

Feasibility Study for
A New Clearview Library
District Library
Windsor, Colorado

prepared for
Clearview Library District,
Windsor Downtown Development
Authority and the Town of Windsor
Windsor, Colorado

prepared by
Humphries Poli Architects, P.C.

8 June 2016

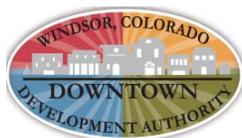


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EXECUTIVE SUMMARY

Executive Summary

The Downtown Windsor Development Authority in partnership with the Clearview Library District and the Town of Windsor retained the Library Planning firm of Humphries Poli Architects to evaluate the feasibility of creating and building a new Clearview Library District Library in the downtown Windsor area. The study included six specific tasks:

- Task 1:* Develop proposed library scope.
- Task 2:* Feasibility of identified sites.
- Task 3:* Identify and prioritize other community uses and services.
- Task 4:* Recommend a preferred site and an alternative site.
- Task 5:* Redevelopment cost estimates.
- Task 6:* Next Steps.

Task 1: The Library Planning Consultant evaluated existing conditions of the existing Windsor-Severance Library in addition to collection statistics and prepared a program of library spaces to accommodate a phase one build out of 30,000 square feet. A public meeting was also conducted in order to solicit ideas about a new Clearview Library District Library. The proposed Library Program is summarized in the following fashion:

<i>Program Area</i>	<i>Existing SF</i>	<i>Proposed SF</i>
Community Room	1,400	2,380
Adult Collections/Seating	6,850	11,645
Maker Space	275	468
Children's	3,000	5,100
Teens	580	986
Staff	3,000	5,100
Grossing Factor	<u>2,666</u>	<u>4,431</u>
Total	17,771	29,541

Additionally, it is recommended that parking be provided at a rate of 4 cars per 1,000 square feet of library space or 120 parking spaces for a 30,000 square foot library.

Task 2: The Library Planning Consultant was asked to evaluate the four specific sites identified in the previously prepared report, the '2015 DDA Area Library Study.' The four sites were identified as:

- #1 DDA Downtown West site of the American Legion and the block to the east.
- #2 Koehler Site just east of downtown at the track crossing near 2nd and Main Street.
- #3 East Main site located at the northwest corner of Main Street and WCR 257.
- #4 Ruff site just east of the town cemetery.

Additionally, a fifth site was added to the scope of work defined as:

- #5 Greenspire site located on Main Street just west of the east Main site.

The Library Planning Consultant recommended the following key factors be considered when acquiring a site for a future library:

	<i>Criteria</i>	<i>Possible</i>	<i>Site 1</i>	<i>Site 2</i>	<i>Site 3</i>	<i>Site 4</i>	<i>Site 5</i>
1.	Site Capacity	22	15	6	20	22	22
2.	Accessibility	12	11	9	9.5	8	7
3.	Image/Visual Quality	13	12	13	5	1	6
4.	Visibility	13	9	12	11	8	13
5.	Demographic Patterns	8	7	7	7	5	6
6.	Neighbor Compatibility	10	10	7	5	2	5.5
7.	Legal Matters/Zoning	9	4.5	3	6	9	9
8.	Utilities Availability	<u>6</u>	<u>3</u>	<u>4</u>	<u>3</u>	<u>4</u>	<u>3</u>
	Total	93	71.5	61	66.5	59	71.5

The top two sites, which were very close in ranking, were the DDA Downtown West site and the Greenspire site. These two sites were selected to be further analyzed and developed in the subsequent tasks.

Task 3: A meeting was held with identified potential partners to the library project with the intent to determine how the creation of a new Clearview Library District Library could further enhance the goals of the respective organizations and simultaneously embrace community wide goals. It was recommended that a flexible meeting space of approximately 5,000 sf be included in the library project that would be available to the community supplementing the already programmed community spaces. This would also require 20 additional parking spaces for a total of 140 on-site parking spaces.

Task 4: The preferred site was identified as the Greenspire site. The following logic evolved for identifying this site:

Pros-

- The site is appropriately sized to accommodate a one-story library.
- The site is currently on the market and available to purchase from a single owner.
- The size of the site is easily large enough to facilitate the phase 1 build out of 30,000 sf with surface parking in addition to facilitating the phase 2 build out of 50,000 sf with surface parking, in addition to the 5,000 sf partners space.
- The site could be identified as the eastern gateway to the Downtown area.
- The site is very near the geographic center of the Clearview Library District service area.

Cons-

- The off-site development costs are significantly higher than other sites as a result of adjoining development not being completed at this time.
- The current perception of the site is that it is not readily connected to the Downtown area.
- Access to Main Street from proposed Greenspire Drive is limited, requiring further development of Water Leaf Drive and Greenspire Drive to the north for traffic leaving the library site to the East for Eastbound Access.
- Further research will be required to evaluate potential drainage issues.

An alternative site was identified as the DDA Downtown West site. The following logic evolved for identifying this site:

Pros-

- The site is clearly in the Downtown area and would be a valuable bridge between the central business district, Boardwalk Park and Lake Windsor.
- The site would support collaboration between Downtown businesses and Library.
- The site is physically near the center of the current Downtown.
- The area is planned to be a catalytic development to the Downtown area with significant pedestrian connections to downtown amenities.

Cons-

- The site is an urban site requiring either a two story library which presents operating limitations or the creation of a parking structure if a one story library is constructed.
- The site is immediately adjacent to the railroad right of way which may result in noise and safety issues.
- The site is one block removed from Main Street potentially resulting in it being less visible to users.
- The long-term ownership of the property is unknown.

Task 5: Cost estimates for the preferred site, the Greenspire site and the alternative site, the DDA Downtown West site were developed using historic data for similar library construction projects in the Rocky Mountain West. The statements of probable costs in addition to the construction costs also include fees for professional services, moving expenses, and appropriate contingencies. Not included in the statement of probable costs is the site acquisition costs in order to not impact negotiations for the acquisition. The following summarizes the statement of probable costs for the two options:

Preferred Site- Greenspire	
Construction	\$ 9,000,000
Site Development	\$ 2,800,000
Sustainability	\$ 450,000
FFE	\$ 750,000
Technology	\$ 300,000
Opening Day Collection	\$ 300,000
Way Finding	\$ 30,000
Moving	\$ 50,000
Professional Fees	\$ 1,600,000
Contingency	\$ 2,000,000
Project Management	\$ 350,000
Miscellaneous Expenses	\$ 350,000
Greenspire Reimbursement	\$ 321,005
Community Partnership	<u>\$ 1,750,000</u>
Project Total	\$20,051,005

Alternative Site- DDA Downtown West	
Construction	\$ 9,600,000
Site Development	\$ 400,000
Sustainability	\$ 450,000
FFE	\$ 750,000
Technology	\$ 300,000
Opening Day Collection	\$ 300,000
Way Finding	\$ 30,000
Moving	\$ 50,000
Professional Fees	\$ 1,419,600
Contingency	\$ 1,774,500
Project Management	\$ 295,750
Miscellaneous Expenses	\$ 295,750
Community Partnership	\$ 1,850,000
Parking Structure	<u>\$ 2,800,000</u>
Project Total	\$20,315,600

The construction costs for the DDA Downtown West site were slightly higher per square foot due to the urban nature of the site compared to the open area of the Greenspire site which is generally thought to be less costly to develop. However, the Greenspire site requires a substantial investment in off site development for access to the property. In comparison, the creation of a new library on either site is more or less the same cost. In the event a parking structure is not required to supplement the DDA Downtown West site, the cost of that site would be less expensive.

Task 6: Next steps were identified in order to fully explore the catalytic value of the proposed Library to the Downtown area. This included the creation of a Downtown Futures Summit including major stakeholders of the respective organizations and evaluation of other projects in the downtown area that might impact and/or benefit from the development of a new Clearview Library District Library. It was also suggested the Clearview Library District continue its partnerships with the RE4 School District and Town of Severance to enhance library services in the Severance community and to continue to serve the West Greeley community through the bookmobile service.

In summary, the two final sites are very similar in terms of affordability and opportunities. The Greenspire site offers a more immediate acquisition of the property currently controlled by a single ownership and available. Case studies such as the Public Library in Bozeman, Montana illustrate how the library can become an anchor and gateway to the downtown area promoting infill between the library and the core downtown. In other communities, construction of the library in the downtown context has proven to be highly effective in stimulating activity and development in the area. Case studies such as the library in Louisville, CO and Glenwood Springs, CO are successful examples of the impact of a library to the downtown context.

INTRODUCTION/PROJECT OVERVIEW

Introduction

Windsor, Colorado's downtown has been the subject of significant investigation and research over the past five to ten years, centering on the identification of strategies to advance individual catalyst projects. These projects have included the restoration of the Mill and the development of the lakefront "backlot" property owned by the Downtown Development Authority (DDA). A number of other studies have addressed parking, the overall vision for the DDA, and historic inventories. Most recently, the DDA has completed a Strategic Plan highlighting several key initiatives that need to move forward to launch a new era of investment in the downtown area. These initiatives, including the Mill and "Backlot," also include the potential for locating a new Clearview Library District Library in the downtown, which is the focus of this feasibility study. The barrier to action in addressing these initiatives, as defined by the Town, is a 'swirling mass of opportunity'.

The Town of Windsor is ideally located approximately one hour north of Denver, south of Fort Collins, east of Loveland and just west of Greeley providing a highly desirable living and business experience. The location offers excellent support to these adjacent communities as well as providing an inviting environment for locally and regionally based businesses with a small town charm. Consequently, the Windsor area has experienced tremendous growth and development. The Town is served by the Clearview Library District which includes the Windsor-Severance Library located just south of Windsor's Central Business District. Just as the Town has experienced tremendous growth, the Library has also been pressed to meet the demands of the District's patrons.

The Library recently surveyed their patrons and found that the highest number of respondents reported they would be more likely to visit the Library if it were located in the downtown Windsor area. In June 2015, the Windsor Downtown Development Authority in partnership with the Town of Windsor and the Clearview Library District embarked upon a feasibility study to evaluate a preferred location for a new Clearview Library District Library. The first step in this process was the retention of Downtown Colorado, Inc. for technical assistance to determine interest of both the DDA and the Library into the downtown. The resulting report titled "DDA Area Library Study" defined four potential sites in the downtown area that might be considered appropriate for locating a new library of approximately 30,000 square feet with the potential to expand to 50,000 square feet. The DDA identified this project as an opportunity to enhance amenities in the downtown area through the development of an underutilized parcel and drawing activity to the area.

The DDA, the Town of Windsor and the Clearview Library District have continued this partnership in 2016 by securing a \$25,000 grant from the Colorado Department of Local Affairs to fund a feasibility study to further evaluate the four potential sites, provide conceptual designs and cost models. Additional matching funds were provided by the respective organizations participating in the study. An additional goal of the study was to evaluate and identify other potential community uses and services that could be associated with the proposed project. A Request for Proposal from architectural firms with a demonstrated experience in public library design was issued by the DDA.

As a result of this process the Denver based architectural firm of Humphries Poli Architects was selected. The firm specializes in the design of public libraries having been engaged in the completion of over 80 public library facilities predominantly located in the Rocky Mountain West. Their experience has specifically addressed the needs of libraries in several neighboring communities including the acclaimed library in Historic downtown Louisville CO, six branches for the revolutionary Anythink Libraries including a library in downtown Brighton, CO and a recently completed a library in Glenwood Springs CO in partnership with the Downtown Development Authority, Colorado Mountain College, the City of Glenwood Springs, and the Garfield County Public Library District. Representatives of Humphries Poli Architects have consistently participated in library planning/thought forums sponsored by Library Journal and the American Library Association. In addition, their staff was invited to be a keynote presenter at the acclaimed Risk and Reward Conference discussing how architecture might impact the success of a library facility.

Project Overview

This feasibility study specifically addresses the following six tasks:

Task 1: Develop proposed library scope.

This task included the creation of a library building program through an evaluation of the existing facility and collection in addition to conducting a public meeting asking citizens what they wanted to experience in their new library.

Task 2: Feasibility of identified sites.

This task included a detailed analysis of five sites based upon an objective evaluation process ranking the sites. It should be noted that a fifth site was added to the scope of work from the original four sites as the Clearview Library District was approached by a property owner of an undeveloped site on Main Street. Each of the five sites were diagramed to conceptually determine a plan organization, parking, building massing and urban design relationships to the neighborhood.

Task 3: Identify and prioritize other community uses and services.

A meeting with potential partners was conducted to determine what other community uses and services might be included in the project in order to help achieve community wide goals.

Task 4: Recommendation of a preferred site and an alternative site.

Through the evaluation of information in the three previous tasks a recommendation of one preferred and one alternative site was identified. This task included a further evaluation of the two sites. Included as part of the evaluation was a Preliminary Geotechnical Engineering Report prepared by Olsson Associates, which included soil borings at the preferred and alternative sites.

Task 5: Redevelopment cost estimates.

Statements of probable costs have been developed for the two preferred sites. The statements of probable costs included all costs normally associated with a project of this nature with the exception of property acquisition costs. This cost has been withheld in order to maximize the negotiations with potential property owners.

Task 6: Next Steps.

Identify what steps should be pursued by the Clearview Library District, the Town of Windsor and the Downtown Development Authority to ensure the location and creation of a new Clearview Library District Library has a catalytic impact to the community and exceeds the goals of all.

Project Goals

Cultivate Curiosity : Catalyze Community

Setting the stage for a Library that manifests the community of the Clearview Library District

1. Create a library that encourages and rewards **CURIOSITY**.
2. Provide the library with **VISIBILITY, FLEXIBILITY, and EXPANDABILITY**.
3. Create a **CATALYST** that sustains the region's economy, community and education.
4. Keep an awareness of the impacts of site selection on **OPERATING COSTS**.
5. Find **COLLABORATIVE** opportunities with other community organizations.
6. Provide adequate **PARKING**.
7. Provide opportunities to implement and educate about the principles of **SUSTAINABILITY**.
8. Plan for the future with **TECHNOLOGICAL INFRASTRUCTURE**.
9. Provide opportunities to reflect **REGIONAL IDENTITY** in the new library.
10. Identify the **SITE** that leads to the **BEST OVERALL OUTCOME** for all involved.
11. **DREAM BIG** and keep reality in mind.

Mission Statement

The mission of the Clearview Library District is to provide the community, through its collections and inviting spaces, the opportunity to cultivate curiosity, enlighten the mind, and strengthen the community.

History of Clearview Library District Service

The Windsor Library was established in 1906 and through the years it has been located in various sites. In the 1960's the library built a freestanding facility at 217 5th Street, Windsor, CO. An addition was added in 1977 which doubled the library's shelving space. In the summer of 1986, the Windsor Town Board and Windsor Severance RE4 School District passed a joint resolution forming the Windsor-Severance Library District and set a mill levy that generated \$90,000 annually. The Library moved from their existing facility and constructed an even larger facility located at 720 3rd Street, Windsor, CO, completed in 1997. The library featured 13,000 square feet of space and was subsequently expanded in 2008 to 17,000 square feet. Visitors to the library have increased over the years with a door count of approximately 135,000 visitors in 2008 to approximately 215,000 visitors in 2012. Today the library continues to see growth in use as the community grows as well as the demand for additional services. The current site of the library is land locked and not possible to expand without reducing the number of parking spaces and requiring patrons to park on neighborhood streets.

In 2012 and 2013, the Clearview Library District embarked on the creation of a facilities master plan. A resulting document "Windsor-Severance Library: Options for the Future" was created through the engagement of a highly recognized Library Consultant, June Garcia. This document established a Policy Statement and Regulations for library service locations



Importance of the Library to the Community in the 21st Century

The concept of the public library was conceived in an age of information scarcity whereas today's networked world is one of information abundance and mobility. This new world of 'information plenty' creates new, essential skills, such as the ability to gain value from information and produce new knowledge. If programmed correctly the 21st Century public library can be at the center of these changes: a trusted community resource and an essential platform for learning, creativity and innovation in the community. The Clearview Library District is such an institution desiring to safeguard and enhance its position in the community as stated in the Library's mission statement. Enabling the Clearview Library District to continue to fulfill new roles will require community leaders, civic partners and librarians to share new visions for what the library can be. To meet the needs of individuals, the community and the nation in the knowledge society, the Clearview Library District Library must be thoughtfully imagined through this process. We are confident that innovations or changes to the library built on the old distributed model of the lending library will not suffice. What is needed is a new level of interdependence the community and library will embrace together.

Earlier studies prepared for the Clearview Library District reference a 2014 publication from the Aspen Institute, 'Rising to the Challenge: Re-Envisioning Public Libraries', highlighting the emerging value proposition of the public library is built around three key assets—people, place and platform. The essence of this Clearview Library District Library Feasibility Study is the focus on PLACE. The Aspen Institute cites the library's physical presence as providing an anchor for economic development and neighborhood revitalization, and helps strengthen social bonds and community identity. It further suggests that through a highly creative design of the library's physical and virtual spaces, the public library will define what makes a great public space.



Participants

The Library Planning Consultant team wishes to express our appreciation to the numerous participants that provided insight and feedback throughout the course of the study. We have enjoyed the interested, deep passion and the vision expressed by the community in this process. The participants included, but not limited to:

Clearview Library District

Ann Kling- Library Director

Joann Perko- Library District Board of Trustees

Town of Windsor

Kelly Arnold- Town Manager

Patti Garcia- Town Clerk

Kristie Melendez- Mayor

Ivan Adams- Town Board Member

Scott Ballstadt- Director of Planning

Josh Olhava- Town of Windsor Planning

Windsor Downtown Development Authority

Matt Ashby- Executive Director

Bob Winters- Board Member

Craig Petersen- Board Member

Library Planning Consultant:

Humphries Poli Architects, P.C.

Dennis Humphries AIA- Principal in Charge

Ozi Friedrich, AIA

Amy Keil, Associate AIA

Chris Whitenhill- Urban Designer

Louisa Sanford - Designer

TASK 1

PROPOSED LIBRARY SCOPE

Task 1: Develop Proposed Library Scope

The Library Planning Consultant team carefully reviewed the 2013 study prepared by Library Consultant June Garcia, which suggested a library of approximately 30,000 square feet was required to meet the current needs of the Clearview Library District. It was also recommended the library be designed to accommodate a future expansion to 50,000 square feet. The Consultant also reviewed in detail the existing library and collections to better understand the limitations of the current facility. As previously noted the existing library was first constructed in 1997 as a 13,000 square foot facility and subsequently expanded to 17,000 square feet in 2008. A significant number of critical deficiencies were noted in the existing library including acoustics, a shortage of parking, lack of ability to expand on the current site, insufficient space to accommodate archival storage, etc. However, it should be noted the purpose of evaluation by the Library Planning Consultant was not to create a detailed report on the current deficiencies but focus on the needs of the future.

The Library Planning Consultant conducted a public forum on February 24, 2016 to gather information from users of the Library and citizens of Windsor, Severance and West Greeley to better understand their desires and needs. The forum was defined as a “Mind Breaking” process referencing it as an opportunity to learn about library opportunities that are not currently offered in the Windsor-Severance Library in addition to referencing the significance of the process somewhat similar to the groundbreaking for a new library. The Mind Breaking process evolves as a PowerPoint presentation of nearly 150 images from other libraries in Colorado and around the world. Participants were requested to record their most exciting, useful ideas and/or their most disliked ideas on post it notes. The participants were then asked to post their comments on blank sheets of poster paper that contained the titles of the critical components of a 21st Century Library. Additionally participants were asked to list activities or tasks that could be done in a library. The Mind Breaking process resulted in the creation of over 300 comments from the approximate 40 participants in the community outreach process. Each of the comments were read back to the audience to honor their participation in addition to asking for clarification on any thoughts that might be unique to the community. A summary of the ideas are included in the ‘word clouds’ that are shown on the following pages. The larger the font on the word cloud, the more frequent the comment or word was offered. An overall word cloud is presented as well as word clouds for each of the functional areas of the library. A complete listing of all comments has been included in the Appendices.

Additionally, the Library Planning Consultant issued a survey/questionnaire to the Library staff to better understand the strengths and weaknesses of the library’s collection, offerings and services (also included as part of the Appendices). An evaluation of the study titled “Market & Cardholder Assessment” by OrangeBoy, Inc. was also completed.

A program defining the nature of the various functions and spaces is included on the following pages. Additionally, it is recommended that parking be planned at a rate of 4 cars per one thousand square feet of library space resulting in the need for 120 parking spaces for a library of 30,000 square feet.

Programming

A comparative analysis of libraries in other similarly sized communities in Colorado was conducted. Based upon input and staff sessions it appears the library could use additional space to accommodate new and/or expanded programs that might be unique to the Clearview Library District.

The study team developed a recommended program for the new Clearview Library District Library to respond to these needs.

The following pages represent the total square footage by space. Based on the benchmarking and demographics used in this report, the library planning consultant has provided a quantitative breakout of recommended program size, shown under "Recommended". The goal of this analysis is to define an ideal Clearview Library District Library based on information collected over the course of community and staff input as well as our professional experience in similar communities. The objective is to meet the needs of the Clearview Library District.

For the purposes of this study, Humphries Poli Architects has produced a rough-draft program for the new Clearview Library District Library to help inform the evaluation of potential sites. This program is based upon the following assumptions:

- Programming priorities based loosely upon the document, Clearview Library District Building Program: It's All About the People, produced by Clearview Library District staff.
- Target size of approximately 30,000 sf for the new library, with site allowance to expand to 50,000 sf.
- Approximate 30% expansion of physical collection space / quiet reading / seating areas.
- Approximate doubling of the existing meeting room capacity to 150.
- Approximate doubling of the existing children's collections and services, and teen collections and services.
- Children's storytime space with room for about 80.
- (2) new conference rooms and (6) private study rooms.
- New flex/makerspace with a capacity of 30.
- Computer lab with a capacity of 25 workstations.
- An efficiency factor of 15% was assumed for the rough-draft program, which would typically correspond to a single story library. For a multi-story library, the efficiency factor would need to be adjusted upward to 25% to account for elevators, stairs, etc. In the two-story version, the resulting delta of 2,500 sf would either need to be eliminated from the program, or added to the overall building sf budget.
- Parking provided at a rate of 4 spaces per 1,000 sf, or 120 spaces for the initial buildout of the library. 20 additional spaces would be required for the 5,000 sf partnership spaces (refer to Task 3).
- Based on resounding comments from the Public.

PROGRAM ANALYSIS

ZONE	Space	Existing Library SF	Expansion	SF	Exp Factor	Proposed SF	Subtotals
COMMUNITY		1400	170%	2380	250%		
	Primary Meeting Room					2250	
	Kitchenette					150	
	Storage					200	
	Conference (2 @ 175)					350	
	Study Rooms (6 @ 75 sf)					450	
	Friends' bookstore					100	
	TOTAL						3500
ADULT - COLLECTIONS & SEATING		6850	170%	11645	130%		
	Fiction & reading areas					2800	
	Nonfiction & reading areas					2800	
	Quiet reading area					400	
	Media collections					1550	
	Periodicals					250	
	New books display					500	
	Colorado collection					300	
	Self checks					100	
	Holds					200	
	TOTAL						8900
MAKER		275	170%	468	600%		
	Makerspace					500	
	Computer lab (open or closed)					600	
	Digital creation lab					200	
	Maker collection					350	
	TOTAL						1650

ZONE	Space	Existing Library SF	Expansion	SF	Exp Factor	Proposed SF	Subtotals
CHILDREN'S		3000	170%	5100	200%		
	Storytime / play / craft					1200	
	Childrens collections & seating					2900	
	Family RR					75	
	Children's librarian office					200	
	Toddler & parent					250	
	Stroller parking					150	
	Children's computing					250	
	Children's gaming					150	
	Reading nooks					150	
	Imaginative feature element					250	
	Childrens' service point					75	
	Children's storage					350	
	TOTAL						6000
TEENS		580	170%	986	200%		
	YA collections					400	
	Teen computing					200	
	Teen collaborative / hangout					400	
	Gaming					160	
	TOTAL						1160

ZONE	Space	Existing Library SF	Expansion	SF	Exp Factor	Proposed SF	Subtotals
STAFF		3000	170%	5100	130%		
	Workroom & processing					1500	
	Staging					350	
	Service points (2)					150	
	Library storage					250	
	Friends storage					200	
	Future AMH					250	
	Janitor closet					50	
	Staff RR					50	
	Director's office					150	
	Bookmobile garage					950	
	TOTAL						3900
	Net square footage	15105					25110
	Net to gross (15%)	2666					4431
	Gross square footage	17771	170%	30210			29541
OUTDOOR						(not counted toward sf totals)	
	Outdoor program space					2500	
	Dog parking					100	
	Drive-up book drop and service window						
	Parking - 120 spaces					36000	

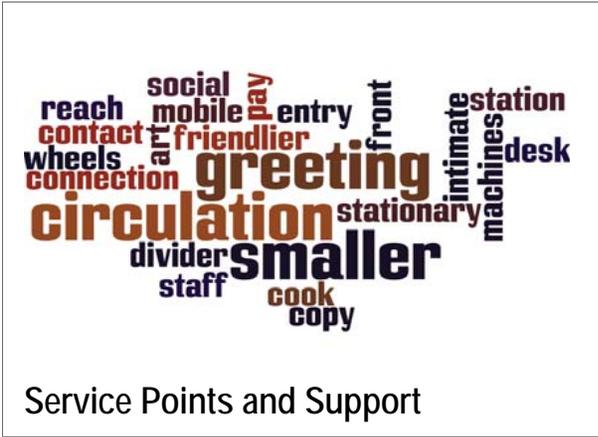
Mind-Breaking

The results of the Mind-Breaking sessions produced an abundance of comments which will influence the final outcome of the Clearview Library District Library re-imagining process. As comments were sorted from the various groups it was clear that the citizens of Windsor, Severance and West Greeley think very highly of their library, collection, spaces, and especially the staff. When asked "What can you do in a library?" there were many fascinating and inspiring answers, but one reoccurring theme was; **Be a Community!**

As the design team combed through the comments, trends became apparent in the comments that can be used to help in the programming and design phases that would follow:

- Technology showed that computers and a place for recording are important.
- Outdoor Spaces not only looked at the safety of the parking and site access, but encouraged outdoor exploration and learning.
- Reading and Shelving confirmed that an open feel with many flexible spaces is ideal.
- Children's Spaces inspire us all to dream a little bit more with tree-houses, colorful or whimsical spaces nestled in the library.
- And finally, The Staff space suggests that a more efficient workflow is needed while maintaining a welcoming feel to the library.

