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VOLUME I

SANTA CRUZ DOWNTOWN LIBRARY MIXED-USE PROJECT COST ASSESSMENT FINAL REPORT

May 29th, 2020







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EXECUTIVE SUMMARY

In 2016 the voters served by the Santa Cruz Public Libraries approved Measure S which allocated \$27 million dollars to the downtown Santa Cruz Library project. The City of Santa Cruz has been exploring different options to get the best possible Library within that budget.

Assessment Team

In February 2020, Group 4 Architecture, Research + Planning, Inc. was engaged by the City to assess the cost of two options for relocating the Santa Cruz Public Libraries' Downtown Branch to a publicly owned site on Cedar Street as part of a possible mixed-use development that would also include affordable housing and parking.

To support this effort, Group 4 engaged a team of sub-consultants with experience directly relevant to the scope of the project. This team included cost estimator Mack5; structural engineer BASE Design, mechanical and plumbing engineers Blue Forest Engineering; electrical, lighting, and tel/data engineers Atium Engineering; and civil engineers BKF. While the scope of Group 4's work was limited to the conceptual design of the Library portion, the project team included advising services for the mixed-use components provided by parking consultants Watry Design and housing consultants Van Meter Williams Pollack.

The consultant team was coordinated by a Project Management Team from the City of Santa Cruz Economic Development Department and representatives of the Santa Cruz Public Libraries administration team. The City Department of Public Works gave technical input. The City Council Subcommittee met with the project team, and received an update during a public forum held on May 8, 2020.

Library Improvement Options

Previously, in the fall of 2019, the City commissioned a study by Jayson Architects that compared two options for improving the Downtown Library on its existing site:

A. New Freestanding Two-story Library

This option (hereafter referred to as Option A) was introduced for comparative purposes but was not extensively studied. For the \$27 million dollar budget this option would only provide a Library of approximately 19,000 square feet. The costs for this option would be comparable if built adjacent to the current downtown branch or if built on Cedar Street. Therefore, this option was not

included again in the 2020 assessment in lieu of developing costs for a second mixed use option described below. Refer to the 2019 report for more detail.

B. Renovation with Partial Demolition

This option (hereafter referred to as Option B) developed conceptual designs for the gut-rehab of the existing 42,000 square foot two-story downtown branch Library. After a complete gut rehab and the removal of the existing one-story portions the finished Library would be approximately 30,230 square feet. The estimate summary is included in this report for comparison.

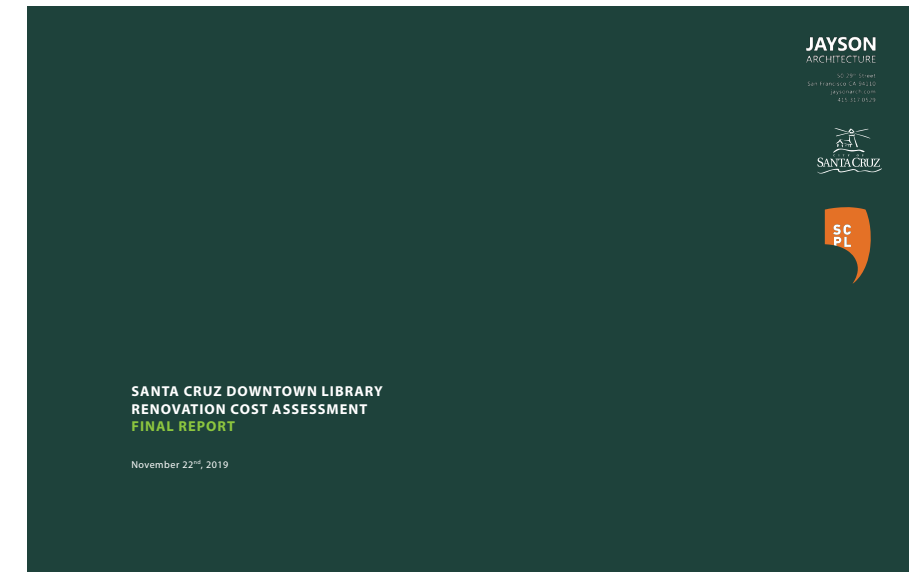
An early task in this 2020 study was to define two mixed-use options with different horizontal and vertical arrangements of Library, commercial, affordable housing, and parking on an alternate downtown site.

C. Library with Housing and Parking Above

This option (hereafter referred to as Option C) has the Library occupying the majority of the ground floor, that also includes additional space for commercial use, plus lobby and support spaces for housing. The rest of the ground floor contains the entry to the parking garage with a ramp that connects to a second level, plus elevators, stairs and support spaces. On upper floors situated partially above the Library and commercial space are multiple levels of housing with units facing each street wrapped around a garage with a park-on ramp configuration. The number of floors would be determined in the future based on amount of affordable housing and parking desired by the City. The maximum ground floor uses to be split between the Library and commercial space is approximately 44,000 square feet.

D. Library with only Housing Above and Parking Adjacent

This option (hereafter referred to as Option D) differs in that the garage is configured with a lower cost park-on-ramp design starting at ground level, with only a limited amount of housing lobby and support spaces tucked under its Cathcart street frontage. This option has less space available for other ground floor uses and the maximum Library area possible here is approximately 37,000 square feet.



