded by H. Zuckerman, the Planning Board voted 7-0 to recommend to City Council approval of the annexation agreement amendments as they are consistent with the overall goals and policies of the Boulder Valley Comprehensive Plan policies pertaining to annexation as well as the intent of the original annexation terms.

Friendly amendment by L. Payton, accepted by H. Zuckerman, to add to Motion #2 that the Planning Board recommends that the annexation agreements for 2145 Upland Avenue, 1917 Upland Avenue, and 2100 Violet Avenue be further revised to state that the Parties agree to replace Paragraphs 7(f), 6(f), and 8(h), respectively, relating to floor area ratio, with the following:

“The compatible development standards of Sections 9-8-2, 9-7-9, 9-7-10, and 9-7-11, B.R.C. 1981, shall be complied with as they apply to the zoning district of the Subject Property.”

On a motion by B. Bowen, seconded by H. Zuckerman, the Planning Board voted 4-3 (C. Gray, D. Ensign, L. Payton opposed) to amend the main Motion #2 by deleting the friendly amendment language requiring compliance with compatible development standards.

Motion #3:
On a motion by L. Payton, seconded by H. Zuckerman, the Planning Board voted 7-0 to recommend to City Council on an ordinance amending the Boulder Revised Code and
annexation Ordinance No. 5932 to authorize development of 2180 Violet Ave. in the RM-2 zoning district with 19 dwelling units consistent with the proposed amendment to the annexation agreement for 2180 Violet Ave.

Motion to Continue Tonight’s Meeting:
On a motion by H. Zuckerman, seconded by D. Ensign, the Planning Board voted 7-0 to continue the Planning Board meeting and hear the remaining items on the agenda.

6. MATTERS FROM THE PLANNING BOARD, PLANNING DIRECTOR, AND CITY ATTORNEY
   A. AGENDA TITLE: Alpine-Balsam Area Plan Update

Staff Presentation:
L. Ellis introduced the item.
C. Zacharias presented the item to the board.

Board Comments:
Project Purpose Statement
- Board members agreed the statement was clear.
- L. Payton added that everything in the area plan could be achieved, yet the city could still end up with a jobs-housing imbalance. She recommended that it may be useful to conduct a post-mortem on Transit Village Plan and conduct a comparison to the job-housing plan so the same mistakes are not made.
- D. Ensign suggested adding “constituents” to the phrase “create a common understanding with the larger Boulder neighborhoods”.
- C. Gray expressed concern about the nearby areas and would we be expecting them to change.

Feedback on the Scope and Key Considerations
- C. Gray appreciated that this area will be connected to other sites along the corridor.
- D. Ensign, regarding parking and mobility, said he would like to see reference to the transit support along that corridor.
- L. Payton said people are calling for this area to be used to solve several city problems, and it is important to find a way to communicate what some of these key issues are that this project might tackle. In addition, real number targets, e.g. for commercial space, could be shown.
- J. Putnam suggested that the plan consider what is the highest and best use for the site.
- H. Zuckerman said that one thing that should be considered is a way to soften the impact for nearby businesses from the loss of the hospital.

Feedback on the criteria for and definition of the planning and study areas
- P. Vitale said the map should clarify what is not the hospital site and what that will mean for those residents within the circled area.
• **B. Bowen** added the criteria make sense. He recommended expanding the planning area to both sides of 9th Street, to include the northeast corner of 13th and Balsam Streets, and to extend further south down Broadway one or two blocks.

• **J. Putnam** was confused by the difference between the planning vs. study areas. The labels should reflect and convey our intent more clearly.

• **L. Payton** agreed.

• **D. Ensign** agreed. In addition, he approved of the area plan being tied into the Broadway corridor.

• **C. Gray** agreed. She has concerns regarding the planning area extending north of Balsam along 13th Street as well as the neighborhood to the south of the Alpine-Balsam site and the affect it may have on the existing neighborhood.

Suggestions to improve the purpose and objectives for communications and engagement.

• **C. Gray** said it is a good start and that transparency and reflecting back what was heard will be important.

• **D. Ensign** reiterated having people from the community involved in working groups will be advantageous with continuity.

• **L. Payton** suggested giving people advance notice to save the date for events. In addition, the engagement objective should be that the community helps to plan and design the site.