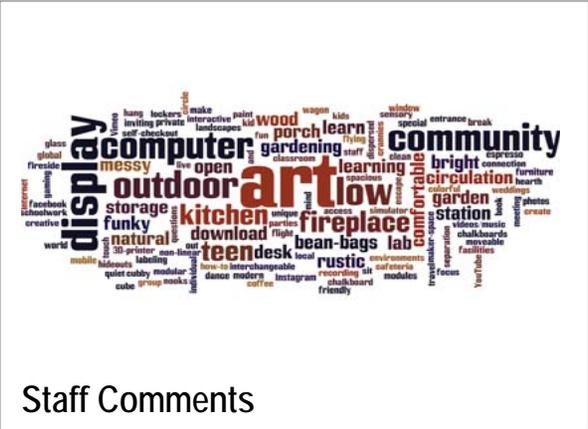




Service Points and Support



Children's



Staff Comments



Study Spaces



Seniors



Maker Space



Miscellaneous

TASK 2

FEASIBILITY OF IDENTIFIED SITES

Task 2: Feasibility of Identified Sites

The Library Planning Consultant was asked to evaluate the feasibility of the four specific sites identified in the 2015 DDA Area Library Study completed by Downtown Colorado, Inc. The four sites were identified as the following:

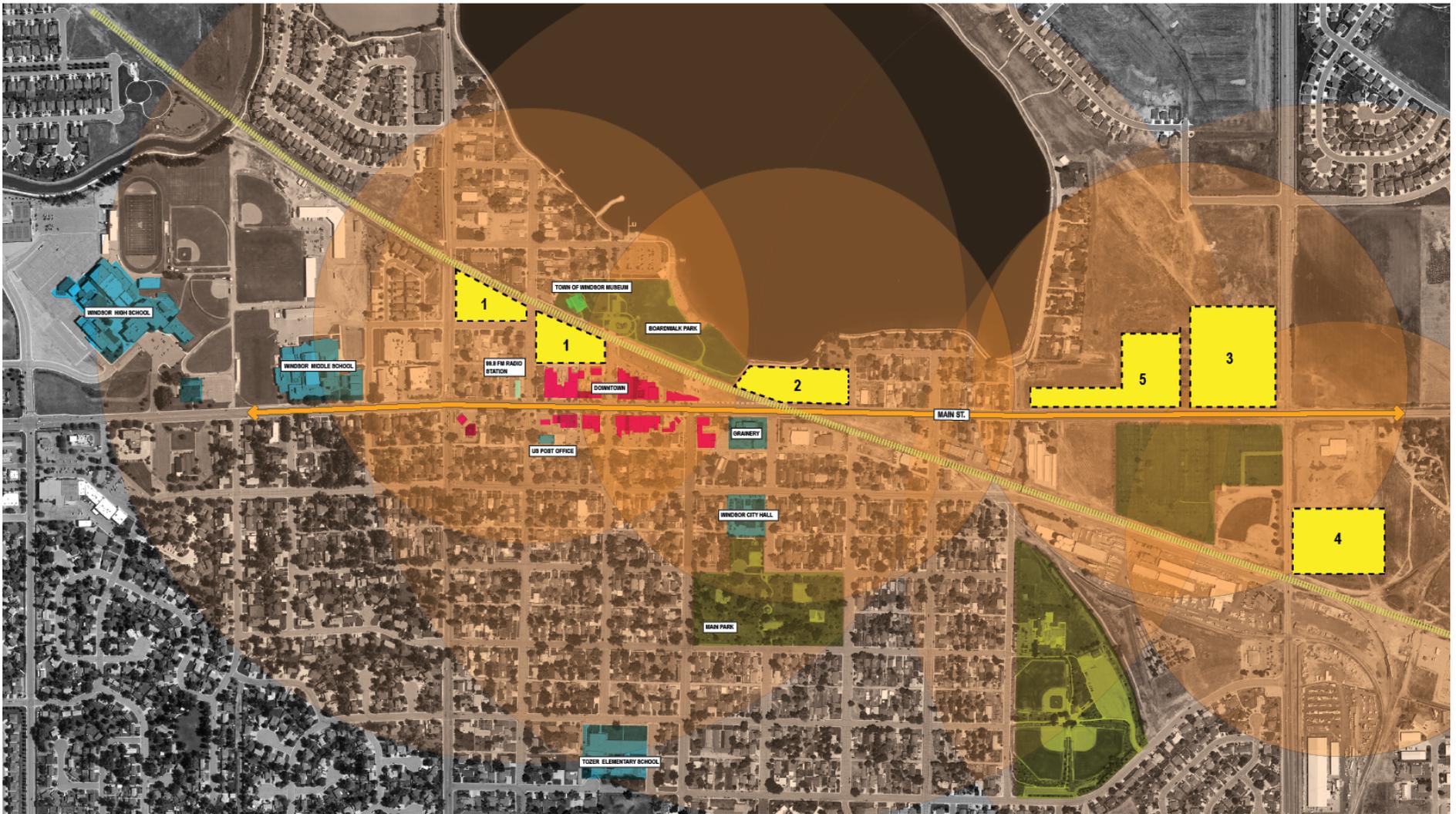
Site 1- The DDA Downtown West Site - the site represents the opportunity of developing two blocks just one block north of Main Street between 7th and 5th Streets bordered by the railroad right of way on the north. The existing American Legion building is located on the western block and Ash Street divides the eastern site referred to as the Bertsch site. The site is immediately adjacent to the Boardwalk Park and lake.

Site 2- The Koehler Site - the site represents an area of approximately 116,000 sf immediately west of the downtown on the north side of Main Street adjacent to the lake. The site is irregularly shaped and is currently owned by three property owners. The Koehler Site is located at the point where the railroad crosses Main Street. This site could be perceived as an eastern gateway to the downtown and potentially catalyze the redevelopment of the Mill immediately to the south.

Site 3- The East Main Site - the site is located at the northwest corner of Main Street (SH 392) and WCR 19. The nearly 10 acre site is diagonally bisected by an easement for the City of Greeley Water District that would negate the opportunity to build on this portion of the site. The site has a strong visual opportunity to be an eastern gateway to downtown Windsor.

Site 4- The Ruff Site - so named after its current owner, this is an approximate five acre site. The site is located on WCR 19 immediately adjacent to the railroad right of way and to the east of the Windsor Cemetery. The property to the north is also owned by the same developer and is currently being planned for commercial use. A small portion of the site is dedicated to the City of Greeley Water District as an easement to underground water lines. The site is larger than required for a 50,000 square foot library and would be easy to acquire as a result of single ownership.

Additionally, the Library Planning Consultant was asked to evaluate a fifth site referred to as the Greenspire site as it was presented to the Library District as a potential site by the current property owner. The site is located on Main Street north of the town cemetery and immediately to the west of Site 3. The site would be very easy to acquire since it is owned by a single ownership.



Site #1 DDA DOWNTOWN WEST

Existing Site

The DDA Downtown West site is bordered by 6th and 5th streets to the west and east, with the railroad to the north and divided by Ash Street.

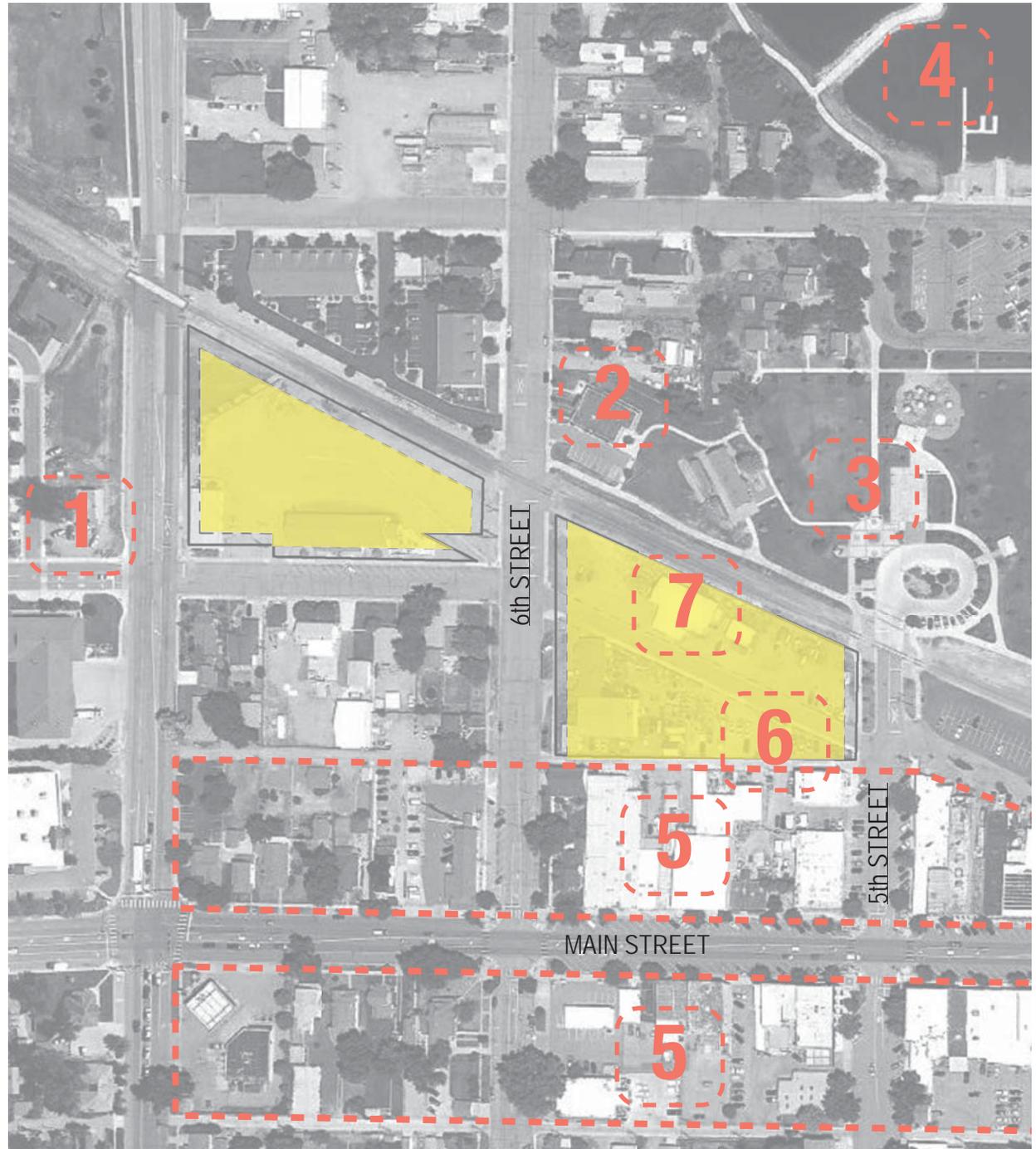
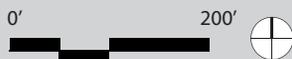
Adjacencies include the 1 Windsor Fire Station, 2 Windsor Fire House Museum, 3 Boardwalk Park, 4 Windsor Lake, 5 Downtown, and 6 the historic Windsor Creamery.

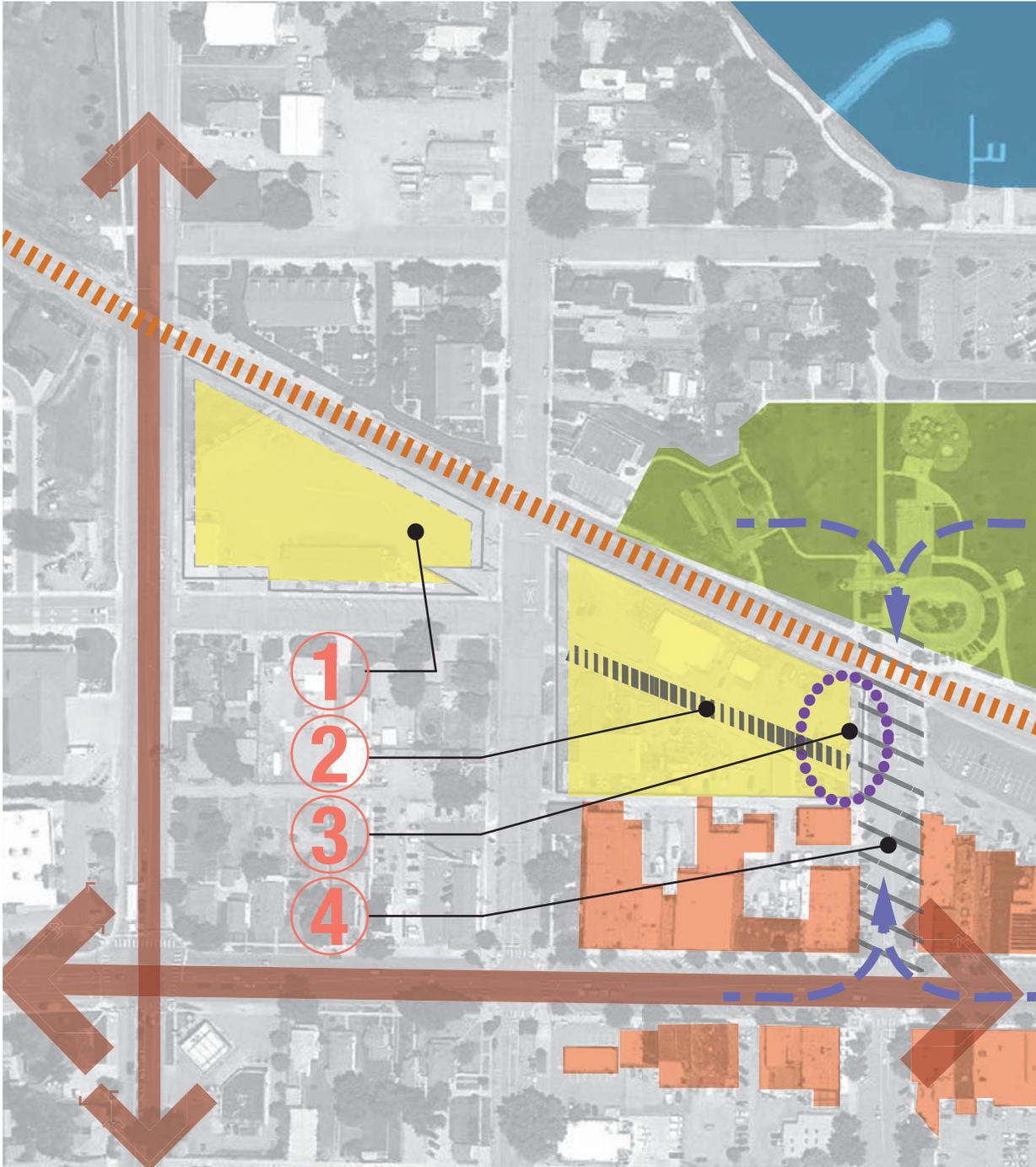
7 Portions of the site might require soil remediation from the prior location of a reported fertilizer chemical company. Means to procure cleanup funds are available.

Site #1 affords a **connection to downtown** to the south, which would allow for a multi-faceted user experience for pedestrians.

Total Site Area West	77,592 sf
Area Within Setbacks	58,683 sf
Existing Zoning	CB (NW Commercial Area)
Max. Bldg. Coverage (40%)	31,036 sf
Land Ownership	Partial City, Partial Private

Total Site Area East	91,780 sf
Area Within Setbacks	84,850 sf
Existing Zoning	CB (Windsor Lake Area)
Max. Bldg. Coverage (85%)	78,013 sf
Land Ownership	Multiple private owners





Site Strategies

The following observations were noted for the DDA Downtown West site:

- ① **West Parcel Insufficient (American Legion)**
The parcel west of 6th street is not large enough to allow for the library's square footage or parking requirements. It is also more removed from the downtown area and does not have the same adjacencies to promote business in the downtown area.
- ② **Revised Streetscape**
Ash St. to the west of the Library could be recreated as part of the community green space. Closing the street to vehicular traffic encourages pedestrian traffic. This places the library north of Ash St and locates parking south of Ash St.
- ③ **Community Green Space**
The existing Boardwalk Park adjacent to the site could be re-landscaped and extend across a portion of 5th St to connect to the Library entrance. This would both enhance the entry sequence of the Library from the North and create a space to benefit the community.
- ④ **Activated Zone**
Adjacencies to Main Street and the Downtown businesses, the greenspace at Boardwalk Park and close proximity to Windsor Lake create an active area at the east face of the Library for entry.

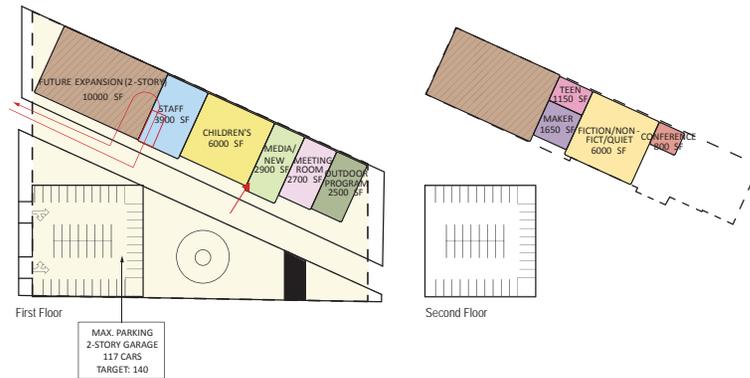
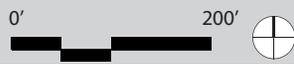
Site #1 DDA DOWNTOWN WEST

Proposed Site

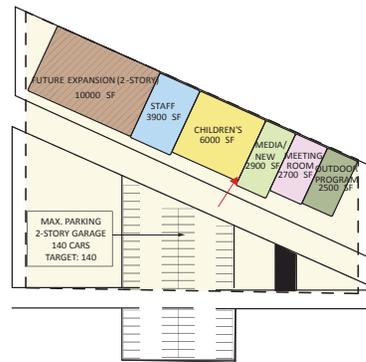
Parking:
Recommended parking - 140 (4 spaces/1000 sf)
Parking shown - Multiple Options:

- | | |
|------------------------------------|----------|
| 1. 2-Story Parking Garage | 117 cars |
| Surface parking West of 6th Street | 23 cars |
| 2. 2-Story Parking Garage | 102 cars |
| Surface parking West of 6th Street | 38 cars |
| 3. 2-Story Parking Garage | 140 cars |
| 4. Surface Parking | 78 cars |
| Surface parking West of 6th Street | 62 cars |

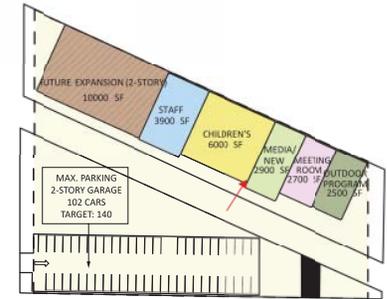
Square Footage:
Phase I = 35,000 sf
Phase II = 20,000 sf
Total = 55,000 sf



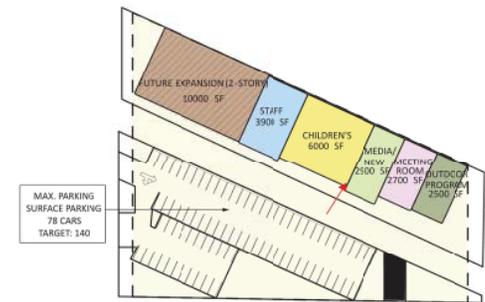
Option 1



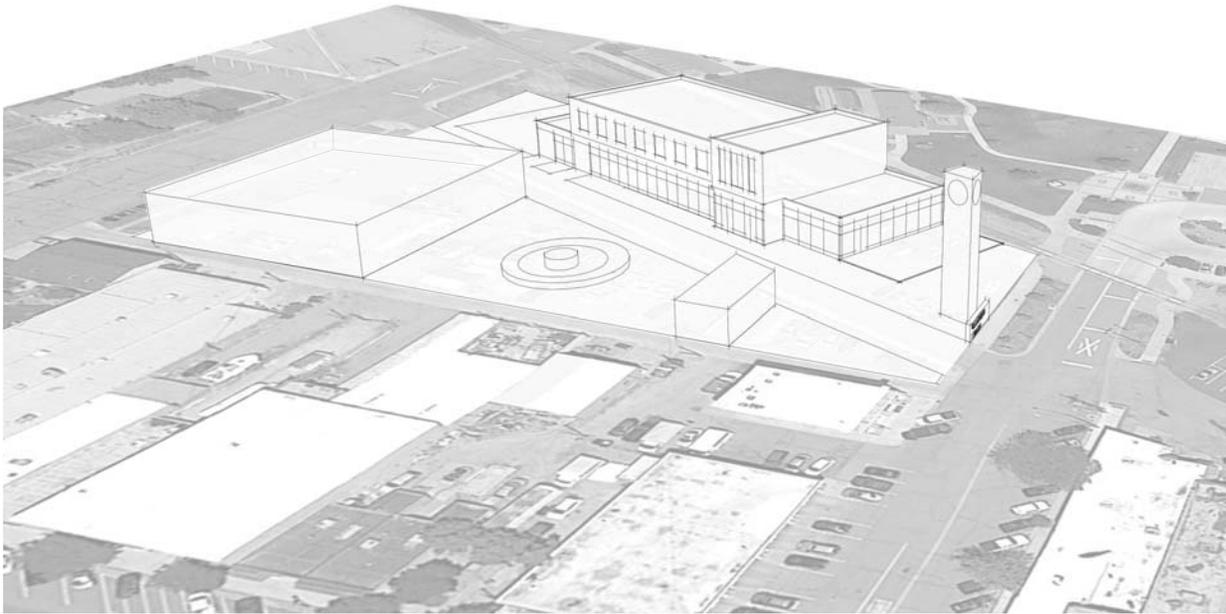
Option 3



Option 2



Option 4



Proposed Library Looking to Northwest



Proposed Library Looking to Southeast



Site #2 Koehler

Existing Site

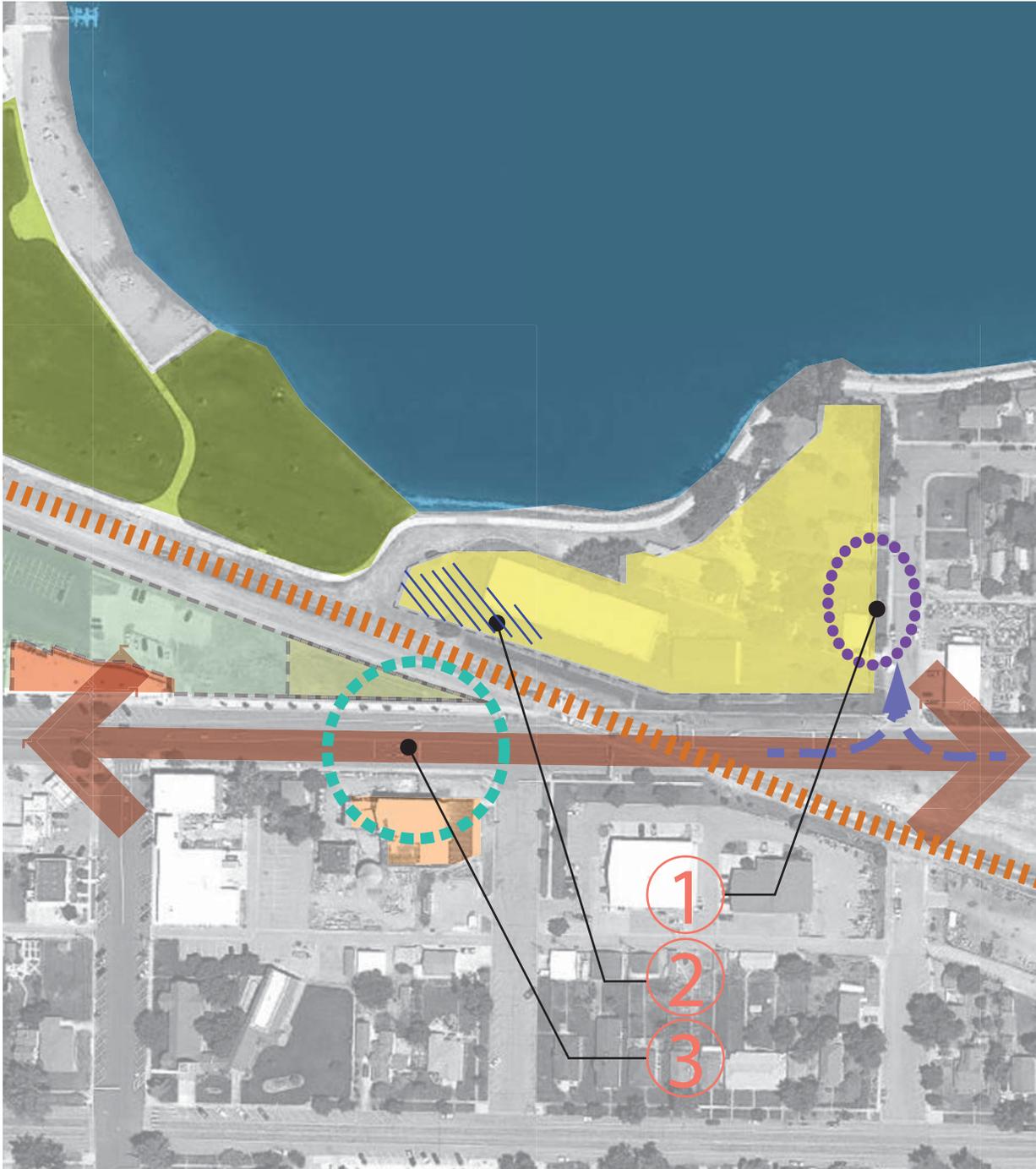
The Koehler site abuts the lake and is bordered by Main Street, 2nd Street, and the railroad.

Adjacencies include 1 Windsor Lake 2 Boardwalk Park, and the 3 Mill.

Site #2 has the most potential for off-site views with its proximity to the Lake. However, there is limited site access due to its only entry point coming off of 2nd Street. A drainage/water line currently causes flooding on site and its current zoning only allows for 40% build-out on a lot much smaller than the others.

Total Site Area West	137,316 sf
Area Within Setbacks	106,809 sf
Existing Zoning	GC (East Town Center Area)
Max. Bldg. Coverage (40%)	54,926 sf
Land Ownership	Multiple private owners





Site Strategies

The following observations were noted for the Koehler site:

- 1** Entry Off of 2nd Street
Per the Town planning staff, entry to the site must be off of 2nd Street. It is advantageous to pull the entry to the site north in order to alleviate build up of traffic turning onto Main Street.
- 2** Drainage Issues
The west side of the site affords a connection to the adjacent greenspace at Boardwalk Park, however it appears to have drainage issues from the water line.
- 3** Gateway to Windsor
West of the railroad tracks, the adjacencies of the Mill and Memorial park present an opportune place to signify the entry to downtown. The Koehler site feels removed from this opportunity.

Site #2 Koehler

Proposed Site

Parking:

Recommended parking - 140 (4 spaces/1000 sf)

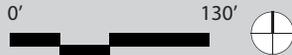
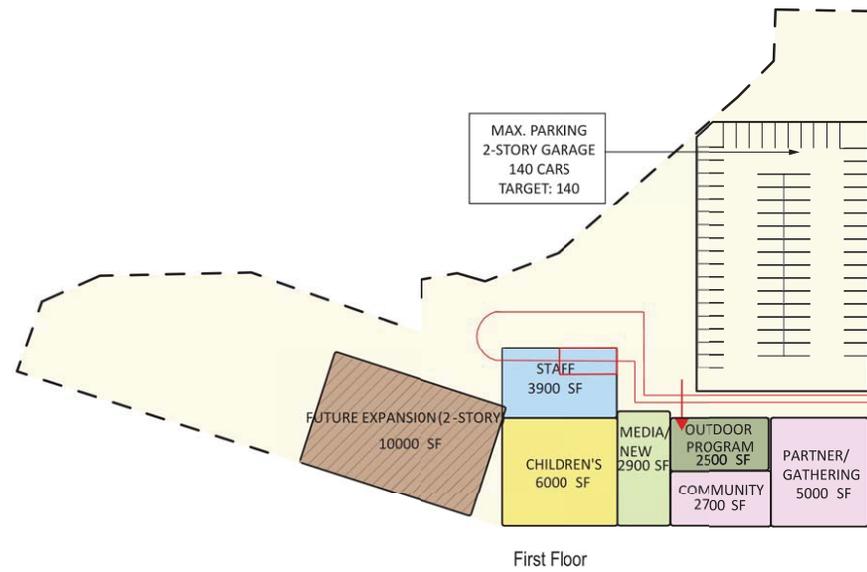
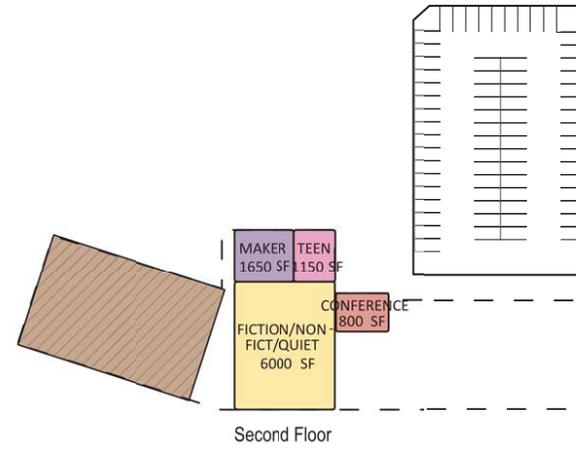
Parking shown - 140

Square Footage:

Phase I = 35,000 sf

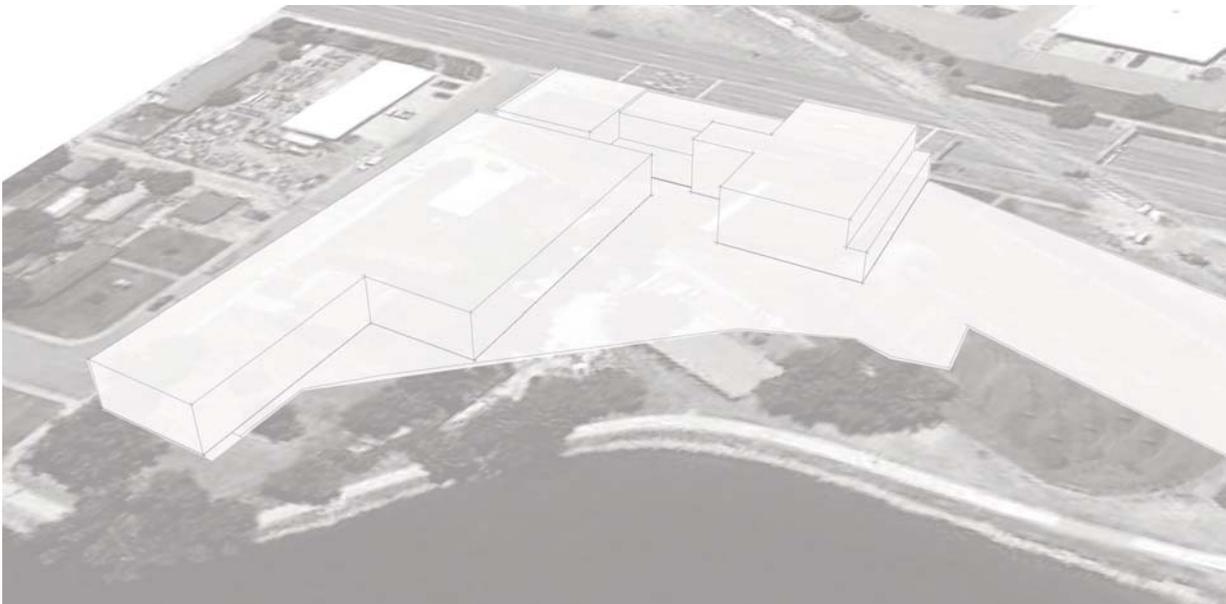
Phase II = 20,000 sf

Total = 55,000 sf





Proposed Library Looking to Northwest



Proposed Library Looking to Southeast



Site #3 East Main

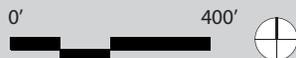
Existing Site

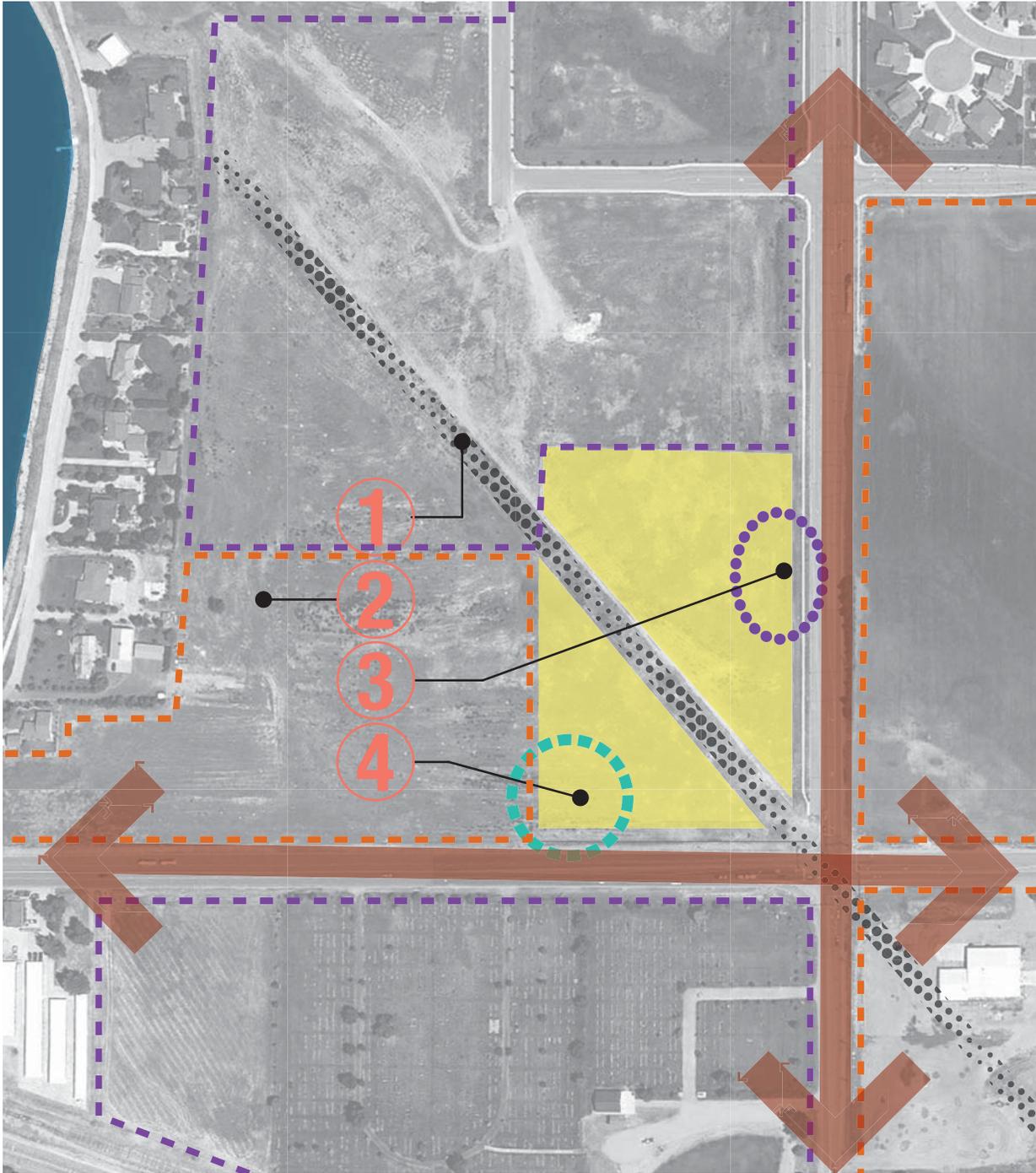
The East Main site is at a major intersection for the Clearview Library District community. It provides direct access for those driving.

Adjacencies include the **1** Windsor Cemetery, which is slated for a comprehensive master plan upgrade and the site is surrounded by **2** future development. Some development is to be commercial and some is to be residential.

Site #3 provides the opportunity for the Library to **set a precedent** for new construction in the area. The location affords **high visibility** for those coming into town and possibilities to act as a 'cornerstone' or signify entry to Windsor. This site is close to being the geographic and demographic center for the Clearview Library District community.

Total Site Area West	412,614 sf
Area Within Setbacks /Easements	280,296 sf
Existing Zoning	GC (General Commercial)
Max. Bldg. Coverage (80%)	297,933 sf
Land Ownership	Single private owner





Site Strategies

The following observations were noted for the East Main site:

- ① **City of Greeley Water Line**
The City of Greeley has an easement to a waterline, which diagonally bisects the site. This restricts the ability to build out the entire site and has potential for future disruption of the Library's grounds.
- ② **Undeveloped Adjacencies**
The dashed lines indicate the surrounding areas which have yet to be developed. This unknown allows the Library to set a precedent, however it means the 'amenities' from its neighbors are unknown and there is incomplete information to understand the integration of the Library with its immediate neighbors.
- ③ **Road Access**
Based on comments for the town planning staff, access to the site shall be from WCR 19. The access will be right-in, right-out access only.
- ④ **Emphasis on the Corner**
Given the water line restrictions, the Library should hug the southwest corner of the site to maximize build-out and maintain visibility from Main Street. Placing the parking north of the water line allows for minimal disruption for future water line access.

Site #3 East Main

Proposed Site

Parking:

Recommended parking - 140 (4 spaces/1000 sf)

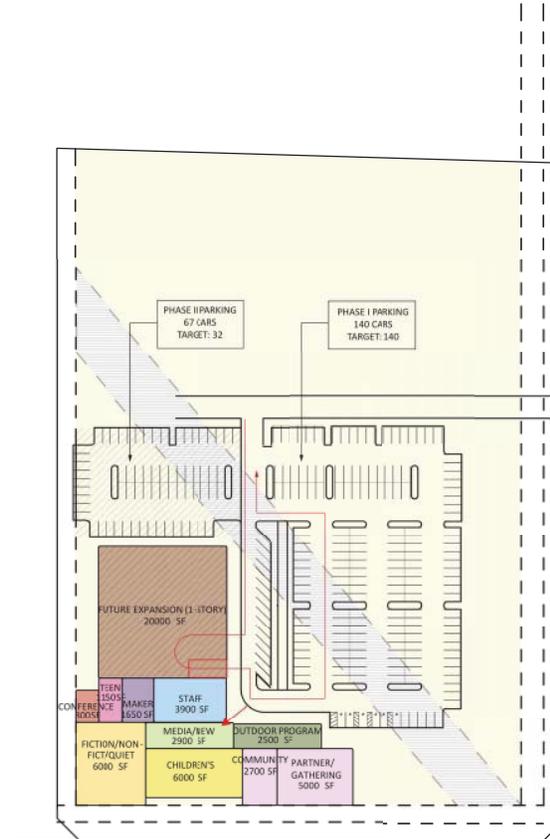
Parking shown - 140

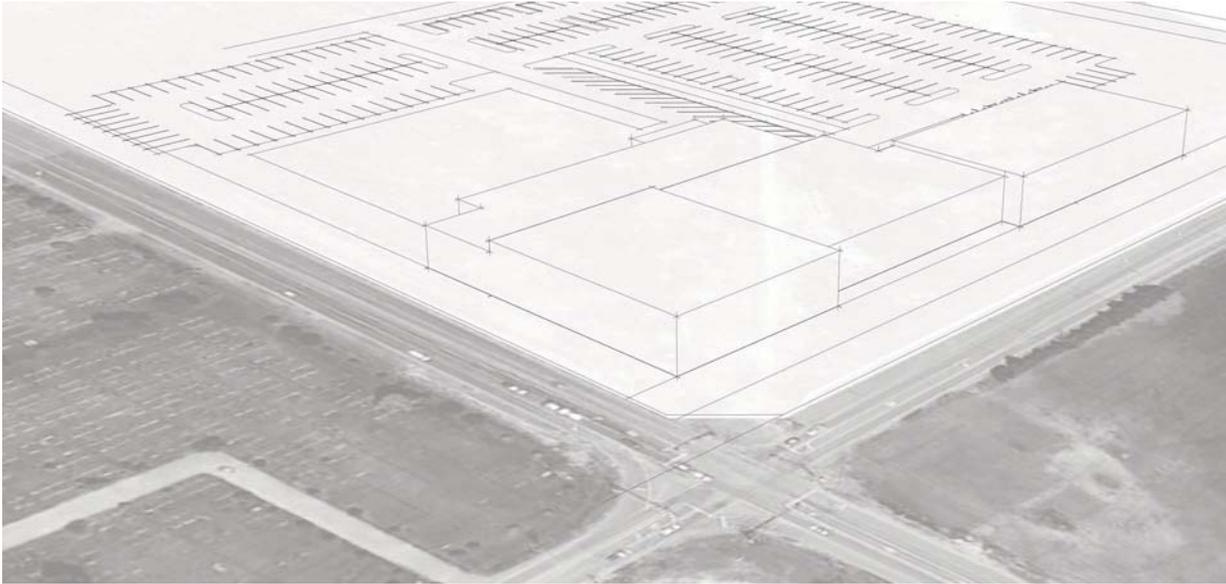
Square Footage:

Phase I = 35,000 sf

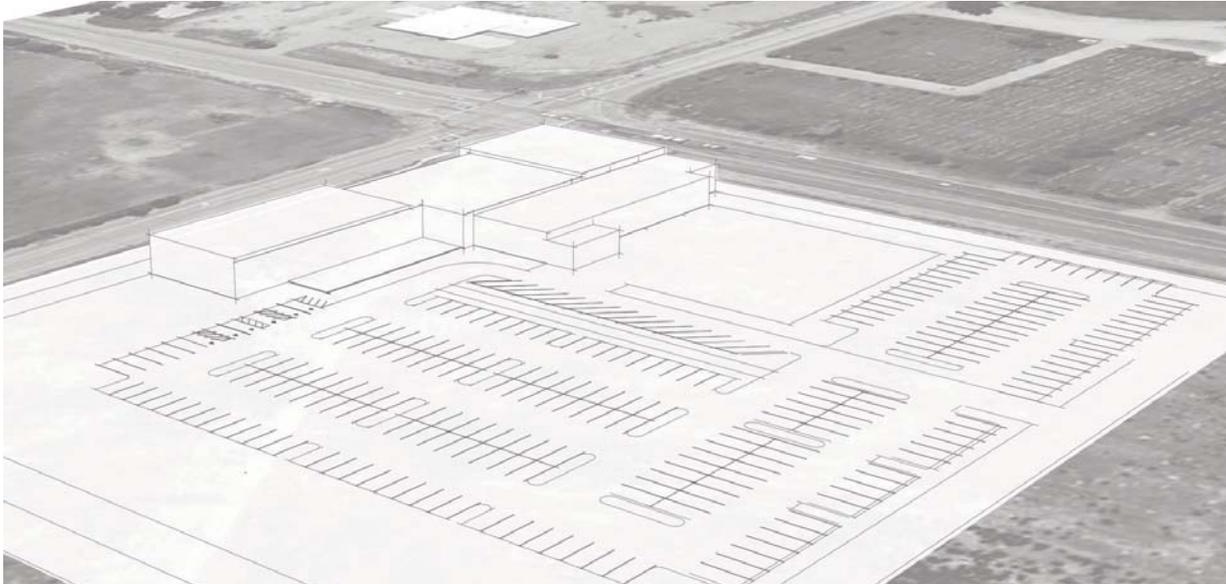
Phase II = 20,000 sf

Total = 55,000 sf





Proposed Library Looking to Northwest



Proposed Library Looking to Southeast



Site #4 Ruff

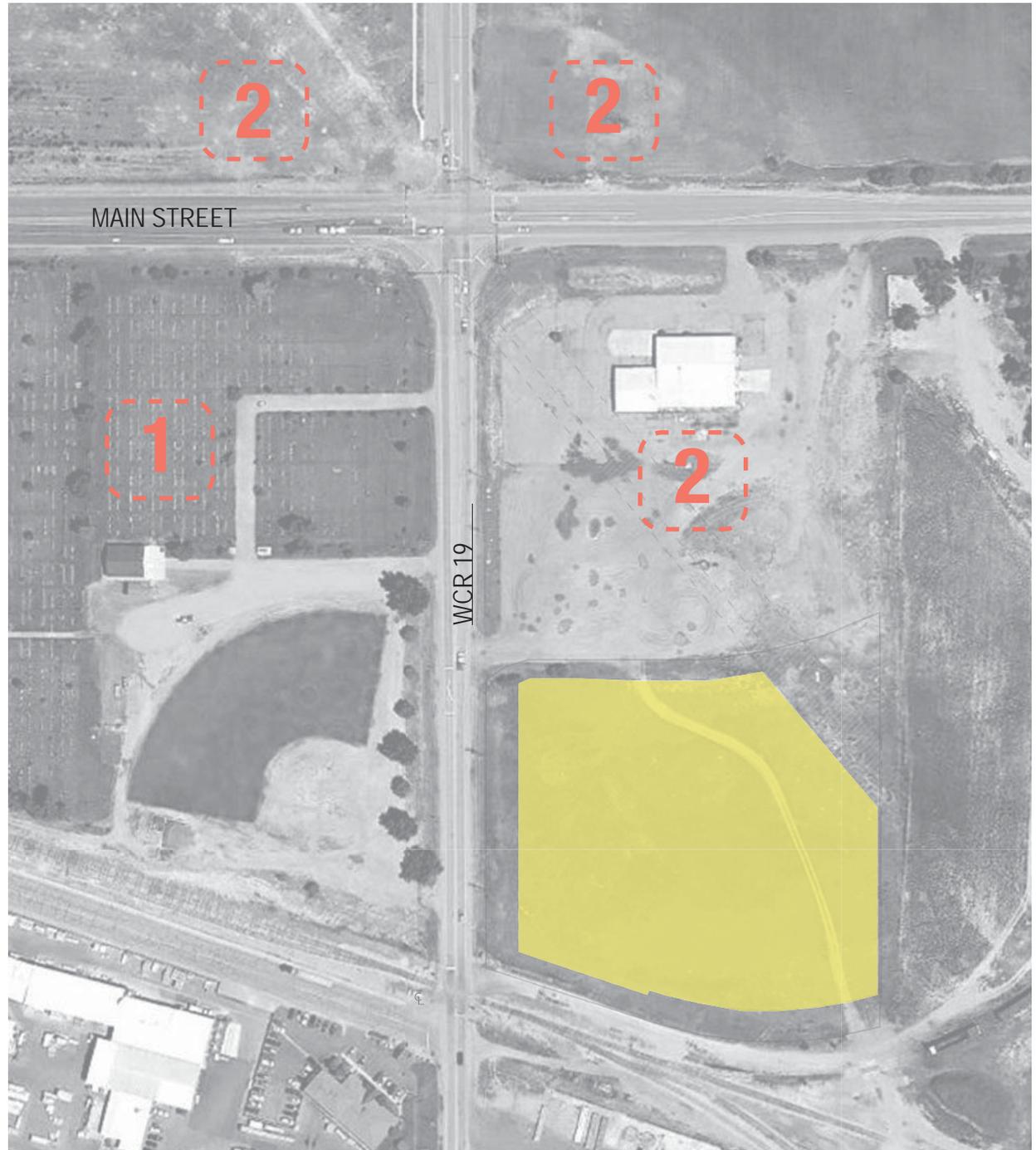
Existing Site

The Ruff site is located just south of the intersection of WCR 19 and Main Street/SH 392, a major intersection when entering the town of Windsor.

Adjacencies include the 1 Windsor Cemetery and 2 future development, of which will be commercial and residential.

Site #4 is removed from a main thoroughfare in town and does not suit the Library's request for high visibility. Its location along a busy truck route foster high traffic and noise.

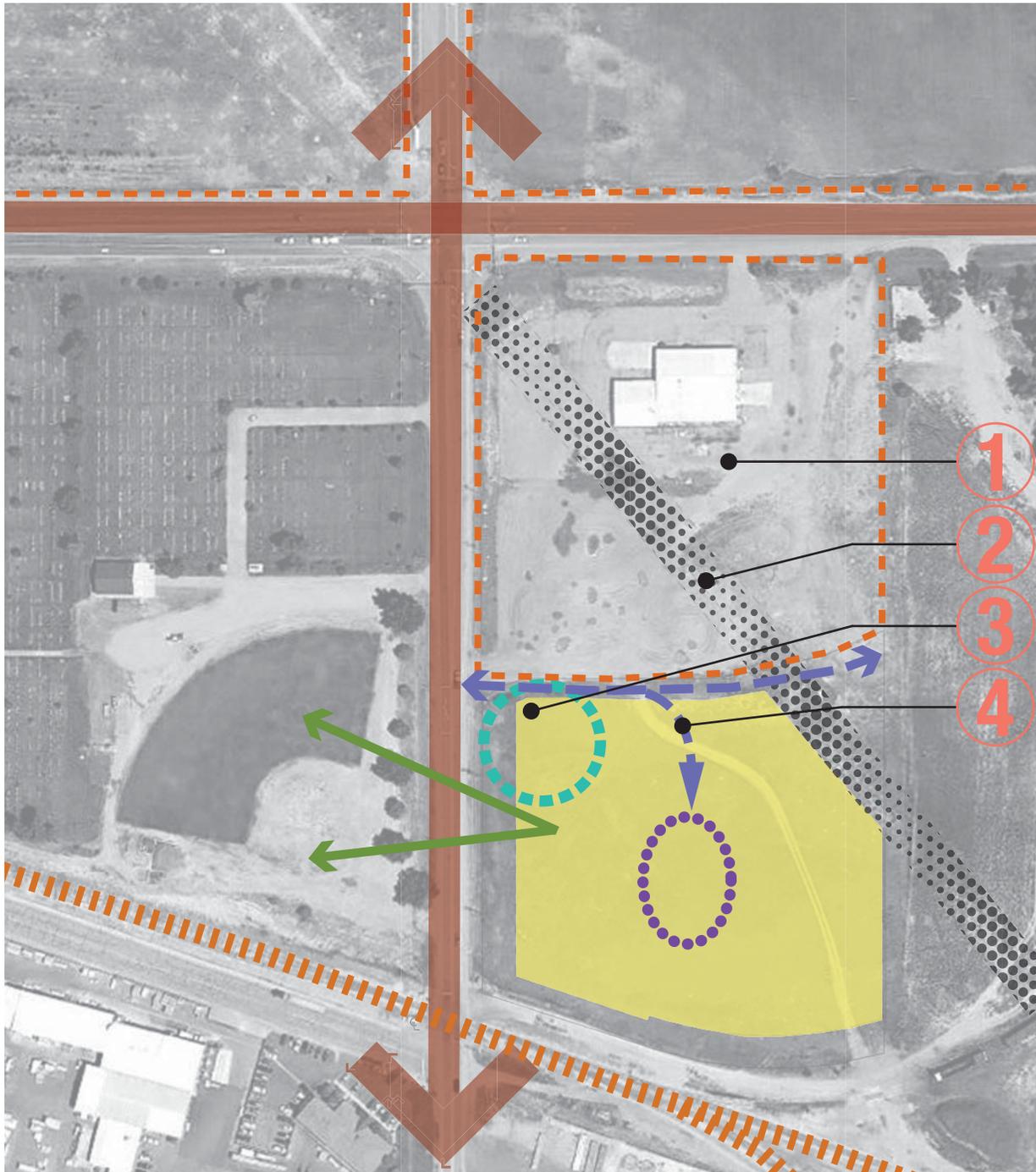
Total Site Area West	230,141 sf
Area Within Setbacks /Easements	168,612 sf
Existing Zoning	GC (General Commercial)
Max. Bldg. Coverage (80%)	184,112 sf
Land Ownership	Single private owner



Site Strategies

The following observations were noted for the Ruff site:

- ① **Undeveloped Adjacencies**
The dashed lines indicate the surrounding areas which have yet to be developed. Some development is known and some is unknown, allowing the Library to set a precedent, however it means the 'amenities' from its neighbors are unsure and there is incomplete information to understand the integration of the Library with its immediate neighbors.
- ② **City of Greeley Water Line**
The City of Greeley has rights to a waterline which diagonally bisects the site. This restricts the ability to build out the entire site and has potential for future disruption of the Library's grounds.
- ③ **Visibility + Views**
This site sits along a major truck route and is tucked between future development and the railroad. This places the most visibility at the northwest corner, with opportunities to catch the mountain views to the west.
- ④ **Road Access**
Plans for development north of the site indicate a planned road to allow access to the site. The Library should be sited at the west edge of the site for visibility and allow parking to spill east towards the Water Line easement.