• **J. Putnam** stated that the engagement process is strong, but he advised to use some different, strategic tools, methods and approaches to gain additional thoughts (e.g. tech ideas).

• **H. Zuckerman** said the purpose needs to show a clear path to the eventual decision. The language should be clearer, where the public is in the process of the engagement, what the city is soliciting from them, and where the information will go from there.

• **B. Bowen** agreed that the language needs to be as clear and concise as possible. Workshops in which residents are talking to each other are very positive and create a strong community building exercise.

• **P. Vitale** agreed with all previous statements. He added that before the hospital is deconstructed, the parking lot will be sitting empty. He suggested the parking lot and the exterior of the building could be used for entertaining events by the local community. This may bring additional and different types of people to come and talk about this area.

**B. AGENDA TITLE: Letter to Council Discussion**

**Board Comments:**

- The board reviewed and edited their previously submitted comments and formatted the Letter to Council to address City Council’s three questions presented to the Boards and Commissions.

**7. DEBRIEF MEETING/CALENDAR CHECK**
8. ADJOURNMENT

The Planning Board adjourned the meeting at 11:19 p.m.

APPROVED BY

________________________________________

Board Chair

________________________________________

DATE
Existing Site/Area Context
The subject properties are located in the Crestview East neighborhood, on the large block bounded by Violet Avenue to the north, Upland Avenue to the south, 19th Street to the west, and 22nd Street to the east (refer to Figure 1). The property areas are as follows: 2100 Violet Ave.: 49,118 square feet (1.1 acres); 2180 Violet Ave: 61,905 square feet (1.4 acres); and 2145 Upland Ave. (36,209 square feet (0.83 acres).

The property at 2180 Violet Avenue is generally level and sparsely vegetated, with open grassland and some sporadic trees. Refer to Figure 2. The southern property at 2100 Violet Avenue is also generally level and contains a large number of trees in thickets, the majority of which are invasive Siberian Elms in poor condition. The property at 2145 Upland Ave. contains a home built circa 1961. The northern end of the site is heavily wooded with invasive siberian elm and honeylocusts in generally poor condition. Four Mile Canyon Creek and Crest View Elementary School is located about 1000 feet to the west from the properties under site review.

The site is part of the Crestview East neighborhood, which is roughly defined as those properties located north of Tamarack Avenue, south of Violet Avenue, east of 19th Street and west of 22nd Street. Crestview East includes a variety of single-family homes in a more rural setting than other parts of Boulder. Lot sizes vary considerably in the area with Rural Estate lots ranging from 14,000 square feet to 40,000 square feet, RL-1 (Residential Low – 1) lots of roughly 8,000 square feet in size and the medium density lots across the street from the site with lots less than 4,000 square feet in size. Medium density land use and zoning exists along Violet. The lot across 22nd Avenue to the east is another Habitat for Humanity development with the small lot single-family development (Figure 3). There’s prevalence of developments
built with cul-de-sacs and the existence of Boulder County enclaves in the immediate vicinity. An extensive mobile home park exists on the north side of Violet across from the site.

**Boulder Valley Comprehensive Plan (BVCP) Designation**

The Boulder Valley Comprehensive Plan (BVCP) land use designations reflect this context and include Medium Density Residential on 2180 Violet Avenue and Low Density Residential on 2100 Violet Avenue, and 2145 Upland Avenue. The adjacent Habitat for Humanity project is Medium Density Residential, Manufactured Housing is to the north, and Low Density Residential for the majority of areas south of the site is shown in Figure 4 on the following page. The land use designations were changed in the late 1990s to be consistent with the North Boulder Subcommunity Plan (NBSP), which established a cascading density gradient from Violet Avenue to the south towards Tamarack Avenue.

**Zoning Designation**

The properties were annexed into the city in 1997. As part of annexation, the northern portion of the property now known as 2180 and 2100 Violet Avenue was assigned a zoning designation of Residential - Medium 2 (RM-2) (previously Medium Density Residential –
Established (MR-E)) and the southern portion of the property was zoned Residential - Low 1 (RL-1) (previously Low Density Residential – Established (LR-E)). The northern portions of the properties at 1917 Upland and 2145 Upland Avenue were zoned Residential - Low 1 (RL-1) (previously LR-E) and the southern portions were zoned Residential – Estate (RE) (previously Estate Residential – Established (ER-E)). Refer to Figure 5 below. The zoning designations are consistent with the NBSP.