Site #4 Ruff

Proposed Site

Parking:

Recommended parking - 140 (4 spaces/1000 sf)

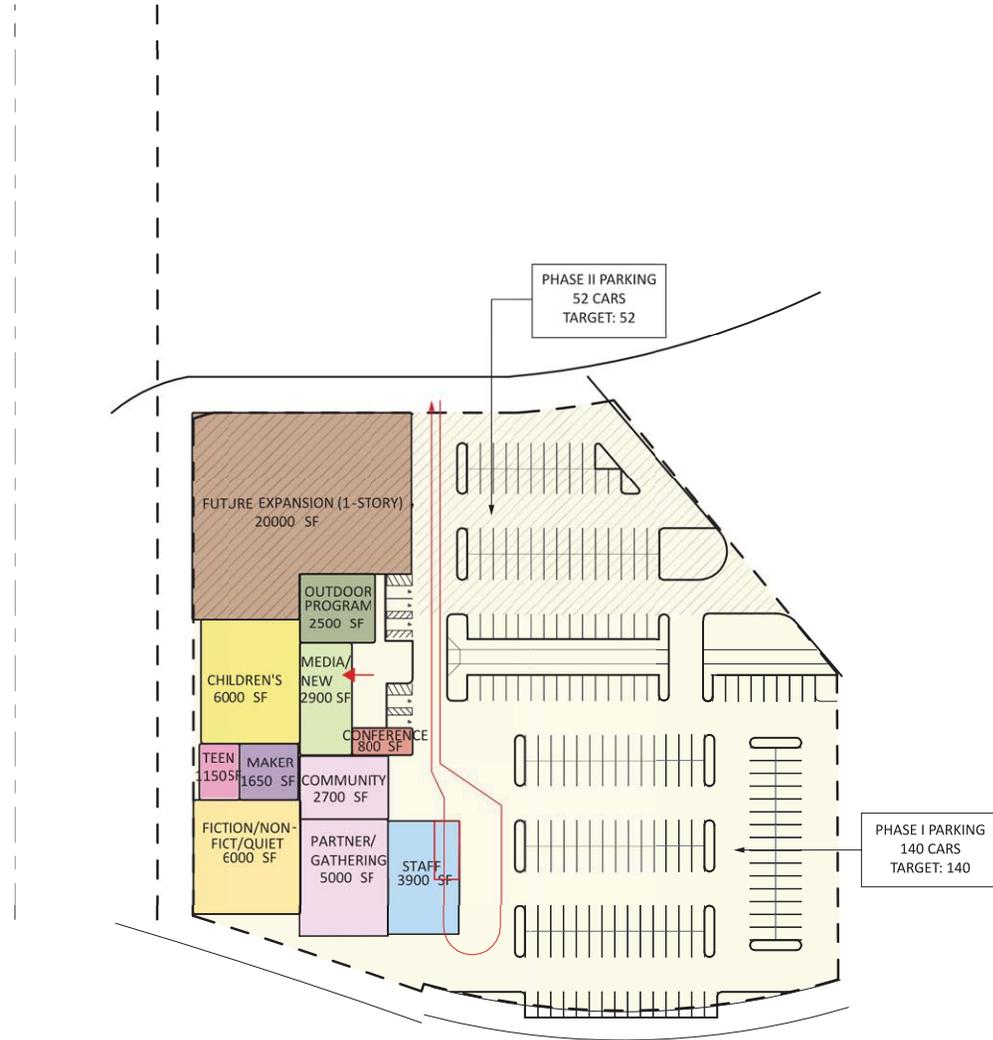
Parking shown - 140

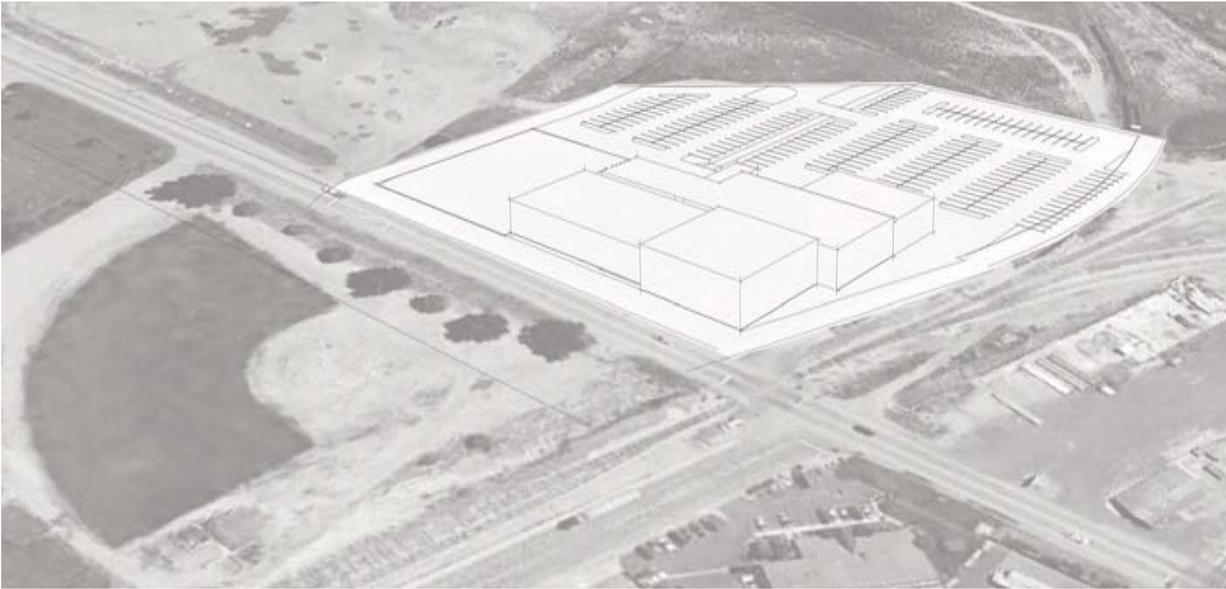
Square Footage:

Phase I = 35,000 sf

Phase II = 20,000 sf

Total = 55,000 sf





Proposed Library Looking to Northwest



Proposed Library Looking to Southeast



Site #5 Greenspire

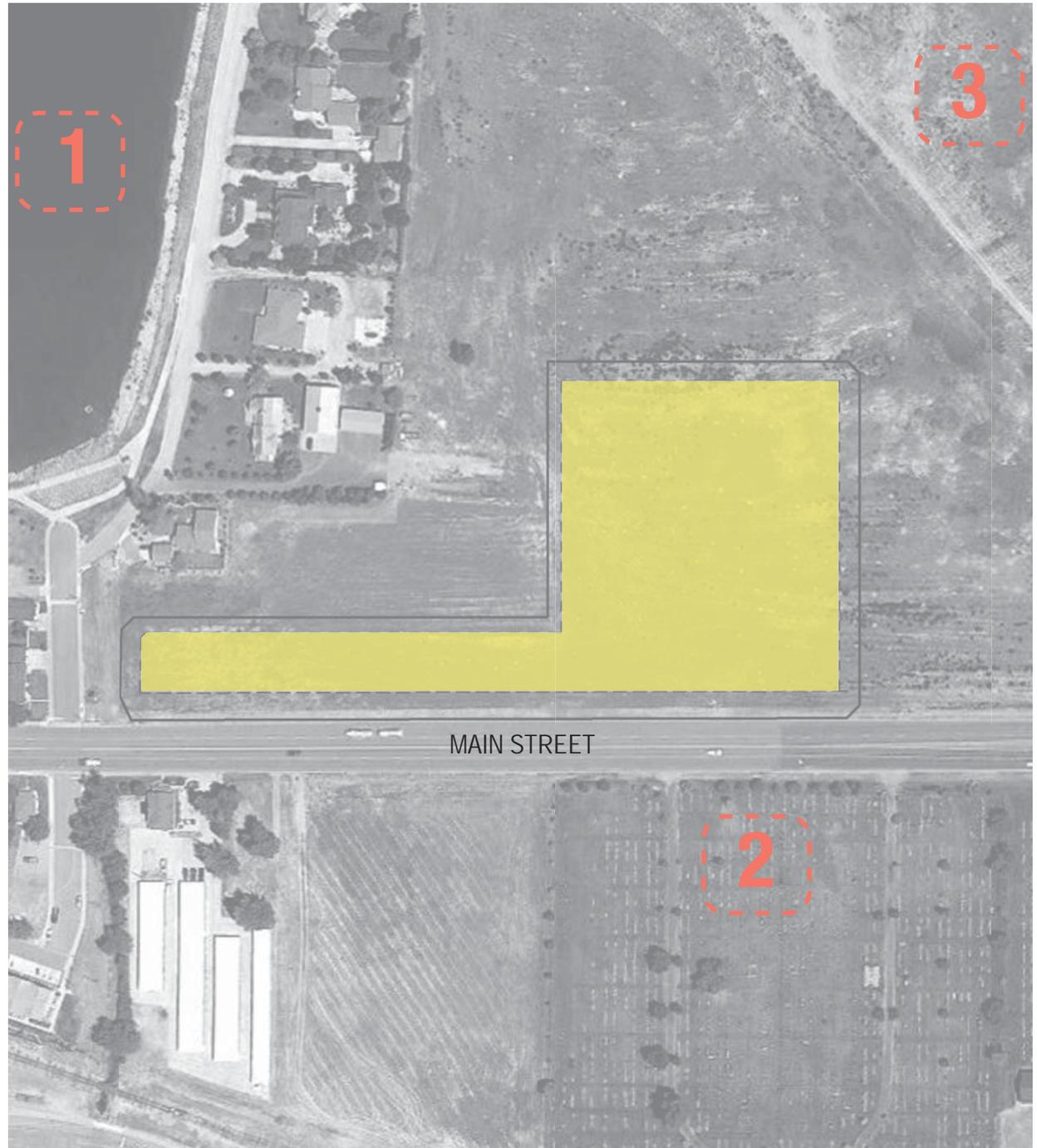
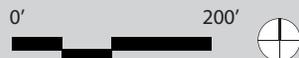
Existing Site

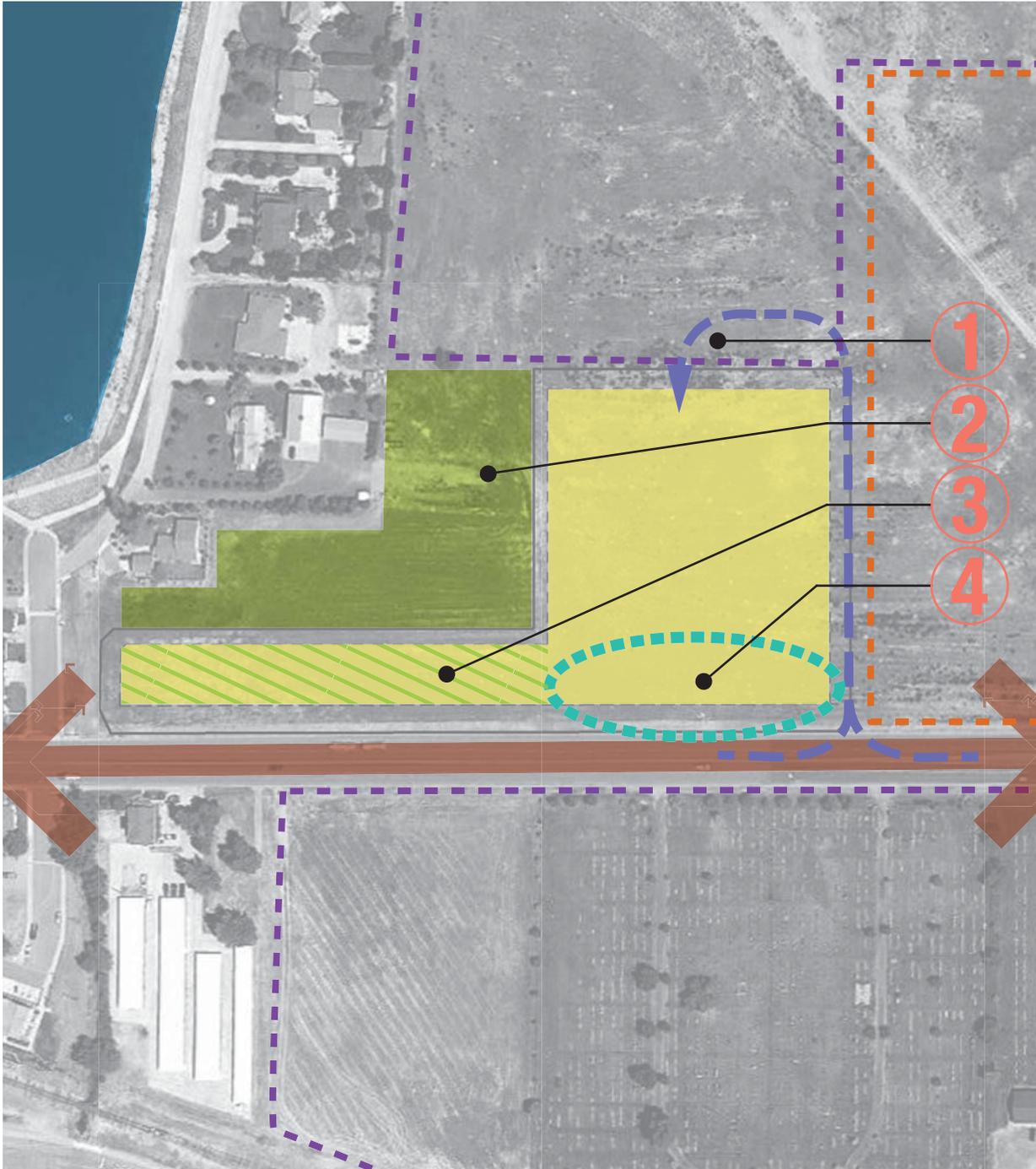
The Greenspire site is located along Main Street and is east of Downtown.

Adjacencies include **1** Windsor Lake, **2** Windsor Cemetery.

Site #5 affords **mountain views** to the west and close access to foot traffic from those using the trail around Windsor Lake and adjacent residential subdivisions. The location is prime to act as a **'Gateway to Windsor'** due to its proximity to the intersection of WCR 19 and Main Street/SH 392.

Total Site Area	246,093 sf
Area Within Setbacks	200,963 sf
Existing Zoning	GC (General Commercial)
Max. Bldg. Coverage (80%)	196,974 sf
Land Ownership	Single private owner





Site Strategies

The following observations were noted for the Greenspire site:

- ① **Road Access**
Access to the site will be from the North. A future Greenspire Drive east of the site is required as part of the development, but access directly to the Library would not be allowed.
- ② **Green Space**
West of the site is a green space as part of the adjacent Greenspire development.
- ③ **"Flagpole"**
The Flagpole portion of the site at the west end is most likely unusable for the Library's purposes. Drainage issues with this portion of the site would require further investigation prior to development.
- ④ **Visibility**
Facing Main Street promotes visibility for the Library and the adjacent intersection of WCR19 and SH 392 allows easy access for both Windsor and Severance residents. Placing the building at the south end of the site will maximize the desired east-west orientation for siting and provide the Library with maximum visibility off Main Street.

Site #5 Greenspire

Proposed Site

Parking:

Recommended parking - 140 (4 spaces/1000 sf)

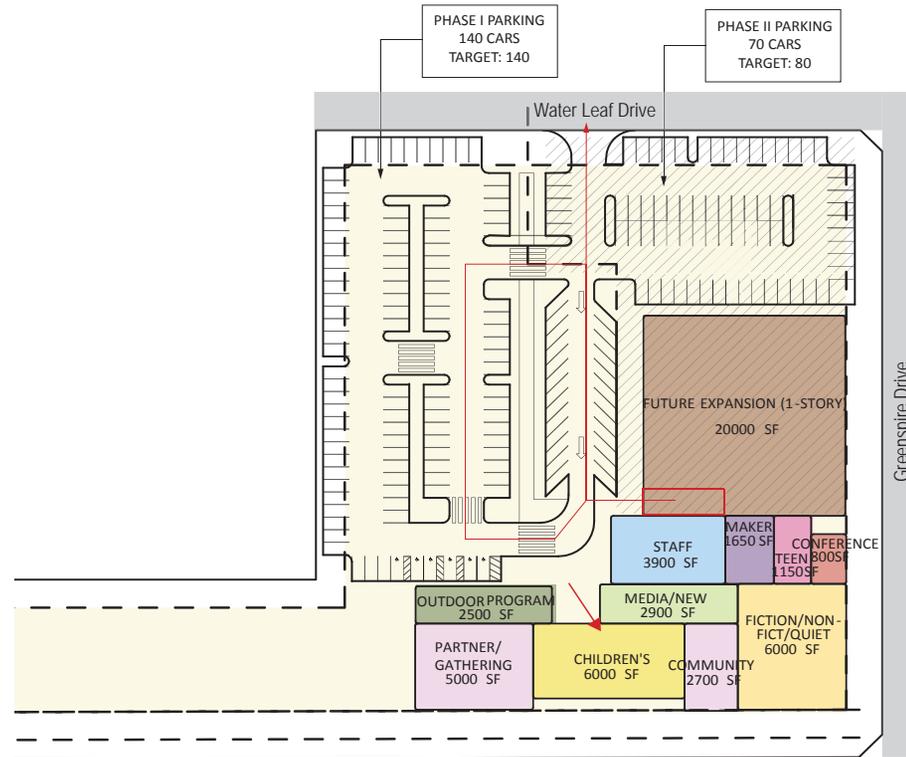
Parking shown - 140

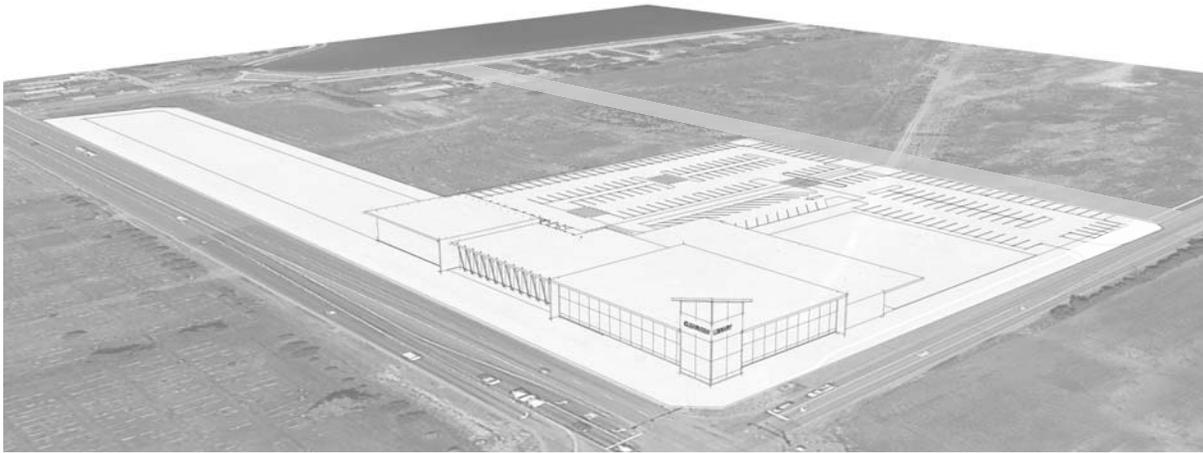
Square Footage:

Phase I = 35,000 sf

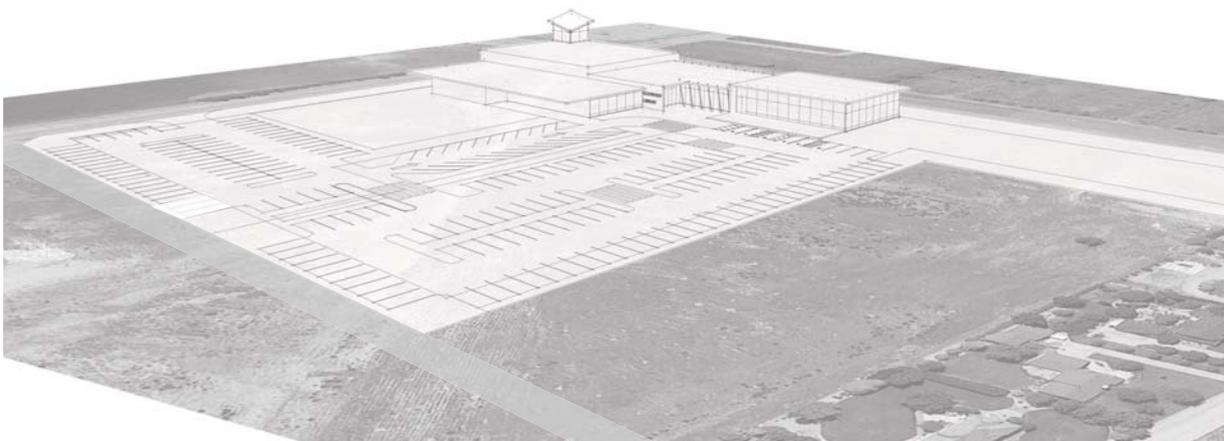
Phase II = 20,000 sf

Total = 55,000 sf





Proposed Library Looking to Northwest



Proposed Library Looking to Southeast



Site Selection

The Library Planning Consultant evaluated the five sites using criteria commonly considered as being important to a library: Capacity; Accessibility; Image/Visual Quality; Visibility; Demographic Patterns; Neighborhood Compatibility; Legal Matters/Zoning; and Utilities Availability.

The following ranking illustrates how the respective sites were evaluated using this criteria.

Site #1 and Site #5 were ranked higher than the other three sites and were selected for further development in Task 4.

The following table represents the points assigned to each factor and sub-factor:

1.	Site Capacity- 22 pts.	
	A. Usable site area	7
	B. Expansion capacity	5
	C. Configuration	4
	D. Parking	6
2.	Accessibility- 12 pts.	
	A. Pedestrian Access	3
	B. Vehicle travel time	5
	C. Access from thoroughfares	4
3.	Image/Visual Quality- 13 pts.	
	A. Area identity	4
	B. Landmarks	3
	C. Natural site amenities	3
	D. Off-site views	2
	E. On-site views	1
4.	Visibility- 13 pts.	
	A. Building placement potential	6
	B. Street frontage	4
	C. Traffic volumes	3
5.	Demographic Patterns- 8 pts.	
	A. Center of population	4
	B. Geographic center	4
6.	Neighborhood Compatibility- 10 pts.	
	A. Adjacent land uses	5
	B. Development quality	5
7.	Legal Matters- 9 pts.	
	A. Easement and restrictions	3
	B. Zoning regulations	3
	C. Ownership	3
8.	Utilities Availability- 6 pts.	
	A. Gas	1
	B. Power	1
	C. Sewer	1
	D. Storm	1
	E. Telecom	1
	F. Water	1
9.	Physiography- 7 pts.	
	A. Soils	2
	B. Environmental Considerations	2
	C. Solar orientation	2
	D. Topography	1
10.	Cost Effectiveness- 10 pts.	
	A. Relocation/service disruption	3
	B. Acquisition	5
	C. Site preparation	1
	D. Future off-site preparation	1

Clearview Library District Library Site Analysis

Category	Criteria	Points Available	Site #1 (DDA DOWN-TOWN WEST)	Site #2 (KOEHLER)	Site #3 (EAST MAIN)	Site #4 (RUFF)	Site #5 (GREENSPIRE)	Notes / Comments / Questions
Site Capacity								
	Usable site area	7	6	3	7	7	7	
	Expansion capacity	5	3	1	4	5	5	
	Configuration	4	2	1	3	4	4	#2 - fronts on railroad, compressed L-shape
	Parking	6	4	1	6	6	6	
	Subtotal	22	15	6	20	22	22	
Accessibility								
	Pedestrian Access	3	3	3	0.5	0	1	
	Vehicle travel time	5	4	4	5	5	5	
	Access from thoroughfares	4	4	2	4	3	1	Highest scores had least convoluted site entrances
	Subtotal	12	11	9	9.5	8	7	
Image / Visual quality								
	Area identity	4	4	4	2	1	2	Strong advantage for downtown sites
	Landmarks	3	3	3	0	0	0	
	Natural site amenities	3	3	3	0	0	1	Park, lake
	Off-site views	2	1	2	2	0	2	Mountains and lake
	On-site views	1	1	1	1	0	1	
	Subtotal	13	12	13	5	1	6	
Visibility								
	Building placement potential	6	6	5	4	4	6	Opportunities to address the street and support the urban context
	Street frontage	4	2	4	4	2	4	All but #2 and #4 have Main Street frontage
	Traffic volumes	3	1	3	3	2	3	
	Subtotal	13	9	12	11	8	13	
Demographic patterns								
	Center of population	4	4	4	3	2	3	
	Geographic center	4	3	3	4	3	3	
	Subtotal	8	7	7	7	5	6	
Neighborhood compatibility								
	Adjacent land uses	5	5	4	2	1	2.5	Downtown vs unknown future developments
	Development quality	5	5	3	3	1	3	
	Subtotal	10	10	7	5	2	5.5	
Legal matters								
	Easements and restrictions	3	1	2	1	3	3	
	Zoning	3	3	1	3	3	3	#2 impacted by mixed zoning
	Ownership	3	0.5	0	2	3	3	Large single parcels have significant advantage. #3 is too large and would require development partner
	Subtotal	9	4.5	3	6	9	9	
Utilities Availability								
	Gas	1	1	1	1	1	1	
	Power	1	1	1	1	1	1	
	Sewer	1	1	1	0	1	0	
	Storm	1						Have not been provided stormwater info
	Telecom	1						Have not been provided telecom info
	Water	1	0	1	1	1	1	#1 would require relocation of existing water line
	Subtotal	6	3	4	3	4	3	
TOTAL			71.5	61	66.5	59	71.5	

TASK 3

**IDENTIFY AND PRIORITIZE OTHER
COMMUNITY USES AND SERVICES**

Task 3: Identify and Prioritize Other Community Uses and Services.

Libraries are integrally woven into their municipal fabric and community in such a manner that they are highly effective in leveraging the library's ability to achieve community-wide goals. A thoughtfully created new Clearview Library District Library is an opportunity to establish and build lasting and fruitful partnerships. Some recent case studies where the Library Planning Consultant has recently worked with Library Districts that successfully leveraged these partnerships into a stronger community include: the Brighton Anythink where an intergovernmental agreement was entered into between the Library District, the Urban Renewal Authority and the City to redevelop a blighted downtown site into a campus of buildings forming a Cultural Center. The project included a repurposed Amory as a performing arts complex and a relocated library; Another example was the Garfield County Public Library District who joined with the Glenwood Springs Downtown Development Authority, Colorado Mountain College, and the City of Glenwood Springs to create Cooper Commons consisting of the construction of two parking structures, a public space, downtown streetscape enhancements, a new branch library and creative gathering and learning spaces for CMC and the community.

In order to investigate opportunities that might exist in the Clearview Library District and the surrounding community, a list of potential partners was jointly developed by the Library and Library Planning Consultant team. A meeting was conducted on 30 March 2016 at the Windsor-Severance Library to determine community uses and services that might be included in a new Clearview Library District Library project in order to help achieve community wide goals. The basis of the meeting was a 'Mind Breaking' session focusing on programs, interior and exterior spaces, and miscellaneous opportunities. Over 50 ideas were generated by participants through this process, many with common themes. As illustrated in the graphic 'word cloud' the opportunity for meetings, classes and outdoor gardens to serve the entire community were the most prevalent concept.

A consensus request was the inclusion of a large gathering space to serve multiple purposes was desired by many of the groups being represented. It was requested that this gathering space be a flexible space designed to accommodate larger gatherings and accessible to multiple groups. It was suggested that a space of approximately 5,000 square feet essentially equal to five classrooms be included in the program expanding the base building to 35,000 square feet. It was also noted that the Weld County School District RE4 is currently evaluating their physical needs across the District in preparation for a potential Bond initiative for an upcoming election. Additionally, it was noted that new school facilities are being considered in the Severance area that could be complimentary to the needs of a library facility in that community.

Participants

Matt Ashby	Downtown Development Authority
Craig Petersen	Downtown Development Authority
Bob Winter	Downtown Development Authority
Scott Ballstadt	Town of Windsor
Patti Garcia	Town of Windsor
Kristie Melendez	Town of Windsor
Josh Olhava	Town of Windsor
Cheri Milliman	Windsor Housing Authority
Beu Menke	Board
Joyce Johnson	Windsor Foundation
Nick Wharton	Town of Severance
Mark Brase	Windsor Foundation
MJ Straube	Windsor Severance Historical Society
Sue Schneider	CSU Extension
Don Reichert	
Amy Heinsma	Weld County School District RE-4
Michael Connors	Windsor Chamber of Commerce
Ann Kling	Clearview Library District
Joann Perko	Clearview Library District

TASK 4

RECOMMENDATION OF ONE PREFERRED AND AN ALTERNATIVE SITE

Task 4: Recommendation of One Preferred Site and an Alternative Site

Additional analysis and design options were evaluated on the two highest ranking sites from Task 2, the Greenspire site and the DDA Downtown West site. The diagrams on the following pages reflect this analysis and development process.

The preferred site has been identified as the Greenspire site. The following logic evolved for identifying this site:

Pros-

- The site is appropriately sized to accommodate a one-story library.
- The site is currently on the market and available to purchase from a single owner.
- The size of the site is easily large enough to facilitate the phase 1 build out of 30,000 sf with surface parking in addition to facilitating the phase 2 build out of 50,000 sf with surface parking.
- The site could be identified as the eastern gateway to the downtown area.
- The site is very near the geographic center of the Clearview Library District service area.

Cons-

- The off-site development costs are significantly higher than other sites as a result of adjoining development not being compared at this time.
- The current perception of the site is that it is not readily connected to the downtown area.
- Access to Main Street from proposed Greenspire Drive is limited requiring further development of Water Leaf Drive and Greenspire Drive to the north for traffic leaving the library site to the east.
- Further investigation will be required to evaluate potential drainage issues.

An alternative site has been identified as the DDA Downtown West site. The following logic evolved for identifying this site:

Pros-

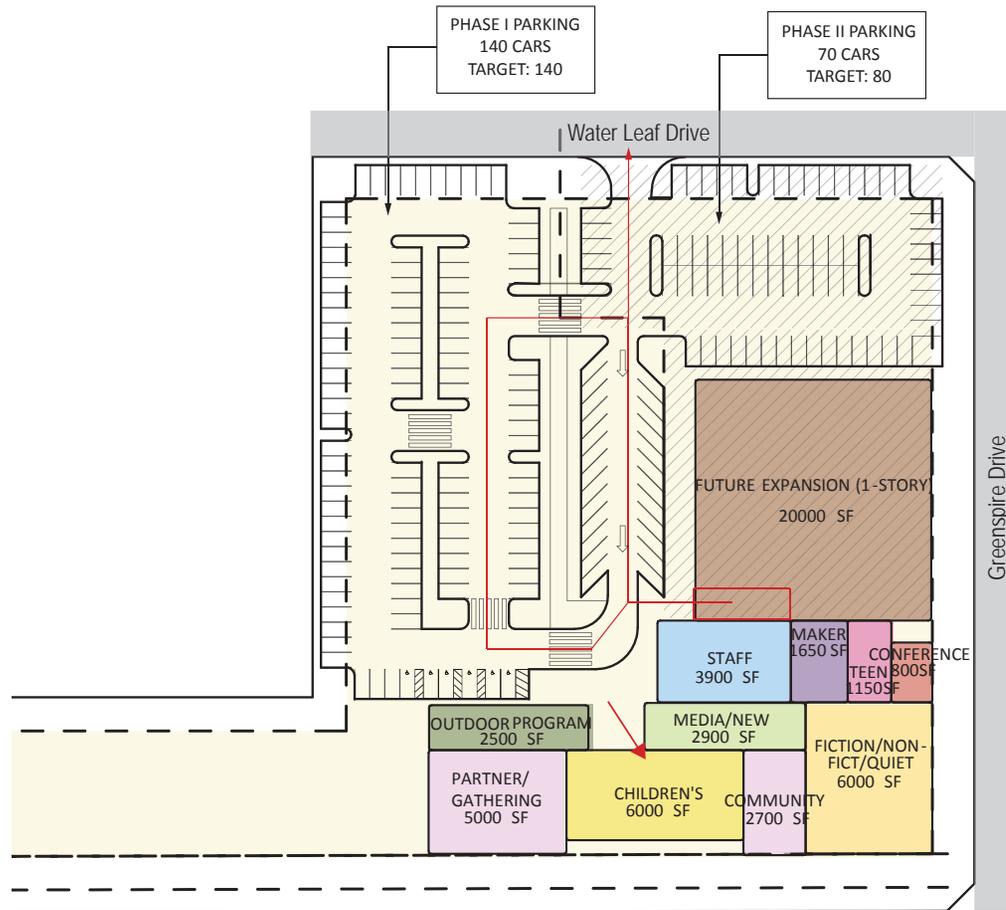
- The site is clearly in the Downtown area and would be a valuable bridge between the Downtown and the park and lake.
- The site would support collaboration between Downtown businesses and Library.
- The site is physically near the center of the current Downtown.
- The area is planned to be a catalytic development to the Downtown area with significant pedestrian connections to Downtown amenities.

Cons-

- The site is an urban site requiring either a two story library which presents numerous operating or the creation of a parking structure if a one story library is constructed.
- The site is immediately adjacent to the railroad right of way which may result in noise and safety issues.
- The site is one block removed from Main Street potentially resulting in it being less visible to users.
- The long-term ownership of the property is unknown.

Preliminary geotechnical engineering was conducted for both the Greenspire and the DDA Downtown West sites. The physiology of both sites reflects soils typical to the area. The Greenspire site as an agricultural parcel would require stripping of the topsoil and the DDA Downtown West site reflected a lean clay over poorly graded sands. It appears from the preliminary engineering that a proposed Library on either site might be constructed of conventional spread footings unless alternative soils were found during the excavation for the building.

Preferred Site: Site #5 Greenspire



Preferred Site

Site #5 Greenspire Site Analysis

Outdoor Space

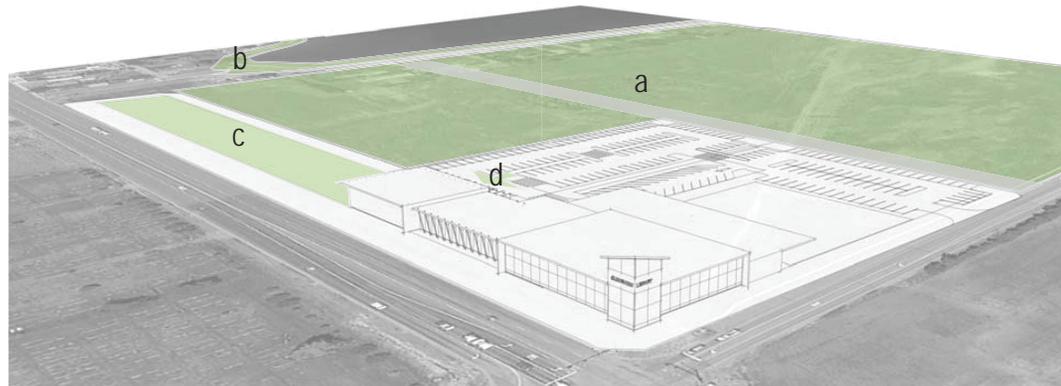
- a. Existing green space
- b. Trail surrounding lake; pedestrian connection to downtown
- c. Investigate drainage issues prior to development
- d. Programmed outdoor space

Pedestrian Access

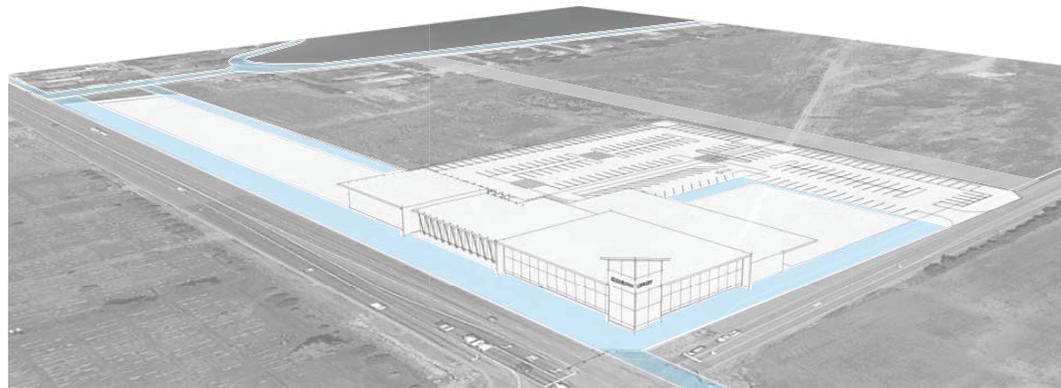
Main pedestrian access from Downtown would be via the trail around the lake, through the narrow flagpole at the west of the site or directly down main street.

Visibility

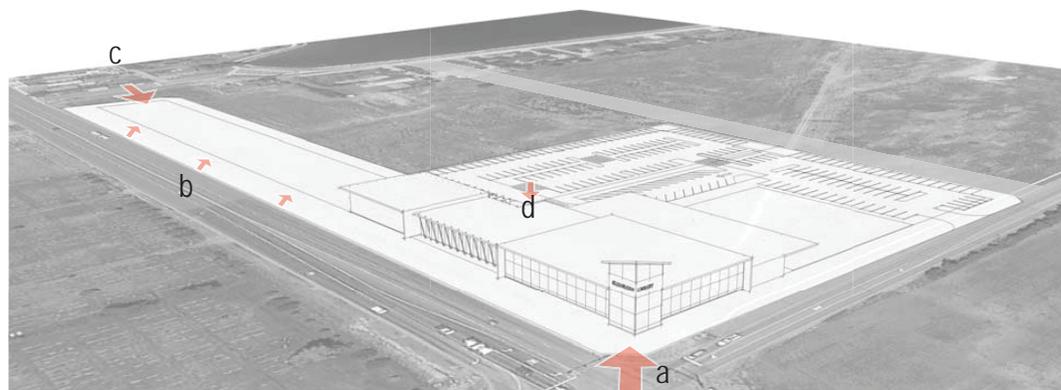
- a. Southeast corner should have major visibility towards the road to attract those driving.
- b. The south edge of the flagpole of the site should have frontage along the road that makes the space feel more populated and draws people in.
- c. Pedestrians should be drawn in towards the Library through the south end of the flagpole.
- d. Primary Library entry



Outdoor Space



Pedestrian Access

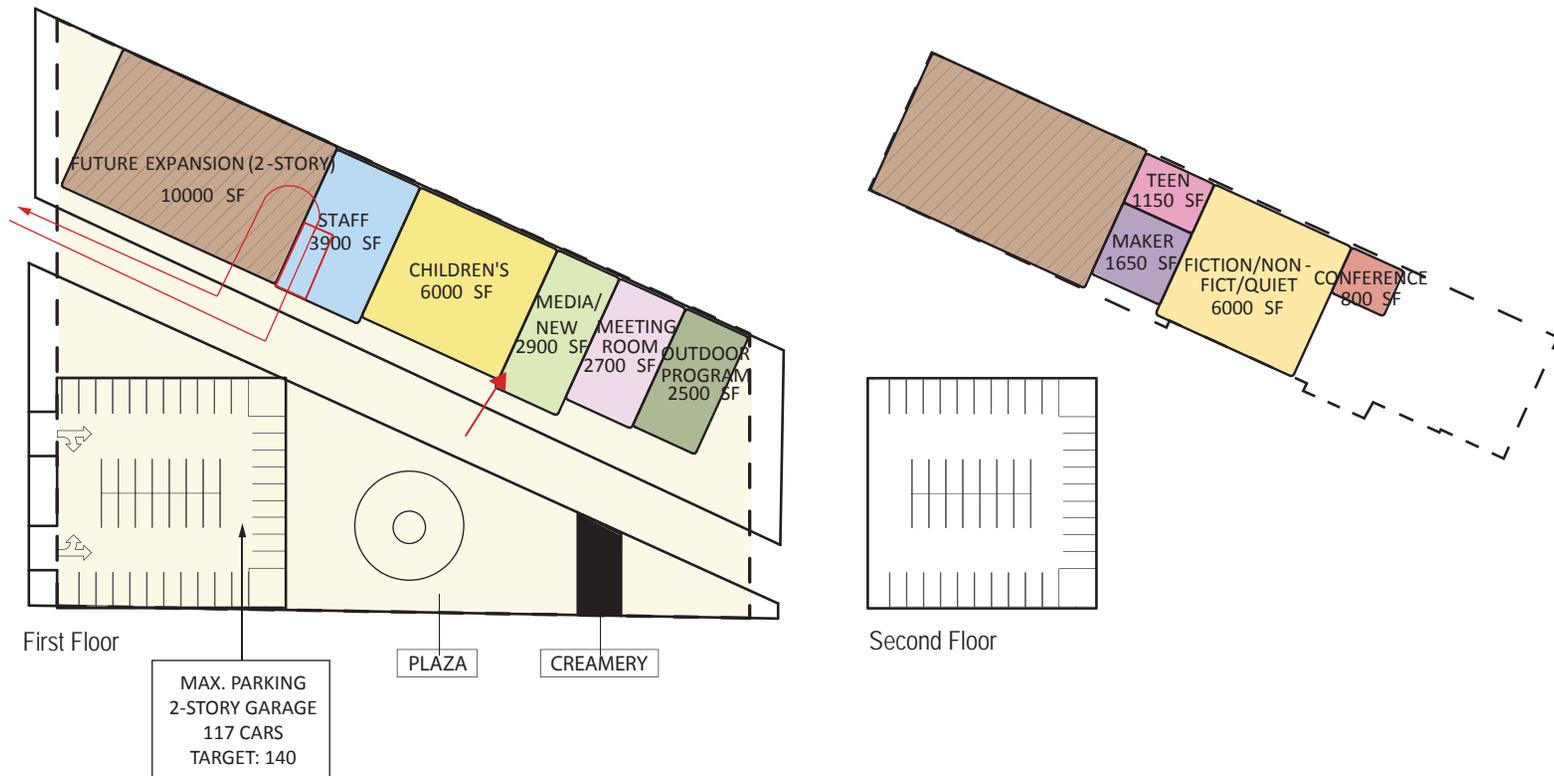


Visibility

Concept Images



Alternative Site: Site #1 DDA Downtown West



Alternative Site

Site #1 DDA Downtown West Site Analysis

Outdoor Space

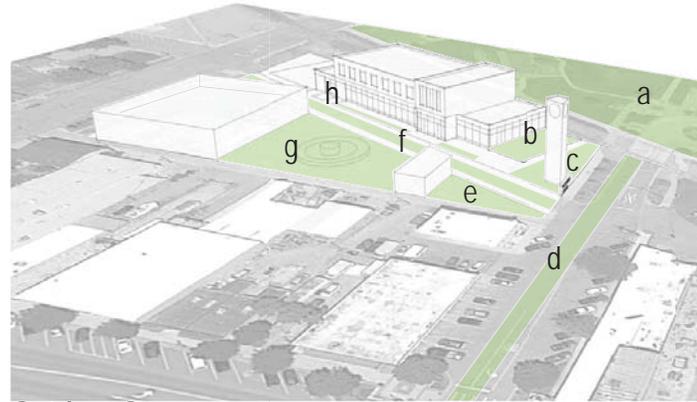
- a. Green space at Boardwalk Park
- b. Programmed outdoor space
- c. Signage/library frontage
- d. Block-off road to become major pedestrian zone connecting library, Main Street, and Boardwalk Park
- e. Art Garden
- f. Pedestrian Walkway to library
- g. Library-owned plaza; use creamery as some kind of food-stand or pop-up retail
- h. Landscaping to frame library entry-sequence

Pedestrian Access

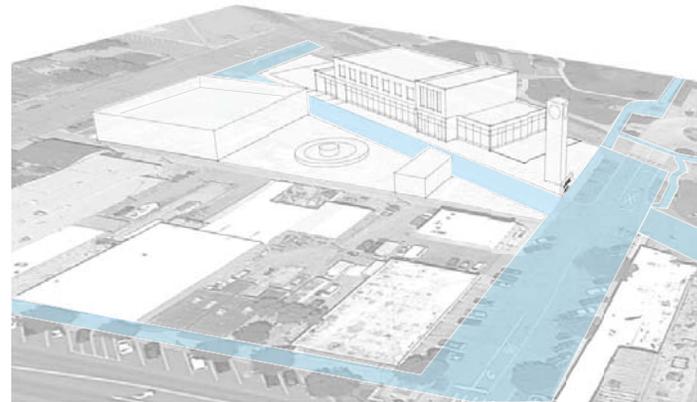
Main pedestrian access would connect from Main Street and Boardwalk Park down newly blocked-off, 5th St pedestrian road and would connect to library via Ash St.

Visibility

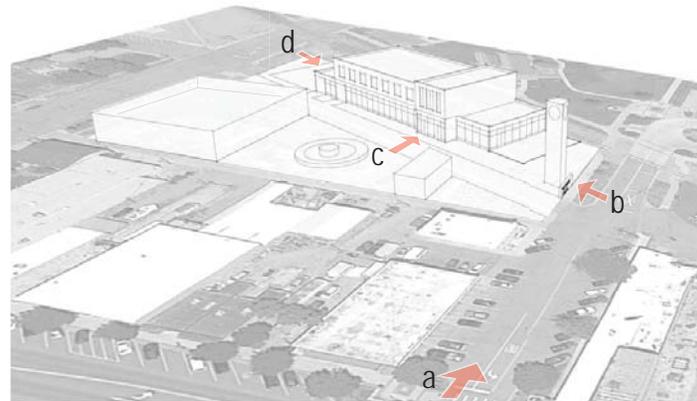
- a. Need to attract both pedestrians and drivers from entrance to 5th Street at Main Street.
- b. East side should have major visibility at the pedestrian scale
- c. Primary library entry
- d. West side should have visibility geared towards drivers passing by.



Outdoor Space

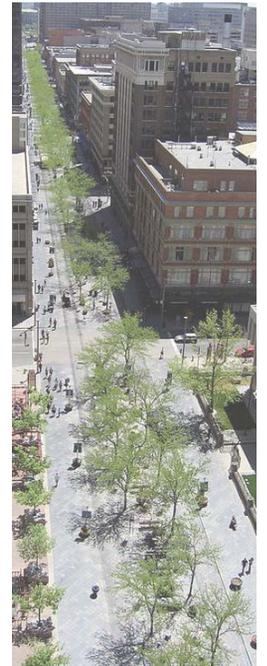


Pedestrian Access



Visibility

Concept Images



TASK 5

REDEVELOPMENT COST ESTIMATES

Task 5: Redevelopment Cost Estimates

Statements of probable costs have been developed for the two preferred options. Since the options for the design of the Clearview Library District Library have not been completed beyond a feasibility stage, probable costs have been based on historical values from similar library projects in the Rocky Mountain West. Costs are based on a hypothetical construction start date of the first quarter 2017. In the event the project does not start until after the hypothetical start date, we would recommend budgeting a 5% per year cost escalation for inflation. In both options we attempted to provide a total project budget considering such things as design fees, contingency, supplemental collection/library materials and technology. The cost of the land acquisition was not included in the estimates in order to maintain a level of confidentiality in the potential negotiations for the acquisition of the respective properties.

Statement of Probable Costs for the Preferred Option: Site #5 Greenspire

Construction		
30,000 sf x \$300/sf	\$	9,000,000
Site development	\$	2,800,000
Sustainability	\$	450,000
FFE		
30,000 sf x \$25/sf	\$	750,000
Technology		
30,000 sf x \$10/sf	\$	300,000
Opening Day Collection	\$	300,000
Way Finding	\$	<u>30,000</u>
Subtotal	\$	13,630,000
Moving	\$	50,000
Professional Fees @ 12%	\$	1,600,000
Contingency @ 15%	\$	2,000,000
Project Management @ 2.5%	\$	350,000
Miscellaneous Expenses @ 2.5%	\$	<u>350,000</u>
Subtotal	\$	4,350,000
Total		<u>\$ 17,980,000</u>
Greenspire Development Reimbursement	\$	321,005*
Community Partnership		
5,000 sf x \$350/sf	\$	<u>1,750,000</u>
Project Total		\$ 20,051,005

Site Development costs include those elements of a project that are beyond the normal costs of surface parking, access, utilities, and landscaping. Specific to this site include off-site improvements such as median and turn lanes in Main Street (SH 392), the construction of Greenspire Drive and Water Leaf Drive to provide appropriate access to the site, and potential drainage improvements. Additionally, the town of Windsor is requesting a reimbursement of \$321,005 for installation of previously constructed improvements related to the Greenspire Development.

*These costs are estimated at the full cost of construction known for off-site improvements for the Greenspire development to accommodate a new library. A portion of these costs might be reduced through negotiation with the town of Windsor and the owners of the Greenspire development.

Statement of Probable Costs for the Alternative Option: Site #1 DDA Downtown West

Construction		
30,000 sf x \$320/sf	\$	9,600,000
Site development	\$	400,000
Sustainability (LEED Gold)	\$	450,000
FFE		
30,000 sf x \$25/sf	\$	750,000
Technology		
30,000 sf x \$10/sf	\$	300,000
Opening Day Collection	\$	300,000
Way Finding	\$	<u>30,000</u>
Subtotal	\$	11,830,000
Moving	\$	50,000
Professional Fees @ 12%	\$	1,419,600
Contingency @ 15%	\$	1,774,500
Project Management @ 2.5%	\$	295,750
Miscellaneous Expenses @ 2.5%	\$	<u>295,750</u>
Subtotal	\$	3,835,600
Total	\$	<u>15,665,600</u>
Optional Parking Structure		
140 spaces @ \$20,000 ea.	\$	2,800,000
Community Partnership		
5,000 sf @ \$370/sf	\$	<u>1,850,000</u>
Project Total	\$	20,315,600

Site Development costs include those elements of a project that are beyond the normal costs of surface parking, access, utilities, and landscaping. Specific to this site includes the demolition of existing structures and redevelopment of Ash Street into a pedestrian space. The construction costs for the building have been increased by \$20/square foot over the preferred site due to the adjacency of the site to the existing rail tracks and the more constrained nature of the site in a downtown environment.

TASK 6
NEXT STEPS

Next Steps

As noted earlier in this study, a potential barrier to action is the 'swirling mass of opportunities' facing the Town of Windsor, the Windsor Downtown Development Authority and the Clearview Library District. The Consultant team determined the preferred site option at this writing as the Greenspire site located to the east of the current Downtown. The alternative site option is the DDA Downtown West Site, which is somewhat limited at this time by the unknown support that might potentially be offered by the Town of Windsor and the Downtown Development Authority. It is believed that both sites would be a tremendous asset to the Downtown Windsor community in a catalytic manner.

In order to further understand the potentials, the Town's leadership has offered the opportunity to transcend from planning to development through establishing a multi-disciplinary design summit, the Downtown Futures Summit, to take the concepts that have been developed in this study as well as those from other projects and mesh them together to assess how visionary components from the Mill, the Backlot, and Library might work together in a consolidated manner. Potential participants of the Summit would include Downtown Stakeholders, including property and business owners, Board members including the Town of Windsor Board, DDA Board, and Clearview Library District Board and professionals associated with the respective development projects. Additionally, it is suggested several supporting professionals be invited to address the issues of parking, transportation, economic feasibility, and related issues.