Residential - Mixed 2 (RMX-2) zoning is described as “medium density residential areas which have a mix of densities from low density to high density and where complementary uses may be permitted” (section 9-5-2(c), B.R.C. 1981). Residential – Estate (RE) and Residential - Low 1 (RL-1) zoning is described as “single-family detached residential dwelling units at low to very low residential densities” (section 9-5-2(c), B.R.C. 1981).

**Figure 5: Zoning Districts**

---

**North Boulder Subcommunity Plan**

The North Boulder Subcommunity Plan (NBSP) is the primary land use policy document for the Crestview East area. The plan sets forth the official vision for the future of North Boulder and provides the basis for decisions about the long-term development and preservation of North Boulder and lists specific actions to be carried out by the City, other public agencies, and the private sector in the coming years. Several planned connections impact the subject properties. The current adopted North Boulder Right-of-Way Plan is shown in Figure 6 below.
Annexation History
The properties at 2180 Violet Ave., 2145 Upland Ave. and 1917 Upland Ave. were annexed into the city in 1997 and are subject to the requirements of annexation agreements. Refer to Attachments G, H, and I of the Planning Board memorandum for the agreements. The properties were annexed prior to the larger Crestview East annexation in 2009, which was a complex multi-year process that involved the annexation of 14 properties.

The annexation agreement for 2180 Violet Ave. contains very specific affordable housing requirements for the property, including size-restricted units affordable only to the first purchaser of the unit. This means that subsequent sales of each property would allow the affordability restrictions to be terminated over time. The Restricted Unit Housing Program was discontinued in 2002 in lieu of the city’s current Inclusionary Housing regulations. In addition to the required restricted units, the annexation agreement requires the applicant to provide eight permanently affordable units, affordable in perpetuity, to households earning between 60 percent and 120 percent of the area median income (AMI), with an average income of 90 percent of AMI.

The annexation agreements for 2145 Upland Ave. and 1917 Upland Ave. each have restricted unit provisions. The 2145 Upland Ave. agreement’s affordable housing requirement is based on the development potential of the property resulting in either one permanently affordable unit for households earning up to 90 percent of AMI or one size restricted unit initially affordable to households earning up 110 percent of AMI. The 1917 Upland Ave. agreement requires two units that are permanently affordable to households earning between 60 percent to 120 percent of the area median income (AMI), and one size-restricted unit initially affordable to households earning up 110 percent of AMI.
The following table summarizes the affordability requirements that apply to the three properties as a consequence of the annexation agreements:

### TABLE 1 – AFFORDABLE HOUSING REQUIREMENTS

<table>
<thead>
<tr>
<th>Property</th>
<th>Applicable Affordability Requirements</th>
<th>Total # of Affordable Units</th>
</tr>
</thead>
</table>
| 2100 and 2180 Violet | - At time of development, 8 units, permanently affordable to households earning b/t 60% and 120% of AMI (average 90% AMI)  
- If rental, affordable to households earning < 90% AMI  
- 1 unit in RL-1 area shall be size-restricted and initially affordable to households earning 110% of AMI  
- 4 units in RM-2 portion shall be size-restricted and initially affordable to households earning b/t 80% and 120% AMI (average 110% AMI) | 13 units  
(5 units as size restricted and not permanently affordable over time) |
| 2145 Upland    | - If RL-1 portion developed with 3 units, 1 unit shall be permanently affordable to household earning 90% of AMI.  
- If RL-1 portion developed with 2 units, 1 unit shall be size-restricted and initially affordable to households earning up to 110% AMI | 1 unit  
(If developed with 2 units, 1 unit possible as size restricted and not permanently affordable over time) |
| 1917 Upland    | - At time of development, 2 units shall be permanently affordable to households earning b/t 60% and 120% of AMI (average 90% AMI).  
- 1 unit in RL-1 portion shall be size restricted and initially affordable to households earning 110% of AMI. | 3 units  
(1 unit as size restricted and not permanently affordable over time) |

Total affordable units under current agreements | 17 units |
Total permanently affordable units | 10 units |
Total units that are not considered permanent | Up to 7 units |