We concur the potential of the Downtown Futures Summit as an opportunity to holistically evaluate and understand the challenges and opportunities afforded by this catalytic set of projects.

Additionally, we urge the Clearview Library District to continue to work with the RE4 School District, the Town of Severance and the citizens of West Greeley in understanding opportunities for creating a library presence in the Town of Severance and West Greeley.

APPENDICES

Appendix I

Library Programming Survey

We would appreciate the Library responding with brief answers to the following of list of topics that will be useful for the development of our Feasibility Study. It would be helpful to have any quantifiable items included where possible.

1. Community Windsor, Severance, and West Greeley, the District follows the outline of the RE4 School District. Map will be emailed separately. The community is largely college educated and has an above average median income for the state of Colorado.
 - a. Demographics
 - i. Primary user groups A slide deck from Orangeboy,, a marketing company that the Library uses, will be emailed separately.
 - ii. Any 'bubbles' in terms of age groups No. Young families keep moving in, as do senior citizens.
 - iii. Languages Overwhelmingly English
 - iv. Potential new user groups None that we know of.
 - v. Schools nearby Mountainview & Tozer (elementary school) is currently in our back yard. We do a lot of outreach with the schools in the RE-4 school district. We do daily afterschool programs for that age group.
 - vi. Home schoolers? Some, but we don't do a lot with them.
 - vii. Growth 13% in the next 5 years
 - b. History and character
 - i. Landmarks We have heard that the Police Station is not what we want. As far as other buildings in town, there are only the Recreation Center and the Town Hall. The Town Hall, because it is an old school has a very distinctive look
 - ii. Identity We hear a lot about the small town feel of the Library. The current building has been described as lodge-like and welcoming.
 - c. Friends of the Library / Library Foundation / other entities Library Foundation, big events are the semi-annual book sales and the sponsored author event which drew close to 200 people last year. The Foundation would like a dedicated book sale space in the new library.

- d. Creative community
 - i. Arts The Library has had an annual art show for over 5 years. Currently art is on display in the tower room.
 - ii. Music We had an open Mic program, but had trouble getting performers, so we dropped it. There is not a big music presence currently in Windsor.
 - iii. Makers We have always done a lot of the traditional maker activities with adults and kids (i.e. crafts). We are just getting into the non-traditional maker activities, 3D printing, robotics, etc.
 - iv. Other
- e. Local competition
 - i. Bookstores None in Windsor. Barnes and Noble at Centerra is the closest.
 - ii. Media There are 2 local papers, the Windsor Beacon and The Windsor Now. One is a paid subscription, the other is a freebie. We have a great relationship with the Windsor Now. The nearest movie theater is at Centerra.
 - iii. Coffee There are several coffee shops in Windsor. None currently very near the library. We allow beverages at the library.
 - iv. Other
- f. Local alliances RE4 school district, Rotary, Lions Club, various child cares and senior care facilities, Chamber, HOA's

2. Collections

- a. Primary division of collections (i.e. adult non-fiction, children's picture books, DVDs etc) Board books, Picture books, Easy Readers, Children's Fiction, Children's Non-fiction, Children's books on cd, Children's Cds, Children's movies, Children's Graphic Novels, Teen Fiction, Adult Fiction, Adult Mysteries, Adult Science Fiction, Adult Westerns, Adult non-fiction, Adult Graphic Novels, audiobooks, Music CDs, Dvds, Blu-rays, Games (Wii, PlayStation, others), Magazines, Large Print, Colorado collection, Manga, Anime
- b. Collection size per area of collection quantified Video game collection - stored in two consoles plus the floor space to display the cases and laptop and tablet dispensers are on the library floor
- c. Percentage of collection typically in circulation per area of collection Overall, between 5 and 7 percent of the collection is in circulation at any given time. See spreadsheet of collection sizes in separate email.
- d. Current library technology resources quantified (desktops, laptops, etc) Two mobile device checkout kiosks - one with 6 laptops, one with 12 tablets, 25 public access computers, one floor scanner, two additional large mac creation stations, a mobile cart of thirty Chromebooks, and another 25 staff computers.
- e. Library user demographics Emailed a separate slide deck
- f. Collection goals and vision
 - i. Growth areas Children's materials, Fiction, video games, tech toys (a small (12 item) but growing collection of robots, gadgets, and electronic components)
 - ii. Decline areas Adult non-fiction, eventually music and dvds.
 - iii. Long-term approach to growth We do not keep older items that are not being used. If it isn't moving, it is de-accessioned. We have determined that we are a popular materials library. We no longer have a Reference Collection.
- g. Local / historical collections Have a Colorado collection and microfilm, bound and boxed copies of the Windsor Beacon back to the early part of the 20th century. More recently we have been collecting the Windsor Now and keeping it in boxes.
- h. RFID? Yes.
- i. Classification system - Dewey, BISAC, etc? Dewey.

3. Creativity

- a. Current library programming One of the biggest needs of the library is a need for more spaces that support programming - events, lectures, making together, crafting, storytimes, computer classes, etc. - we are constantly tripping over each other to accommodate the number of events and people here at one time. Kids: smaller furniture, tile floor. This is where daily storytime, crafts and daily afterschool programs would take place. Accommodate 50-75 people. We would like an easy to use divider wall to split the room in half. Plenty of storage with a sink and small kitchen. We would like a space outside for programming as well, that is securely enclosed with a wall, but would allow us to take kids programs outside and not have to worry about kids escaping. Adults: we would still want to do tile since we do craft & food programs. Accommodate 50-75 people. Presently the room is rented or used for programs every night of the week and most days. We would like an easy to use divider wall to split the room in half. Plenty of storage with a sink and small kitchen. We would like a keypad entrance so that we could rent out or share the space with outside access. Auditorium shared space with the DDA or Town would be great that we could use for rentals, quarterly author talks and concerts- ideally this would fit 250 people. We would like a keypad entrance so that we could rent out or share the space with outside access.
 - i. After-hours capability? For the most part, we do not currently have after hours programs. If there were separate access to the building the Board would have to decide if that was something they would like to provide. Possibly this would be part of a partnership with the DDA or the Town.
 - ii. Other local resources There isn't much in Windsor.
- b. Programming goals and vision We are all about entertainment. We have found that serious and educational programs do not draw very many people.
- c. Staff / volunteer / user talents The Staff do the bulk of the Children's programs. However, especially during the summer reading program, the library does pay for programs from the Denver Zoo, etc. For adult programs the Library pays presenters or uses volunteers and occasionally staff will conduct a program. We need a dedicated volunteer space that is a small keypad room that they can use and is not accessible to staff offices. Storage is needed here.
- d. Technology needed to support vision I see that we need rich infrastructure - lots of wired and wireless bandwidth, reconfigurable spaces, and the ability to deploy devices in temporary and semi-permanent ways - lab, perhaps? Current bandwidth is adequate, but our physical wiring is maxed out - we're no longer to physically cram more wires into existing conduit to assist with meeting increased demand

Appendix II

Comprehensive Mind-Breaking Comments

EXPERIENCE

- outdoor movie area and fire pit
- community art displays
- area for performance stage/movie viewing
- less IKEA, more tattered cover bookstore (Denver)
- off site libraries
- need quiet acoustics
- like the see-through classroom wall
- need comfortable, quiet place to read
- open feel/space
- natural materials
- love the feel and smell of books
- reading nooks
- historical feel to match downtown
- keep history of Windsor Colorado in a book on shelf
- Apple library too bright, too sterile
- don't like wasted, open spaces. Large footprint with one desk and chair (sad face)
- rentable event/meeting room
- furniture with computer and seating for family - multiple headphones to share media experience
- Apple too sterile and too cold
- reading room in NYPL - really like the look, feel of that
- view mountains
- don't want a Starbucks feel, or hair salon - ick
- like rows of tables with lamps - classic
- like green wall
- love the books and the windows
- love the fireplace
- comfy chairs - low stools so I don't have to bend down or get on my knees
- study spaces should not resemble Mr. Yo's (fluorescent light - neon colors, etc.)
- curb appeal
- need to have a coffee shop
- glass wall to experience outside while inside - good idea
- Great Courses included
- books!
- love the stories of books
- love the interlibrary loan program
- need serious, quiet environment

EMPOWERMENT

- quiet study rooms with white boards
- don't replicate services that should be provided by other agencies i.e. rec center, parks dept., schools
- exterior tagger wall
- view of lake Windsor - pelican mascot; installed binocular similar to on top of Empire State Bldg to observe birds
- large conference room
- like download station idea
- do not like bookless library
- black boards to announce events, art displays (Carbondale) or white boards for public use
- energy saving solar panels; natural light
- love libraries for the "knowledge"
- enjoy automated check out
- comfort areas
- children Discover entrance!
- availability of library resources outside of library - stores, etc. downloadable and hard copy
- need small study nooks
- like the San Diego reading room
- translation services for the deaf
- mini stage would be nice

INNOVATION

- industrial tech resources/code programming
- tinker space/hacker space/makerspaces
- wind or solar powered "Wind-sor"
- book drop on opposite side of town
- pick-up window
- online books/resources
- storefront examples? Sounds intriguing
- music space very nice
- lab space that is flexible
- shared projectors and space to use them
- 3-D printer - fad?
- I want a tech center where I can get help
- children need to come to the library
- drive-thru garage for bookmobile
- workshop to house tech toys and crafting
- room for quiet spaces
- love the attic space (happy face)
- download station +++ !!
- lots of meeting space

CREATIVITY

- outdoor space for events
- enclosed dog run outside
- outdoor dog friendly area; water feature!
- Google pods; private spaces - cozy. Love!
- star chamber and reading area
- outdoor spaces - fire pits, movies, xeric demo garden
- walls to show art
- open community room (windows)
- experience the beauty the Town has to offer
- quiet place to study, read, think
- chalkboards are a NIGHTMARE (happy face) Never, ever look like the one in the presentation
- like chalkboard painting space
- vivid place for kids BUT away from adults who want quiet
- love the fireplace for adults to read
- walls that serve as gallery space
- not downtown! Needs to be more central to Windsor and Severance
- wired for the future
- craft room for kids
- study nooks
- activities/mechanical for kids
- a building that is iconic for the community
- theatre space
- courtyard with plant life - nice
- grandma's attic - story time area - like
- music and video room
- wall for art/pictures
- boat feature (especially if building is on the lake)
- boardwalk park; library Ferris wheel?
- site: location - make library center focus of Windsor. Surround with public use/consumer commercial facilities. Encourage public use, development
- decorate with quotes from famous authors
- de and hard copy
- need small study nooks
- like the San Diego reading room
- translation services for the deaf
- mini stage would be nice

INVOLVEMENT

- music area to listen and read about music; headphones, music players, instruments
- patio or deck for indoor/outdoor reading area
- areas for older people to catch up on technology away from young people
- like easy drive-up services
- mobile carts for books is a nice idea
- library is a sanctuary not a playground
- hammock for kids
- creative spaces with a modern feel = good
- areas for science activities
- drive up access to return or pick up materials
- meetings, groups
- openness to outside views, fireplaces
- do not like bookless library concept
- best view of town
- like community meeting room
- keep area where you can have quiet space
- do not need performance space - can use rec center
- don't make it all glass and steel. Warm and cozy please.
- don't want high tech sterile areas
- reading/seating areas
- library as community center; meeting place
- center hub of city
- like flight simulator
- swipe for free read - 1st Chapter, but we don't have busses
- professional resources
- space for the staff to work effectively
- community involvement/manufacturing

FLEXIBILITY

- study - small meeting areas with inviting décor - open to outside views
- art gallery area for local art
- drive up window to pick up holds
- do not make library sterile looking
- space for nature garden local plants
- don't like moveable shelves
- spacious and open
- open, airy, bright
- pocket doors for closing off rooms
- love creative play spaces - mix of children's museum and library
- moveable walls/doors
- quiet places to read
- longer hours; more evening hours
- easy access to staff
- outside area for activities and reading
- like wall graphics
- area for entertainment
- like paws to read program
- study space
- drive up drop with larger width drive
- comfortable to all age groups
- lack of clutter - serenity space included
- wheeled book shelves - flexible space usage
- built branch libraries - keep main library
- keep this library as a neighborhood library
- love the sit down music services
- flexible spaces
- keep books
- soft seating

SUSTAINABILITY

- bike parking; community bike - share (with Spokes?) location
- natural light
- solar voltaic panels
- bike parking
- solar tubes
- wind/solar power station to charge equipment
- must be green energy
- need bike parking area
- bird feeders/xeric garden
- solar photovoltaic
- ability to open windows or roof and bring in fresh air
- like idea of solar panels as long as I don't have to look at them
- bird watching/nesting area on roof
- able to grow & evolve
- centrally located
- geothermal heat pump for HVAC
- vesta!
- LEED certification; solar light tubes
- engineer some common sense passive energy
- reduction of carbon footprint
- use beetle-killed lumber - love this! (happy face)
- have public transportation go to the library and bike paths to the library
- flexibility/sustainability for the future
- natural light
- availability for future technology
- plants/plant wall
- garden space - YES! Outdoor gathering space
- native plants
- "green" sustainable building
- wind power
- green wall +++
- vesta wind involvement

MISCELLANEOUS

- space for book sales (used) flexible
- no bookless library
- have safe biking and walking trail to library
- theme: gateway to the mountains
- how about a splash park/ice rink outside?
- theme: sun, wind, water, mountains
- iconic cornerstone for the town
- better location
- art classes
- Native American theme
- creative bike racks
- open feel - Rocky Mountain Feel - agricultural roots
- a coffee kiosk would be grand...but too risky for spilling on books and electronics
- keep this library - build branch library
- cocoons of isolated seating
- need quiet HVAC system
- adequate parking
- study-friendly tables?
- like exposed brick
- corner of the town/iconic
- I like lots of light
- we need more parking!!
- fireplace - like Finland Library
- keep books for longer length of time
- community garden
- skylights
- hidden nooks for kids - great
- use of natural resources - wind, solar
- decorate with books
- future expansion - ability to add on
- more parking
- coffee stand
- site: Old Mill
- dog kennel; dog walk area; outdoor park; playground

COLLABORATION

- group seating at computers
- huge computer lab
- partner with Discovery Center
- library as cultural stimulus for downtown - like Louisville
- collaborative/community rooms
- community garden
- community area/arts
- love the green screen auditorium
- encourage gatherings and meetings
- group computer use areas
- like: "simple, humble" individual study or reading rooms. Privacy pods
- collaborate with Town - projects - programming
- theatre space for indies, documentaries, shorts, etc.
- book club space
- glass wall that can turn opaque to either allow for private work space or people watching
- no public cell phone calls allowed
- like large reading room
- areas where multiple desks are grouped

Appendix III

Partnership Meeting Comments

PROGRAMS

- intergenerational computer mentoring
- adult programs; kids programs; community college
- incubator/start up for local small businesses and Business Department from High School
- theater/auditorium; library author events and foundation events
- public meetings
- local interest presentations
- events of all types
- visual arts center
- mindfulness/meditation classes
- financial literacy classes
- yard and garden classes
- nutrition programming/cooking demos - connected with community garden
- AG Dept. at school can assist with sustainability - roof gardens?
- university extension
- business development seminar series - ongoing. Coordinate with Chamber and Town of Windsor
- Partner with local schools
- kitchen space, commercial space for rent and for serv safe certification
- kitchen created to allow cooking classes. Partner with local restaurants on classes.

OUTDOORS

- plan for both indoor and outdoor user space
- park/garden/trail access
- kids reading hut and garden plots
- possible partnership with Severance community garden
- outdoor agriculture - vegetable garden for education

SPACES

- inraised stage area large enough to hold forums
- public conference room
- white board room
- theatre
- nooks for tutoring
- main floor library; senior center; retail space
- performance venue - auditorium or "stage" area
- auditorium space - community forums, Windsor community playhouse performances
- contemplative space (indoors) - outdoor labyrinth (walking space)
- meeting spaces - large and small - library foundation meetings; HOA's, Town meetings (space is at a premium;) home-based business meetings
- community space that could also be a book fair/sale location
- family reading nooks
- meeting room space for 50 people is desperately needed
- small group space - collaboration, book clubs
- classroom space - school district and aims; adult learning; meeting space; AP testing
- recording studio/green screen; makerspace for use by students

- downloading book to media on site
- library foundation book storage and sale space
- flexible classroom/meeting presentation spaces
- white board wall where community partners can advertise events/promotions
- library that has the area History to give new people a clue about how our town or area came to be what it is today
- smaller satellite library in Severance with possible partnership with Town of future schools
- community room for community involvement and meetings

OTHER

- if located downtown, possible space for Chamber of DDA offices and Town Economic Development. They could oversee business resources.
- proximity to Severance?
- flexibility for ever changing needs of demographic
- if downtown area - parking garage partnership with DDA and Town of Windsor
- parking - a common need of library, DDA and Town. Shared parking would benefit numerous entities.
- snack and refreshment room

Appendix IV

PRELIMINARY GEOTECHNICAL ENGINEERING REPORT

PROPOSED WINDSOR LIBRARY WINDSOR, COLORADO

PREPARED FOR
HUMPHRIES POLI ARCHITECTS
2100 DOWNING STREET
DENVER, CO 80205

PREPARED BY
OLSSON ASSOCIATES
3990 FOX STREET
DENVER, CO 80216
303-237-2072



APRIL 28, 2016

OLSSON PROJECT No. 016-0680



April 28, 2016

Humphries Poli Architects
Attn: Mr. Ozi Friedrich, AIA, LEED AP
2100 Downing Street
Denver, CO 80205

Re: Preliminary Geotechnical Engineering Report
Proposed Windsor Library
Windsor, CO
Olsson Project No. 016-0680

Dear Mr. Friedrich:

Olsson Associates has completed the preliminary geotechnical engineering report for the above referenced project. The enclosed report summarizes our understanding of the project, presents the findings of the borings and laboratory tests, discusses the observed subsurface conditions, and provides geotechnical engineering recommendations for this project.

We appreciate the opportunity to provide our geotechnical engineering services for this project. If you have any questions or need further assistance, please contact us at your convenience.

Respectfully submitted,
Olsson Associates

R. Morgan Dickinson, PE
Senior Engineer
Colorado Registration No. 37557

James M. Landrum, PE
Geotechnical Engineer

3990 Fox Street
Denver, CO 80216

TEL 303.237.2072
FAX 303.237.2659

www.olssonassociates.com

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- Appendix A: Boring Location Plan
- Appendix B: Symbols and Nomenclature, Boring Logs
- Appendix C: Laboratory Test Results

A. PROJECT UNDERSTANDING

A.1. GEOTECHNICAL SCOPE

This Preliminary Geotechnical Engineering Report presents the results of the subsurface exploration completed for the Proposed Windsor Library project planned in Windsor, Colorado. We drilled three (3) borings at each of the 2 proposed sites for the proposed structure and the associated parking and drive areas. These sites are designated as the "Downtown" site and the "East" site.

The locations of the borings are shown on the Boring Location Plan in Appendix A. Boring logs are provided in Appendix B. The purpose of this exploration was to evaluate the existing subsurface conditions encountered at the borings and provide preliminary geotechnical design recommendations for the support of foundations, floor slabs and pavements for the proposed Windsor Library.

A.2. SITE INFORMATION

The site designated as the "downtown" site is located at N. 6th St and Ash St in Windsor. The site is bordered by Ash Street to the south, 6th Street to the east, Railroad tracks to the north and 7th Street to the west. A metal building housing the Town of Windsor maintenance facilities is located in the southwest corner of the site and an American Legion Building is located on the south central portion of the site. From our review of readily available historical aerial images obtained from Google Earth and dating back to 1999, these buildings have existed on the project site since 1999. There was a smaller structure located to the north of the Town of Windsor building that was removed sometime between 2010 and 2012. The remainder of the site is clear and was graded at some time in the past. The site is surrounded by residential and commercial properties. Figure 1 shows the site location.

Figure 1: Site Location



The site designated as the "east" site is located northwest of the intersection of WCR 68 and Hollister Lake Road in Larimer County, to the east of Windsor. This tract is an "L" shaped piece, bordered on the east by Hollister Creek Drive and Weld County Road 68 on the south. The surrounding land appears to be agricultural, with some residential land to the west.

This site appears to have been agricultural land from prior to 1999, based on our review of readily available historical aerial images obtained from Google Earth that date back to 1999.

A.3. PROJECT INFORMATION

We understand that concepts for the proposed structure are still in development. A single story, slab-on-grade building may be feasible at the "east" site. The "downtown" site is smaller and a multi-story structure with below grade parking may be considered on this site. Vehicle parking and drive areas will be constructed in association with either site.

Grading plans and structural loads were not available at the time of this report. Based on our experience with similar structures, we anticipate structural loads for a single story building will be on the order of 30 kips for interior columns and 1 to 2 kips per linear foot for walls. Loads for a multi-story building will be greater. We anticipate up to 2 feet of cut and fill will be required within the building pad to achieve design grades.

B. EXPLORATORY AND TEST PROCEDURES

B.1. FIELD EXPLORATION

A truck mounted drill rig was used to complete 6 borings, 3 at each site. The boring locations were pre-selected by Olsson Associates in conjunction with Humphries Poli Architects. The drill crew located the borings in the field by measuring distances and estimating right angles from existing site features. The approximate locations of the borings are shown on the Boring Location Plans in Appendix A.

The borings were drilled to depths of about 25 feet across the 2 sites. Soil samples were obtained at selected intervals in the borings with either a 2-inch I.D. Modified California sampler or a 1.375-inch I.D. split spoon sampler during performance of the Standard Penetration Tests (SPT). The sampler was driven into the substrata with blows from a 140-lb hammer falling 30 inches. The Standard Penetration blow counts and "N" values are shown on the boring logs. It should be noted that N-values obtained from Modified California sampler are greater than N-values obtained by split spoon.

The drill crew prepared field logs of the material encountered at each boring. The field logs also included the driller's interpretation of the conditions between samples and approximate elevations of each stratum change. The boring logs in Appendix B represent the engineer's interpretation of the field logs based on visual classification and laboratory tests of the samples.

B.2. LABORATORY TESTING

The samples were sealed and returned to the laboratory for testing and classification. The soil samples were visually classified in accordance with the American Association of State Highway and Transportation Officials (AASHTO) system. We measured the moisture content of most samples. In addition, we performed Atterberg limits tests, swell-consolidation tests, and percent passing sieve No 200. The laboratory test results are presented on the respective boring logs and on the data sheets in Appendix C.

C. SUBSURFACE CONDITIONS

C.1. SOIL STRATIGRAPHY

Specific conditions at each boring location are shown on the appended boring logs. The logs represent subsurface conditions at the specific boring locations; however, variations may occur between or beyond the borings. The stratification lines shown on the logs represent the approximate boundary between soil types but the actual transition between soil layers may be gradual.

Borings B-1 through B-3 were drilled at the "Downtown" site. We encountered about 3 ½ to 6 feet of stiff lean clay with sand to sandy clay overlying poorly graded, loose to medium dense sand with clay extending to depths of about 9 to 13 ½ feet. Layers of poorly graded sand and sand with a trace to some silt were then encountered. These sand layers extended to the boring termination depths of about 25 feet.

Borings B-4 through B-6 were drilled at the "East" site. Subsurface conditions, as disclosed by the soil borings, were somewhat more variable at this site. The surficial soils consist of sandy clay to lean clay with sand to depths of about 3 ½ to 6 feet. These surficial soils were underlain by poorly graded sand with silt in borings B-4 and B-5, extending to the boring termination depths of 25 feet. In Boring B-6, the surficial soils were underlain by lean clay to a depth of about 13 ½ feet, which is further underlain by clayey silt with sand, extending to a depth of about 18 feet. At this depth, poorly graded sand with silt was encountered that extends to the termination depths at about 25 feet.

C.2. GROUNDWATER OBSERVATION

Groundwater level observations were made at the boring locations during drilling. The groundwater level measurements are summarized in Table 1. Variations and uncertainties exist with relatively short-term water level observations in boreholes. Water levels can and should be anticipated to vary between boring locations, as well as with time within specific borings. Groundwater levels may be expected to fluctuate with precipitation, site grading, drainage and adjacent land use. Long term monitoring with piezometers generally provides a more representative indication of the potential range of groundwater conditions.

Table 1: Groundwater Depths

Boring Location	Measured Groundwater Level (below existing site level)
B-1	14 ft
B-2	15 ft
B-3	14 ½ ft
B-4	16 ft
B-5	17 ft
B-6	18 ft

D. GEOTECHNICAL CONSIDERATIONS

"Downtown" Site

There are two existing structures on this site, and a structure that was removed a few years ago. We have not reviewed any documentation about demolition of this structure, and have assumed that the other on-site structures will be demolished if this site is selected for the Library. All foundation elements, basement walls, abandoned utilities, septic fields and other features associated with past site use could be present on the site. These remnants, if encountered, should be entirely removed from the site.

Our borings encountered native soils of lean clay overlying poorly graded sands that extended to the maximum depth explored. The on-site surficial clay soils are generally susceptible to degradation under construction equipment, especially when exposed to high moisture levels. Excessive pumping and rutting may occur during construction operations, especially under repeated traffic loads. Necessary precautions should be made to avoid excessive degradation of the subgrade soils including using lightly loaded track mounted equipment in lieu of heavy rubber tired equipment. Temporary haul roads and/or other stabilization techniques may be required depending on weather events.

If areas of instability are found during fill placement procedures, consideration should be given to stabilizing the soils within the areas of the building footprint. The methods of stabilization would be dependent on the actual conditions encountered at the time of construction.

"East" Site

Our previous experience with agricultural sites similar to this one have shown that it is common practice to push miscellaneous debris/trash directly into old excavations or washouts or into drainage areas to help control erosion. Burn pits are also very common. It is difficult to identify and document the specific location of these areas with the soil borings only, but the earthwork contractor should be aware that these areas may be encountered during the grading operations. We recommend that a representative of Olsson be on-site to monitor the earthwork and excavation operations and to document the presence of suspicious fill, buried debris, or otherwise unsuitable material that may be encountered across the project site.

The upper layer of cohesive soils at this site may consist of loose, wet or dry, lower consistency materials, due to repeated discing and plowing commonly associated with agricultural fields. We recommend that once the stripping of topsoil is complete, the upper portion of materials within the

former agricultural field be evaluated by the geotechnical engineer to determine if it is suitable for placement of structural fill. It may be possible that 18 to 24 inches of material will need to be reconditioned.

E. SITE PREPARATION

E.1. GENERAL SITE PREPARATION

At the time we prepared this report, details about the proposed structures (location, size, loads, evaluations, etc.) have yet to be determined. We have prepared the following opinions and recommendations for development of the site based on the soil borings and several assumptions about how the site will be developed. These opinions and recommendations should be considered preliminary and are intended for planning purposes only. Once details about the new structures become available, Olsson should be retained to review this information and provide design phase geotechnical recommendations for the project.

All vegetation, major root systems, organic soils, and any loose, soft or otherwise unsuitable material should be removed from the entire construction area. These materials should be carefully separated to avoid incorporation of organic materials into new fill sections in building or pavement areas. Stripping should be completed during dry weather conditions since operation of heavy equipment on this site could result in excessive rutting and mixing of organic debris with the underlying soils.

Following site stripping operations, we recommend that the exposed ground surface in the building and pavement areas be visually observed by Olsson. Depending on conditions observed, we may recommend test pits and/or the pad be proofrolled with a loaded tandem axle dump truck weighing at least 20 tons or similar equipment. Unstable and unsuitable soils revealed by visual observation, test pits, and/or proofrolling should be removed and replaced with structural fill.

Prior to placement of new fill, the upper 8 inches of exposed subgrade should be scarified, moisture conditioned and compacted to a minimum of 95 percent of the materials standard Proctor maximum dry density (ASTM Specification D-698) at a moisture content between 1 percent below optimum and 3 percent above optimum. Once the subgrade has been compacted, areas requiring structural fill should be filled in accordance with the recommendations presented in this report.

E.2. STRUCTURAL FILL

All structural fill should consist of approved materials, free of organic matter and debris (organic content less than 5 percent by weight). The soils should not contain particle sizes larger than three inches. Structural fill should consist of granular soils or low-plasticity clay soils that exhibit liquid limits less than 45 and a plasticity index less than 25. Samples of all proposed fill materials should be submitted to Olsson prior to use on the site. It appears the on-site soils will be suitable for placement as structural fill.

Suitable fill materials should be placed in loose lifts of 8 inches or less. The soil should be compacted using equipment that is the appropriate type and properly sized for the job. Within small excavations, such as in footing trenches, utility trenches, or around manholes, vibrating plate compactors, walk behind rollers or jumping jacks can be used to achieve the specified compaction. Lift thicknesses should be reduced to 4 inches in small fill areas requiring small compaction equipment.

An Olsson field representative should regularly observe and monitor the excavation and grading operations and perform field density tests to document that moisture and compaction requirements are being achieved. Table 2 provides our recommendations for fill placement on this site.

Table 2: Fill Placement Guidelines

Areas of Fill Placement	Material	Compaction Recommendation (ASTM D698-Standard Proctor)	Moisture Content (% of Optimum)
Structural Fill –placed as part of grading operations and below slab on grade	On-site Soils or Similar	95%	-1 to +3 percent
Floor Slab Subgrade (capillary break) – 6" of select material below floor slab	Well graded granular material	95%	-1 to +3 percent

The moisture content for suitable borrow soils at the time of compaction should generally be maintained between the ranges specified above. More stringent moisture limits may be necessary with certain soils and some adjustments to moisture contents may be necessary to achieve compaction in accordance with project specifications.

E.3. DRAINAGE CONSIDERATIONS

Water should not be allowed to collect at the ground surfaces near foundations, floor slabs or areas of new pavement, either during or after construction. Provisions should be made to quickly remove accumulating seepage water or storm water runoff from excavations. Undercut or excavated areas should be sloped toward one corner to allow rainwater or surface runoff to be quickly collected and gravity drained or pumped from construction areas. Subgrade soils that are exposed to precipitation or runoff should be evaluated by Olsson prior to the placement of new fill, reinforcing steel, or concrete, to determine if corrective action is required.

To minimize concerns related to improper or inadequate drainage away from foundation bearing subgrades or from cohesive backfill materials used in utility or foundation trenches, we recommend the following:

- Site grading should provide for efficient drainage of rainfall or surface runoff away from new structures and pavement.
- Roof run-off should be collected and transferred directly to the storm sewer system, or directed to a location with positive and rapid drainage away from new structures and pavements.
- External hose connections in unpaved areas should incorporate splash blocks to prevent accidental flooding of foundation bearing or backfill soils. External hose connections should have cut-off valves inside the building to prevent accidental or unauthorized use.
- Maintenance personnel should be informed of the potential problems associated with watering near the building.

E.4. CONSTRUCTION EQUIPMENT MOBILITY

The surface soils encountered and the anticipated new fills are susceptible to softening under construction equipment traffic during periods of wet weather. Reducing equipment mobility problems and managing soft surface soils will be greatly dependent on the severity of the circumstances, the season in which construction is performed, and prevailing weather conditions.

Some general guidelines for reducing equipment mobility problems and addressing potential soft and wet surface soils are as follows:

- Optimize surface water drainage at the site during construction.
- Whenever possible, wait for dry weather conditions to prevail, and do not operate construction equipment on the site during wet conditions. Ruts caused by construction vehicle traffic will accelerate subgrade disturbance. Disk or scarify wet surface soils during periods of favorable weather to accelerate drying. Temporarily re-compact loose subgrade soils if rain is forecast to promote site drainage and minimize moisture infiltration.
- Use construction equipment that is well suited for the intended job under the existing site conditions. Heavy rubber-tired equipment typically requires better site conditions than light, track-mounted equipment.
- Implement a construction schedule that realistically allows for rain days. Pressure to perform earthwork under a tight schedule is frequently counterproductive.

It may be necessary to take steps to aggressively improve equipment mobility if construction must proceed during unfavorable conditions. Such steps could include incorporating soil amendments such as; soil cement within the subgrade, placing crushed stone or recycled crushed concrete, or combining one or more layers of geotextile fabric with a crushed stone or concrete material.

F. STRUCTURES

F.1. PRELIMINARY FOUNDATION DESIGN

The preliminary foundation recommendations were developed based on the subsurface conditions encountered in the borings performed for this preliminary geotechnical study. Final foundation recommendations will depend on the type of structure that is built, structure loads and final site elevations. In our opinion, both sites should be suitable for support of a lightly to moderately loaded structure on conventional shallow spread footings. More heavily loaded structures should be supported on an intermediate to deep foundation system, such as piles or drilled shafts.

From our preliminary borings, conventional spread footings will most likely be founded on either lean clay or poorly graded sand with clay. For preliminary planning purposes, it can be assumed that footings bearing on these soils can be designed for a maximum allowable net bearing pressure of 2,000 to 2,500 pounds per square foot (psf). Footings should bear below the anticipated frost depth. The net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the footing base elevation. These allowable bearing

pressures, estimated settlements and construction considerations will be confirmed following the final geotechnical engineering study.

Olsson should observe the foundation bearing soils. The upper soils at this site were occasionally soft. Some over-excavation of soft soils may be required beneath foundations. If unsuitable bearing materials are encountered in footing excavations, the excavations should be extended deeper to suitable soils. The footings could bear directly on these materials at the lower level or on lean concrete backfill placed in the excavations. The footings could also bear on properly compacted backfill extending down to the suitable materials. Over-excavation for compacted backfill placement below footings should extend laterally beyond the edges of the footings at least 8 inches per foot of over-excavation depth below footing base elevation. The over-excavation should be backfilled up to the footing base elevation with well-graded granular material (such as CDOT Class 5) placed in lifts of 8 inches or less in loose thickness and compacted to at least 95 percent of the material's standard Proctor maximum dry density (ASTM D 698).

F.2. SEISMIC CLASSIFICATION

According to the International Building Code (IBC), soils within the upper 100 feet determine the seismic structural design criteria for the project site. For this project site, we recommend using a Site Class "C" (very dense soil and soft rock) according to Table 1613.5.2 of the 2012 IBC. This recommendation is based on the soils encountered in the borings and our understanding of the local geology.

F.3. LATERAL EARTH PRESSURES

Below grade parking may be designed if the Library is placed at the "Downtown" site. The below grade walls will then be subject to lateral earth pressures. Typically basement or below grade walls are designed for "at-rest" earth pressures. An "at-rest" condition assumes no wall rotation and would be applicable for basement walls. A "passive" earth pressure condition should be used to evaluate the resistance of soil to lateral loads. The earth pressure parameters will vary based in part on the allowable movement of the walls, existing site conditions, and other design details. The earth pressure coefficients can be evaluated once a site is chosen and a final geotechnical study is performed.

Backfill placed against structures should consist of granular soils or low plasticity cohesive soils. For the granular values to be valid, the granular backfill must extend out from the base of the wall at an angle of at least 45 and 60 degrees from vertical for the active and passive cases, respectively.

To intercept infiltrating surface water behind the wall, we recommend a perimeter drain be installed at the foundation level and/or weep holes be placed at regular intervals along the wall. The drain line invert should be below the finished subgrade elevation for the interior floor. The drain line should be sloped to provide positive gravity drainage and should be surrounded by free-draining granular material graded to prevent the intrusion of fines, or an alternative free-draining granular material encapsulated with suitable filter fabric.

G. FLOOR SLAB SUBGRADE PREPARATION

We recommend a free draining, 4-inch-thick granular leveling and drainage course be installed between the concrete floor slab and the low plasticity soil subgrade. The 4-inch-thick granular leveling and drainage course should consist of ASTM C-33 size No. 57 stone, or equivalent. The upper 12 inches of the floor slab subgrade should consist of a well graded crushed stone.

The final subgrade should be proof rolled and evaluated by an Olsson representative prior to the placement of the free draining granular leveling course. Proofrolling will detect any localized areas of instability. If unstable soils are encountered and cannot be adequately improved in place, they should be removed and replaced with structural fill. If these recommendations are implemented, a subgrade modulus of 200 pounds per cubic inch for the floor slab design is acceptable.

The procedures recommended above may not eliminate all future subgrade volume change and resultant floor slab movement. Common construction practice is to tie the slab-on-grade into the foundation elements to limit the impact of differential movement at doorways. Depending on many factors, including the size and shape of the floor area, the location of construction joints in the slab, the rigidity of the slab and foundation connection, and the magnitude of actual movement that occurs, cracks within the floor slab could occur and should be anticipated.

H. LIMITATIONS

The preliminary conclusions and recommendations presented in this report are based on the information available regarding the proposed construction, the results obtained from our soil test borings and sampling procedures, the results of the laboratory testing program, and our experience with similar projects. The soil test borings represent a very small statistical sampling of subsurface soils and it is possible that conditions may be encountered during construction that are substantially different from those indicated by the soil test borings. In these instances, adjustments to design and construction may be necessary. This preliminary geotechnical report is based on the site plan and information provided to Olsson and our understanding of the project as noted in this report. A final geotechnical engineering report should be conducted once the project site and design concepts are finalized. Changes in the location or design of new structures

Boring Location Plan

and/or pavements could significantly affect the conclusions and recommendations presented in this geotechnical report. Olsson should be contacted in the event of such changes to determine if the recommendations of this report remain appropriate for the revised site design.

This report was prepared under the direction and supervision of a Professional Engineer registered in the State of Colorado with the firm of Olsson Associates. The conclusions and recommendations contained herein are based on generally accepted, professional geotechnical engineering practices at the time of this report, within this geographic area. No other warranty is expressed or implied. This report has been prepared for the exclusive use of Humphries Poli Architects and their authorized representatives for specific application to the proposed project.



Boring	Depth	Coordinates		Elevation
B-1	25	40°28'54.60"N	104°54'26.12"W	4807
B-2	25	40°28'54.32"N	104°54'24.36"W	4804
B-3	25	40°28'53.56"N	104°54'22.48"W	4805

↑
North



Scale: nts
Project: 016-0680
Approved by: RMD
Date: 4/27/16

Boring Location Plan

**Windsor Library
"Downtown" Site
Windsor, CO**



Boring	Depth	Coordinates		Elevation
B-4	25	40°28'48.11"N	104°53'39.25"W	4798
B-5	25	40°28'48.40"N	104°53'32.95"W	4803
B-6	25	40°28'51.23"N	104°53'30.33"W	4798

↑
North



Scale: nts
Project: 016-0680
Approved by: RMD
Date: 4/27/16

Boring Location Plan

**Windsor Library
"East" Site
Windsor, CO**

APPENDIX B

Symbols and Nomenclature, Boring Logs

SYMBOLS AND NOMENCLATURE

DRILLING NOTES

DRILLING AND SAMPLING SYMBOLS

SS: Split-Spoon Sample (1.375" ID, 2.0" OD)	HSA: Hollow Stem Auger	NE: Not Encountered
U: Thin-Walled Tube Sample (3.0" OD)	CFA: Continuous Flight Auger	NP: Not Performed
CS: Continuous Sample	HA: Hand Auger	NA: Not Applicable
BS: Bulk Sample	CPT: Cone Penetration Test	% Rec: Percent of Recovery
MC: Modified California Sampler	WB: Wash Bore	WD: While Drilling
GB: Grab Sample	FT: Fish Tail Bit	IAD: Immediately After Drilling
SPT: Standard Penetration Test Blows per 6.0'	RB: Rock Bit	AD: After Drilling
		CI: Cave-In

DRILLING PROCEDURES

Soil samples designated as "U" samples on the boring logs were obtained in using Thin-Walled Tube Sampling techniques. Soil samples designated as "SS" samples were obtained during Penetration Test using a Split-Spoon Barrel sampler. The standard penetration resistance 'N' value is the number of blows of a 140 pound hammer falling 30 inches to drive the Split-Spoon sampler one foot. Soil samples designated as "MC" were obtained in using Thick-Walled, Ring-Lined, Split-Barrel Drive sampling techniques. Recovered samples were sealed in containers, labeled, and protected for transportation to the laboratory for testing.

WATER LEVEL MEASUREMENTS

Water levels indicated on the boring logs are levels measured in the borings at the times indicated. In relatively high permeable materials, the indicated levels may reflect the location of groundwater. In low permeability soils, the accurate determination of groundwater levels is not possible with only short-term observations.

SOIL PROPERTIES & DESCRIPTIONS

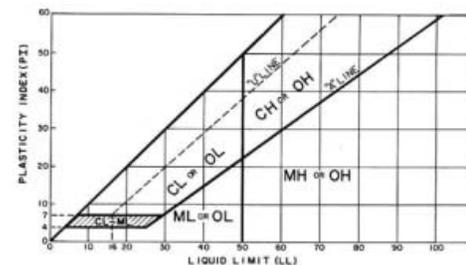
Descriptions of the soils encountered in the soil test borings were prepared using Visual-Manual Procedures for Descriptions and Identification of Soils.

PARTICLE SIZE

Boulders	12 in. +	Coarse Sand	4.75mm-2.0mm	Silt	0.075mm-0.005mm
Cobbles	12 in.-3 in.	Medium Sand	2.0mm-0.425mm	Clay	<0.005mm
Gravel	3 in.-4.75mm	Fine Sand	0.425mm-0.075mm		

COHESIVE SOILS		COHESIONLESS SOILS		COMPONENT %	
Consistency	Unconfined Compressive Strength (Qu) (tsf)	Relative Density	'N' Value	Description	Percent (%)
Very Soft	<0.25	Very Loose	0 - 3	Trace	<5
Soft	0.25 - 0.5	Loose	4 - 9	Few	5 - 10
Firm	0.5 - 1.0	Medium Dense	10 - 29	Little	15 - 25
Stiff	1.0 - 2.0	Dense	30 - 49	Some	30 - 45
Very Stiff	2.0 - 4.0	Very Dense	≥ 50	Mostly	50 - 100
Hard	> 4.0				

PLASTICITY CHART



ROCK QUALITY DESIGNATION (RQD)

Description	RQD (%)
Very Poor	0 - 25
Poor	25 - 50
Fair	50 - 75
Good	75 - 90
Excellent	90 - 100



OLSSON ASSOCIATES		BOREHOLE REPORT NO. B-1		Sheet 2 of 2									
PROJECT NAME Humphries Poli Proposed Windsor Library			CLIENT Humphries Poli Architects PC										
PROJECT NUMBER 016-0680			LOCATION Windsor, CO										
ELEVATION (ft)	MATERIAL DESCRIPTION	GRAPHIC LOG	DEPTH (ft)	SAMPLE TYPE NUMBER	CLASSIFICATION (AASHTO)	BLOWS/6" N-VALUE	UNC. STR. (tsf)	MOISTURE (%)	DRY DENSITY (pcf)	LL/PI (%)	ADDITIONAL DATA/REMARKS		
4785	POORLY GRADED SAND <i>Poorly graded sand, loose to medium dense, moist, brown (continued)</i>		20										
			25	MC 7	A-1-b	6-7 N=13	11.2	125.8			P-200 = 1.3%		
BASE OF BORING AT 25.0 FEET													
WATER LEVEL OBSERVATIONS			OLSSON ASSOCIATES			STARTED: 3/29/16		FINISHED: 3/29/16					
WD	14.0 ft					DRILL CO.: O'DELL		DRILL RIG: CME 55					
IAD	Not Encountered					DRILLER: O'DELL		LOGGED BY: RB					
AD	Not Encountered					METHOD: CONTINUOUS FLIGHT AUGER							

OLSSON ASSOCIATES		BOREHOLE REPORT NO. B-2		Sheet 1 of 2									
PROJECT NAME Humphries Poli Proposed Windsor Library			CLIENT Humphries Poli Architects PC										
PROJECT NUMBER 016-0680			LOCATION Windsor, CO										
ELEVATION (ft)	MATERIAL DESCRIPTION	GRAPHIC LOG	DEPTH (ft)	SAMPLE TYPE NUMBER	CLASSIFICATION (AASHTO)	BLOWS/6" N-VALUE	UNC. STR. (tsf)	MOISTURE (%)	DRY DENSITY (pcf)	LL/PI (%)	ADDITIONAL DATA/REMARKS		
	APPROX. SURFACE ELEV. (ft)#4804		0										
	LEAN CLAY WITH SAND <i>Lean clay with sand, stiff, moist, brown to dark brown</i>			SS 1	A-6	6-7-9 N=16		12.4					
4800				MC 2	A-6	6-7 N=13		13.7	112.7				
			6.0'										
	POORLY GRADED SAND WITH CLAY <i>Poorly graded sand with clay, loose to medium dense, moist, light brown</i>			SS 3	A-2-6	4-6-6 N=12		13.9		32/8	P-200 = 37.9%		
4795				MC 4	A-2-6	5-5 N=10		16.6	103.7				
			13.5'										
4790	POORLY GRADED SAND WITH SILT <i>Poorly graded sand with trace silt to some silt, medium dense, moist to wet, brown</i>			SS 5	A-1-b	2-4-5 N=9		22.4					
4785				MC 6	A-1-b	7-9 N=16		12.2	122.4				
CONTINUED NEXT PAGE													
WATER LEVEL OBSERVATIONS			OLSSON ASSOCIATES			STARTED: 3/29/16		FINISHED: 3/29/16					
WD	15.0 ft					DRILL CO.: O'DELL		DRILL RIG: CME 55					
IAD	Not Encountered					DRILLER: O'DELL		LOGGED BY: RB					
AD	Not Encountered					METHOD: CONTINUOUS FLIGHT AUGER							

OLSSON ASSOCIATES		BOREHOLE REPORT NO. B-2		Sheet 2 of 2							
PROJECT NAME Humphries Poli Proposed Windsor Library			CLIENT Humphries Poli Architects PC								
PROJECT NUMBER 016-0680			LOCATION Windsor, CO								
ELEVATION (ft)	MATERIAL DESCRIPTION	GRAPHIC LOG	DEPTH (ft)	SAMPLE TYPE NUMBER	CLASSIFICATION (AASHTO)	BLOWS/6" N-VALUE	UNC. STR. (tsf)	MOISTURE (%)	DRY DENSITY (pcf)	LL/PI (%)	ADDITIONAL DATA/REMARKS
	POORLY GRADED SAND WITH SILT <i>Poorly graded sand with trace silt to some silt, medium dense, moist to wet, brown(continued)</i>		20								
4780			25	SS 7	A-1-b	13-17-24 N=41	6.9				
BASE OF BORING AT 25.0 FEET											
WATER LEVEL OBSERVATIONS			OLSSON ASSOCIATES			STARTED: 3/29/16		FINISHED: 3/29/16			
WD	15.0 ft					DRILL CO.: O'DELL		DRILL RIG: CME 55			
IAD	Not Encountered					DRILLER: O'DELL		LOGGED BY: RB			
AD	Not Encountered					METHOD: CONTINUOUS FLIGHT AUGER					

OLSSON ASSOCIATES		BOREHOLE REPORT NO. B-3		Sheet 1 of 2							
PROJECT NAME Humphries Poli Proposed Windsor Library			CLIENT Humphries Poli Architects PC								
PROJECT NUMBER 016-0680			LOCATION Windsor, CO								
ELEVATION (ft)	MATERIAL DESCRIPTION	GRAPHIC LOG	DEPTH (ft)	SAMPLE TYPE NUMBER	CLASSIFICATION (AASHTO)	BLOWS/6" N-VALUE	UNC. STR. (tsf)	MOISTURE (%)	DRY DENSITY (pcf)	LL/PI (%)	ADDITIONAL DATA/REMARKS
	APPROX. SURFACE ELEV. (ft) 4805		0								
	LEAN CLAY WITH SAND <i>Lean clay with sand, stiff, moist, brown to light brown</i>			MC 1	A-6	5-6 N=11	16.9	114.6			
	POORLY GRADED SAND WITH CLAY <i>Poorly graded sand with clay, loose to medium dense, moist, brown</i>		3.5'	SS 2	A-2-6	5-5-5 N=10	13.6				P-200 = 47.3%
4800			5	MC 3	A-2-6	6-5 N=11	8.0	111.0			
	POORLY GRADED SAND WITH SILT <i>Poorly graded sand with silt, medium dense, moist to very moist, brown</i>		9.0'	SS 4	A-1-b	3-4-7 N=11	6.5				
4795			10	MC 5	A-1-b	7-6 N=13	14.6	111.3			
4790			15								
			20	SS 6	A-1-b	5-7-5 N=12	9.9				
4785			20								
CONTINUED NEXT PAGE											
WATER LEVEL OBSERVATIONS			OLSSON ASSOCIATES			STARTED: 3/29/16		FINISHED: 3/29/16			
WD	14.5 ft					DRILL CO.: O'DELL		DRILL RIG: CME 55			
IAD	Not Encountered					DRILLER: O'DELL		LOGGED BY: RB			
AD	Not Encountered					METHOD: CONTINUOUS FLIGHT AUGER					

OLSSON ASSOCIATES		BOREHOLE REPORT NO. B-3		Sheet 2 of 2																					
PROJECT NAME Humphries Poli Proposed Windsor Library			CLIENT Humphries Poli Architects PC																						
PROJECT NUMBER 016-0680			LOCATION Windsor, CO																						
ELEVATION (ft)	MATERIAL DESCRIPTION	GRAPHIC LOG	DEPTH (ft)	SAMPLE TYPE NUMBER	CLASSIFICATION (ASHSTO)	BLOWS/6" N-VALUE	UNC. STR. (tsf)	MOISTURE (%)	DRY DENSITY (pcf)	LL/PI (%)	ADDITIONAL DATA/REMARKS														
												Modified California Sampler	Split Spoon												
4785	POORLY GRADED SAND WITH SILT <i>Poorly graded sand with silt, medium dense, moist to very moist, brown (continued)</i>		20																						
4780	BASE OF BORING AT 25.0 FEET		25	MC 7	A-1-b	50/9" N=50	13.2	138.9																	
<table border="1"> <tr> <td>WATER LEVEL OBSERVATIONS</td> <td rowspan="5">OLSSON ASSOCIATES</td> <td>STARTED: 3/29/16</td> <td>FINISHED: 3/29/16</td> </tr> <tr> <td>WD ∇ 14.5 ft</td> <td>DRILL CO.: O'DELL</td> <td>DRILL RIG: CME 55</td> </tr> <tr> <td>IAD ∇ Not Encountered</td> <td>DRILLER: O'DELL</td> <td>LOGGED BY: RB</td> </tr> <tr> <td>AD ∇ Not Encountered</td> <td>METHOD: CONTINUOUS FLIGHT AUGER</td> <td></td> <td></td> </tr> </table>												WATER LEVEL OBSERVATIONS	OLSSON ASSOCIATES	STARTED: 3/29/16	FINISHED: 3/29/16	WD ∇ 14.5 ft	DRILL CO.: O'DELL	DRILL RIG: CME 55	IAD ∇ Not Encountered	DRILLER: O'DELL	LOGGED BY: RB	AD ∇ Not Encountered	METHOD: CONTINUOUS FLIGHT AUGER		
WATER LEVEL OBSERVATIONS	OLSSON ASSOCIATES	STARTED: 3/29/16	FINISHED: 3/29/16																						
WD ∇ 14.5 ft		DRILL CO.: O'DELL	DRILL RIG: CME 55																						
IAD ∇ Not Encountered		DRILLER: O'DELL	LOGGED BY: RB																						
AD ∇ Not Encountered		METHOD: CONTINUOUS FLIGHT AUGER																							

OLSSON ASSOCIATES		BOREHOLE REPORT NO. B-4		Sheet 1 of 2																					
PROJECT NAME Humphries Poli Proposed Windsor Library			CLIENT Humphries Poli Architects PC																						
PROJECT NUMBER 016-0680			LOCATION Windsor, CO																						
ELEVATION (ft)	MATERIAL DESCRIPTION	GRAPHIC LOG	DEPTH (ft)	SAMPLE TYPE NUMBER	CLASSIFICATION (ASHSTO)	BLOWS/6" N-VALUE	UNC. STR. (tsf)	MOISTURE (%)	DRY DENSITY (pcf)	LL/PI (%)	ADDITIONAL DATA/REMARKS														
												Modified California Sampler	Split Spoon												
	APPROX. SURFACE ELEV. (ft) 4798		0																						
	SANDY CLAY <i>Lean clay with sand, stiff to firm, moist, brown</i>			MC 1	A-6	5-5 N=10	11.1	99.9																	
4795				SS 2	A-6	2-3-2 N=5	8.1																		
	POORLY GRADED SAND WITH SILT <i>Poorly graded sand with silt, medium dense to loose, moist, brown</i>		6.0'	SS 3	A-6	6-6 N=12	23.5																		
4790				MC 4	A-6	2-3-3 N=6	22.1	95.7																	
4785				SS 5	A-6	2-2 N=4	30.4	47/16	P-200 = 6.3%																
4780				SS 6	A-2-6	3-3 N=6	23.2																		
CONTINUED NEXT PAGE																									
<table border="1"> <tr> <td>WATER LEVEL OBSERVATIONS</td> <td rowspan="5">OLSSON ASSOCIATES</td> <td>STARTED: 3/29/16</td> <td>FINISHED: 3/29/16</td> </tr> <tr> <td>WD ∇ 16.0 ft</td> <td>DRILL CO.: O'DELL</td> <td>DRILL RIG: CME 55</td> </tr> <tr> <td>IAD ∇ Not Encountered</td> <td>DRILLER: O'DELL</td> <td>LOGGED BY: RB</td> </tr> <tr> <td>AD ∇ Not Encountered</td> <td>METHOD: CONTINUOUS FLIGHT AUGER</td> <td></td> <td></td> </tr> </table>												WATER LEVEL OBSERVATIONS	OLSSON ASSOCIATES	STARTED: 3/29/16	FINISHED: 3/29/16	WD ∇ 16.0 ft	DRILL CO.: O'DELL	DRILL RIG: CME 55	IAD ∇ Not Encountered	DRILLER: O'DELL	LOGGED BY: RB	AD ∇ Not Encountered	METHOD: CONTINUOUS FLIGHT AUGER		
WATER LEVEL OBSERVATIONS	OLSSON ASSOCIATES	STARTED: 3/29/16	FINISHED: 3/29/16																						
WD ∇ 16.0 ft		DRILL CO.: O'DELL	DRILL RIG: CME 55																						
IAD ∇ Not Encountered		DRILLER: O'DELL	LOGGED BY: RB																						
AD ∇ Not Encountered		METHOD: CONTINUOUS FLIGHT AUGER																							

OLSSON ASSOCIATES		BOREHOLE REPORT NO. B-4		Sheet 2 of 2							
PROJECT NAME Humphries Poli Proposed Windsor Library			CLIENT Humphries Poli Architects PC								
PROJECT NUMBER 016-0680			LOCATION Windsor, CO								
ELEVATION (ft)	<input checked="" type="checkbox"/> Modified California Sampler <input type="checkbox"/> Split Spoon	GRAPHIC LOG	DEPTH (ft)	SAMPLE TYPE NUMBER	CLASSIFICATION (AASHTO)	BLOWS/6" N-VALUE	UNC. STR. (tsf)	MOISTURE (%)	DRY DENSITY (pcf)	LL/PI (%)	ADDITIONAL DATA/REMARKS
4775			20								
POORLY GRADED SAND WITH SILT <i>Poorly graded sand with silt, medium dense to loose, moist, brown(continued)</i>											
			25	SS 7	A-6	4-4-4 N=8		30.0			
BASE OF BORING AT 25.0 FEET											
WATER LEVEL OBSERVATIONS		OLSSON ASSOCIATES		STARTED: 3/29/16		FINISHED: 3/29/16					
WD ∇ 16.0 ft				DRILL CO.: O'DELL		DRILL RIG: CME 55					
IAD ∇ Not Encountered				DRILLER: O'DELL		LOGGED BY: RB					
AD ∇ Not Encountered				METHOD: CONTINUOUS FLIGHT AUGER							

OLSSON ASSOCIATES		BOREHOLE REPORT NO. B-5		Sheet 1 of 2							
PROJECT NAME Humphries Poli Proposed Windsor Library			CLIENT Humphries Poli Architects PC								
PROJECT NUMBER 016-0680			LOCATION Windsor, CO								
ELEVATION (ft)	<input type="checkbox"/> Split Spoon <input checked="" type="checkbox"/> Modified California Sampler	GRAPHIC LOG	DEPTH (ft)	SAMPLE TYPE NUMBER	CLASSIFICATION (AASHTO)	BLOWS/6" N-VALUE	UNC. STR. (tsf)	MOISTURE (%)	DRY DENSITY (pcf)	LL/PI (%)	ADDITIONAL DATA/REMARKS
			0								
APPROX. SURFACE ELEV. (ft)4803 LEAN CLAY WITH SAND <i>Lean clay with sand, firm to stiff, moist, brown</i>											
4800				SS 1	A-6	2-3-5 N=8		12.2			
			5	MC 2	A-6	5-6 N=11		8.1	106.6		
POORLY GRADED SAND WITH SILT <i>Poorly graded sand with silt, medium dense, moist, brown to light brown</i>											
4795				SS 3	A-1-b	4-5-7 N=12		1.8			
			10	MC 4	A-1-b	8-7 N=15		2.9	119.8		
4790											
			15	SS 5	A-1-b	5-8-7 N=15		1.3			
4785											
			20	MC 6	A-1-b	5-7 N=12		5.6	124.7		
CONTINUED NEXT PAGE											
WATER LEVEL OBSERVATIONS		OLSSON ASSOCIATES		STARTED: 3/29/16		FINISHED: 3/29/16					
WD ∇ 17.0 ft				DRILL CO.: O'DELL		DRILL RIG: CME 55					
IAD ∇ Not Encountered				DRILLER: O'DELL		LOGGED BY: RB					
AD ∇ Not Encountered				METHOD: CONTINUOUS FLIGHT AUGER							

OLSSON ASSOCIATES		BOREHOLE REPORT NO. B-5		Sheet 2 of 2								
PROJECT NAME Humphries Poli Proposed Windsor Library			CLIENT Humphries Poli Architects PC									
PROJECT NUMBER 016-0680			LOCATION Windsor, CO									
ELEVATION (ft)	MATERIAL DESCRIPTION	GRAPHIC LOG	DEPTH (ft)	SAMPLE TYPE NUMBER	CLASSIFICATION (AASHTO)	BLOWBLS* N-VALUE	UNC. STR. (tsf)	MOISTURE (%)	DRY DENSITY (pcf)	LL/PI (%)	ADDITIONAL DATA/REMARKS	
	POORLY GRADED SAND WITH SILT <i>Poorly graded sand with silt, medium dense, moist, brown to light brown(continued)</i>		20									
4780	POORLY GRADED SAND WITH SILT <i>Poorly graded sand with silt, loose, moist, light brown</i>		23.0'	SS 7	A-1-b	2-2-6 N=8		32.4		43/11	P-200 = 16.7%	
BASE OF BORING AT 25.0 FEET												
WATER LEVEL OBSERVATIONS			OLSSON ASSOCIATES			STARTED: 3/29/16		FINISHED: 3/29/16				
WD	17.0 ft					DRILL CO.: O'DELL		DRILL RIG: CME 55				
IAD	Not Encountered					DRILLER: O'DELL		LOGGED BY: RB				
AD	Not Encountered					METHOD: CONTINUOUS FLIGHT AUGER						

OLSSON ASSOCIATES		BOREHOLE REPORT NO. B-6		Sheet 1 of 2								
PROJECT NAME Humphries Poli Proposed Windsor Library			CLIENT Humphries Poli Architects PC									
PROJECT NUMBER 016-0680			LOCATION Windsor, CO									
ELEVATION (ft)	MATERIAL DESCRIPTION	GRAPHIC LOG	DEPTH (ft)	SAMPLE TYPE NUMBER	CLASSIFICATION (AASHTO)	BLOWBLS* N-VALUE	UNC. STR. (tsf)	MOISTURE (%)	DRY DENSITY (pcf)	LL/PI (%)	ADDITIONAL DATA/REMARKS	
	APPROX. SURFACE ELEV. (ft) 4798 SANDY CLAY <i>Sandy Clay, firm, moist, brown</i>		0									
4795	LEAN CLAY WITH SAND <i>Lean clay with sand, firm to stiff, moist, brown</i>		3.5'	MC 1	A-2-6	2-3 N=5		4.7	112.3			
			5	SS 2	A-6	3-4-2 N=6		12.5				
4790				MC 3	A-6	7-9 N=16		16.1	103.9			
			10	SS 4	A-6	4-8-9 N=17		18.7			P-200 = 19.9%	
4785	CLAYEY SILT WITH SAND <i>Clayey silt with sand, stiff, moist, brown</i>		13.5'	MC 5	A-5	4-5 N=9		28.3	104.1			
4780	POORLY GRADED SAND WITH SILT <i>Poorly graded sand with silt, dense, moist, brown</i>		18.0'	SS 6	A-1-b	3-17-18 N=35		17.7				
CONTINUED NEXT PAGE												
WATER LEVEL OBSERVATIONS			OLSSON ASSOCIATES			STARTED: 3/29/16		FINISHED: 3/29/16				
WD	18.0 ft					DRILL CO.: O'DELL		DRILL RIG: CME 55				
IAD	Not Encountered					DRILLER: O'DELL		LOGGED BY: RB				
AD	Not Encountered					METHOD: CONTINUOUS FLIGHT AUGER						



BOREHOLE REPORT NO. B-6

Sheet 2 of 2

PROJECT NAME Humphries Poli Proposed Windsor Library		CLIENT Humphries Poli Architects PC										
PROJECT NUMBER 016-0680		LOCATION Windsor, CO										
ELEVATION (ft)	<input checked="" type="checkbox"/> Modified California Sampler <input type="checkbox"/> Split Spoon	GRAPHIC LOG	DEPTH (ft)		SAMPLE TYPE NUMBER	CLASSIFICATION (USCS)	BLOWS/6" N-VALUE	UNC. STR. (tsf)	MOISTURE (%)	DRY DENSITY (pcf)	LL/PI (%)	ADDITIONAL DATA/REMARKS
	MATERIAL DESCRIPTION			20								
4775	POORLY GRADED SAND WITH SILT <i>Poorly graded sand with silt, dense, moist, brown (continued)</i>		25	<input checked="" type="checkbox"/> MC 7	A-1-b	10-24 N=34	12.5	123.9				
BASE OF BORING AT 25.0 FEET												
WATER LEVEL OBSERVATIONS		OLSSON ASSOCIATES		STARTED:	3/29/16	FINISHED:	3/29/16					
WD	<input type="checkbox"/> 18.0 ft			DRILL CO.:	O'DELL	DRILL RIG:	CME 55					
IAD	<input checked="" type="checkbox"/> Not Encountered			DRILLER:	O'DELL	LOGGED BY:	RB					
AD	<input checked="" type="checkbox"/> Not Encountered			METHOD:	CONTINUOUS FLIGHT AUGER							

APPENDIX C

Summary of Laboratory Test Results

PROJECT NAME: _Humphries Poli Proposed Windsor Library
PROJECT NUMBER: _016-0680

CLIENT: _Humphries Poli Architects PC
PROJECT LOCATION: _Windsor, CO

BORING NUMBER	SAMPLE I.D.	SAMPLE DEPTH (ft)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	VOID RATIO	SATURATION (%)	UNCONFINED STRENGTH (tsf)	STRAIN (%)	ATTERBERG LIMITS			USCS CLASS
									LIQUID LIMIT	PLASTIC LIMIT	PLASTIC INDEX	
B-1	MC-1	1.0 - 2.0'	13.8	117.7	0.432	86.2						NA
B-1	SS-2	3.5 - 5.0'	16.5									NA
B-1	MC-3	6.0 - 7.0'	11.5	90.2	0.868	35.9						NA
B-1	SS-4	8.5 - 10.0'	14.0									NA
B-1	MC-5	13.5 - 14.5'	12.1	105.5	0.597	54.5						NA
B-1	SS-6	18.5 - 20.0'	9.8									NA
B-1	MC-7	23.5 - 24.5'	11.2	125.8	0.340	88.7					1.3	NA
B-2	SS-1	1.0 - 2.5'	12.4									NA
B-2	MC-2	3.5 - 4.5'	13.7	112.7	0.496	74.7						NA
B-2	SS-3	6.0 - 7.5'	13.9						32	24	8	NA
B-2	MC-4	8.5 - 9.5'	16.6	103.7	0.625	71.7						NA
B-2	SS-5	13.5 - 15.0'	22.4									NA
B-2	MC-6	18.5 - 19.5'	12.2	122.4	0.377	87.3						NA
B-2	SS-7	23.5 - 25.0'	6.9									NA
B-3	MC-1	1.0 - 2.0'	16.9	114.6	0.470	97.3						NA
B-3	SS-2	3.5 - 5.0'	13.6									NA
B-3	MC-3	6.0 - 7.0'	8.0	111.0	0.518	41.5					47.3	NA
B-3	SS-4	8.5 - 10.0'	6.5									NA
B-3	MC-5	13.5 - 14.5'	14.6	111.3	0.515	76.4						NA
B-3	SS-6	18.5 - 20.0'	9.9									NA
B-3	MC-7	23.5 - 24.5'	13.2	138.9	0.214	100.0						NA
B-4	MC-1	1.0 - 2.0'	11.1	99.9	0.687	43.6						NA
B-4	SS-2	3.5 - 5.0'	8.1									NA
B-4	SS-3	6.0 - 7.5'	23.5									NA
B-4	MC-4	8.5 - 9.5'	22.1	95.7	0.762	78.3			47	31	16	NA
B-4	SS-5	13.5 - 15.0'	30.4									NA
B-4	SS-6	18.5 - 20.0'	23.2									NA
B-4	SS-7	23.5 - 25.0'	30.0									NA
B-5	SS-1	1.0 - 2.5'	12.2									NA
B-5	MC-2	3.5 - 4.5'	8.1	106.6	0.581	37.6						NA

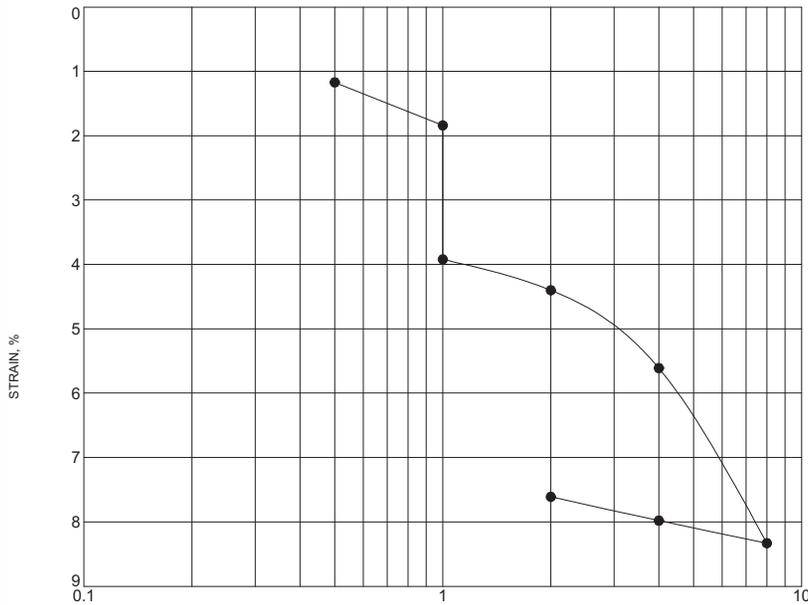
PROJECT NAME: _Humphries Poli Proposed Windsor Library
PROJECT NUMBER: _016-0680

CLIENT: _Humphries Poli Architects PC
PROJECT LOCATION: _Windsor, CO

BORING NUMBER	SAMPLE I.D.	SAMPLE DEPTH (ft)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	VOID RATIO	SATURATION (%)	UNCONFINED STRENGTH (tsf)	STRAIN (%)	ATTERBERG LIMITS			USCS CLASS
									LIQUID LIMIT	PLASTIC LIMIT	PLASTIC INDEX	
B-5	SS-3	6.0 - 7.5'	1.8									NA
B-5	MC-4	8.5 - 9.5'	2.9	119.8	0.408	19.1						NA
B-5	SS-5	13.5 - 15.0'	1.3									NA
B-5	MC-6	18.5 - 19.5'	5.6	124.7	0.351	43.3						NA
B-5	SS-7	23.5 - 25.0'	32.4						43	32	11	NA
B-6	MC-1	1.0 - 2.0'	4.7	112.3	0.501	25.6						NA
B-6	SS-2	3.5 - 5.0'	12.5									NA
B-6	MC-3	6.0 - 7.0'	16.1	103.9	0.622	69.8						NA
B-6	SS-4	8.5 - 10.0'	18.7									NA
B-6	MC-5	13.5 - 14.5'	28.3	104.1	0.618	100.0					19.9	NA
B-6	SS-6	18.5 - 20.0'	17.7									NA
B-6	MC-7	23.5 - 24.5'	12.5	123.9	0.360	93.9						NA

SWELL / CONSOLIDATION TEST

PROJECT NAME: Humphries Poli Proposed Windsor Library CLIENT: Humphries Poli Architects PC
PROJECT NUMBER: 016-0680 PROJECT LOCATION: Windsor, CO



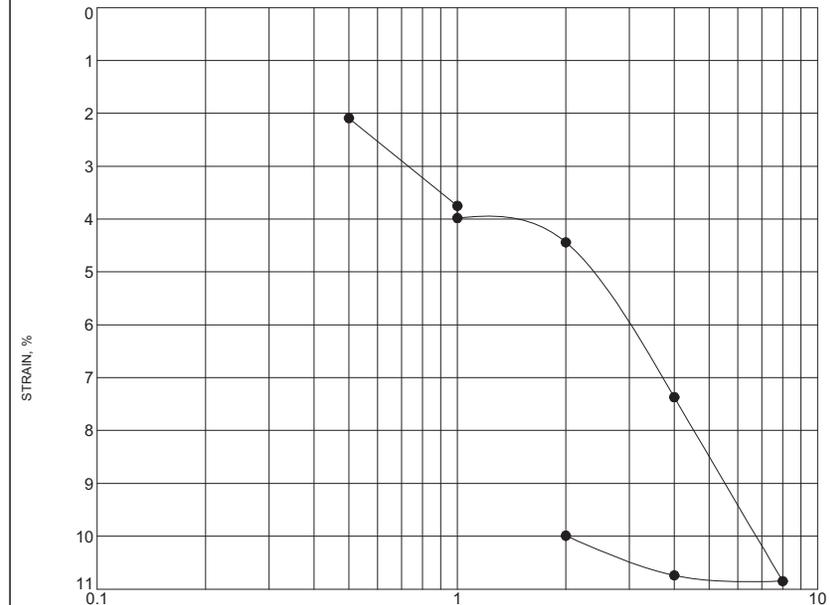
Boring No: B-2 Initial Water Content (%): 11.4 Est. Preconsolidated Stress (tsf): 0.0
 Sample ID: MC-4 Final Water Content (%): 21.6 Laboratory Water Type: Tap Water
 Sample Depth: 8.5 - 9.5' Initial Dry Density (pcf): 101.3 Test Procedure Method: NA
 Start Date: 04/14/2016 Initial Void Ratio: 0.664 Interpretation Procedure: NA
 Technician: NA Final Void Ratio: 0.816 Stress at Inundation (psf): 1.0
 Apparatus: DNV A Initial Degree of Saturation (%): 46.3 Specimen Trimming Method: Ring Sampler
 Specific Gravity: 2.7 Final Degree of Saturation (%): 71.4

ATTERBERG LIMITS
LL PL PI Classification

Sample Description: _____ Notes: Collapse Potential: -1.21%

SWELL / CONSOLIDATION TEST

PROJECT NAME: Humphries Poli Proposed Windsor Library CLIENT: Humphries Poli Architects PC
PROJECT NUMBER: 016-0680 PROJECT LOCATION: Windsor, CO



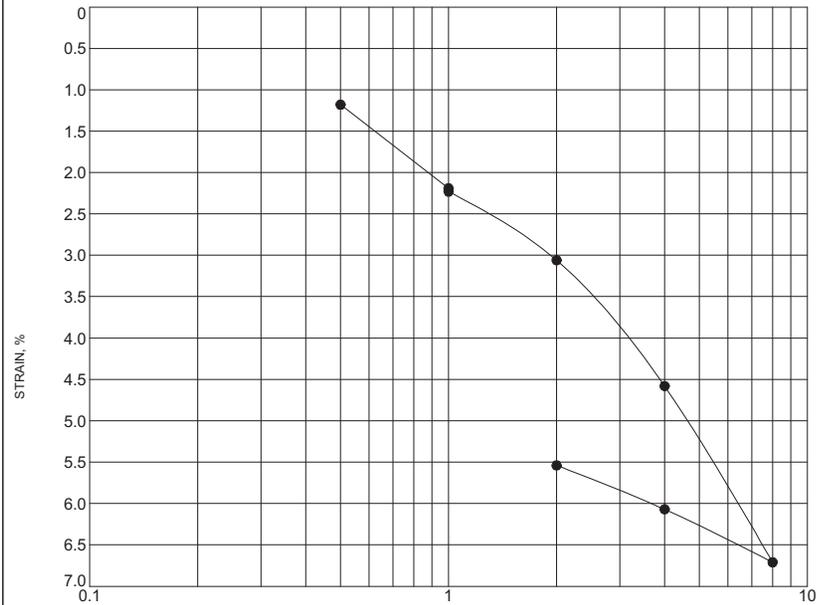
Boring No: B-5 Initial Water Content (%): 22.5 Est. Preconsolidated Stress (tsf): 0.0
 Sample ID: MC-6 Final Water Content (%): 28.5 Laboratory Water Type: Tap Water
 Sample Depth: 18.5 - 19.5' Initial Dry Density (pcf): 96.1 Test Procedure Method: NA
 Start Date: 04/14/2016 Initial Void Ratio: 0.754 Interpretation Procedure: NA
 Technician: NA Final Void Ratio: 0.839 Stress at Inundation (psf): 1.0
 Apparatus: DNV B Initial Degree of Saturation (%): 80.8 Specimen Trimming Method: Ring Sampler
 Specific Gravity: 2.7 Final Degree of Saturation (%): 91.8

ATTERBERG LIMITS
LL PL PI Classification

Sample Description: _____ Notes: Collapse Potential: -2.93%

SWELL / CONSOLIDATION TEST

PROJECT NAME: Humphries Poli Proposed Windsor Library CLIENT: Humphries Poli Architects PC
PROJECT NUMBER: 016-0680 PROJECT LOCATION: Windsor, CO



Boring No: B-6 Initial Water Content (%): 15.6 Est. Preconsolidated Stress (tsf): 0.0
Sample ID: MC-3 Final Water Content (%): 18.5 Laboratory Water Type: Tap Water
Sample Depth: 6.0 - 7.0' Initial Dry Density (pcf): 106.8 Test Procedure Method: NA
Start Date: 04/14/2016 Initial Void Ratio: 0.578 Interpretation Procedure: NA
Technician: NA Final Void Ratio: 0.618 Stress at Inundation (psf): 1.0
Apparatus: DNV D Initial Degree of Saturation (%): 72.8 Specimen Trimming Method: Ring Sampler
Specific Gravity: 2.7 Final Degree of Saturation (%): 81.0

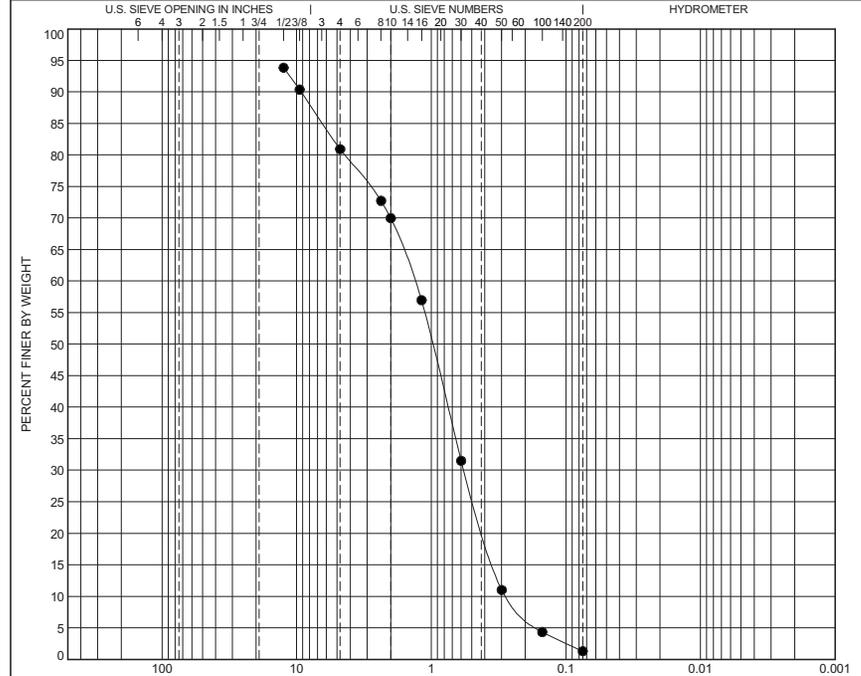
ATTERBERG LIMITS

LL PL PI Classification

Sample Description: _____ Notes: Collapse Potential: -1.52%

GRAIN SIZE DISTRIBUTION

PROJECT NAME: Humphries Poli Proposed Windsor Library CLIENT: Humphries Poli Architects PC
PROJECT NUMBER: 016-0680 PROJECT LOCATION: Windsor, CO



Boring No.	Sample ID	Depth (ft)	GRAIN SIZE IN MILLIMETERS					LL	PL	PI	Cc	Cu
			GRAVEL		SAND							
			coarse	fine	coarse	medium	fine					
● B-1	MC-7	23.5 - 24.5'									0.90	4.93
Boring No.	Sample ID	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay			
● B-1	MC-7	12.5	1.334	0.57	0.27	12.9	79.6	1.3				
Boring No.	Sample ID	Depth (ft)	Sample Description				Sample Location					
● B-1	MC-7	23.5 - 24.5'										