Renovation of the Existing Library - Cost Assessment, 2019 Study by Jayson Architects. Report available in Volume II

	EXISTING SITE		CEDAR STREET MIXED USE	
	A New Library	B Renovate Existing Library	C Library w/ Housing and Parking Above	D Library w/only Housing Above and Parking Adjacent
Library Base Area from \$27M	19,000 GSF	30,360 GSF	30,300 GSF	29,660 GSF
With \$3M Air Rights Fee Applied	N/A	N/A	5,190 GSF	5,080 GSF
Total	19,000 GSF	30,360 GSF	35,490 GSF	34,740 GSF
Maximum Floor Area Available for Library	19,000 GSF	30,360 GSF	*44,000 GSF	*37,000 GSF

* Potential Library size in the future



Summary of 2019 and 2020 options – all using the same apples-to-apples approach

Single-story Library Benefits

- No elevators or stairs needed; no duplicate restrooms
- Accessibility for all
- Intuitive wayfinding
- Easier staff operational use
- Flexibility over time as Library services continue to evolve
- Available space for growth in the adjacent leasable space

Budget/Cost/Area Methodology

The next task established the project budget and estimating parameters. Special attention was given to ensure that the cost methodology used in this assessment was consistent with that used in the 2019 renovation feasibility study. Mack5 was the same cost consultant for both studies and both assessments included hard costs for corresponding “base” level of quality and same soft costs for an “apples to apples” comparison.

In mixed-use developments the different uses share common building components such as foundations, structure and party walls, and typically share the cost of constructing those shared components. In this assessment special attention was paid to the Library estimates including the Library’s fair share cost sharing of any common components.

For both mixed-use options a cost per square foot was developed. We then calculated the Library area possible within the \$27 million dollar base budget.

In mixed use developments it is customary for the housing components to pay a per unit fee for the air rights and a portion of this could be applied to the Library project as a cost offset, allowing the overall gross square feet (GSF) of the Library to increase beyond what the original \$27 million budget would allow.

Using the same cost per square foot, in the table to the left is shown the additional area possible as an alternate should \$3 million dollars in air rights fee be applied to the Library. The air rights fees could be significantly higher, or they could be applied to increased level of quality or a combination of both.

In both options C & D, the building layouts have a maximum floor area that could be made available to the Library which gives an additional option for a future expansion.

Conceptual Design

In the next task Group 4 developed conceptual floor plans with input from the Library in technical meetings. Preliminary furniture layouts and interior vignettes were prepared for both mixed use options and interior renderings were shown at base levels and alternate levels. While these “artist renderings” should be considered as placeholders, to be fully revisited if later with extensive community and stakeholder input if any option were to move ahead into later design phases, they show how these options can be excellent, contemporary, comfortable, and functional Library spaces.

A few features are worth pointing out and comparing. As single-story options, C&D do not need Library dedicated elevators or stairs and duplicate restrooms, this makes the Library easier to use for those with mobility needs and the single story provides for clear customer wayfinding, and more efficient staff

operational use. The single story also provides more flexibility over time as Library services continue to evolve. If funding today only provides for the base level area, having adjacent space for growth in the future is another benefit.

Both options C & D provide ample natural light with tall street facing windows that bring light deep in the interior. For Option D with only housing above, there is an opportunity to have a large central skylight to bring more light into the middle of the Library. Option D has the Library extending the full length along Cedar Street to the corner of Cathcart which provides even more daylight, and the extra exterior wall is part of the reason for the higher cost per square foot for this option.

The base renderings are shown with 12’ clear ceiling heights, matching the first floor of the renovation option. Most ground floors of mixed-use projects have higher ground floor ceilings and the alternate is shown with an additional three feet of height providing a greater sense of spaciousness and bringing light even deeper into the interior.

Evaluation Criteria

The study is intended to serve as the basis of future decision making by the City Council Library Subcommittee and the full City Council about how to proceed with future improvements for the Downtown Branch Library. As such preliminary evaluation criteria could include:

- Library size, how close do the options come to meeting the programmatic needs of the Library?
- Service impact during construction, what are the impacts of a service interruption during renovation or the added costs of providing temporary service?
- Accessibility, what is the value of an easier to access, easier to use, and easier to operate single story Library?
- Walkability, bicycle parking and proximity to parking and transit?
- What is the value of reusing the existing building for continued use as the Library?
- What is the solar potential of each option?
- Are there additional funding opportunities to support the project?
- Is a future expansion of the Library possible?
- Would the project support other community and City goal

Sincerely,

David Schnee AIA LEED^{AP}

Principal | Group 4 Architecture, Research and Planning

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PROJECT BACKGROUND |.





Figure 1 : Downtown Branch today



Figure 2 & 3 : Capitola and Felton Branch Library updates made possible by Measure S funding

I. PROJECT BACKGROUND

THE LIBRARY TODAY

The Downtown Branch of the Santa Cruz Public Libraries (SCPL) is currently located at the intersection of Church and Locust Streets in downtown Santa Cruz. It is currently housed within a two-story building completed in March 1968, after the original Carnegie Library's demolition. Over the past half century, the existing facility has undergone various renovation projects that were primarily focused upon public space FFE improvements, staff space adjustments, and updated carpeting, lighting and landscaping.

It is the biggest Branch of the Library System and contains the largest collection, with over 215,000 items. The innovative California History and Genealogy Room is used extensively by several esteemed researchers as well as members of the general public who are interested in these unique materials.

Santa Cruz Public Libraries Facilities Master Plan 2014-2023

In 2012, Santa Cruz Public Libraries initiated a master planning process to implement an updated Library service model, supported by modern Library facilities, in order to prepare for the future and create a foundation for proactive capital maintenance over the next decade. Group 4 Architecture, Research and Planning led a comprehensive planning team that conducted a detailed study of facility assessments for all the individual branches of the Library system over the course of eight months from August 2012 to March 2013. The [Master Plan](#) recommended three potential levels of investment in capital projects, ranging from "Maintain" (a proactive Capital Maintenance Plan), to "Gain" (capital improvements in SCPL's current buildings to support the new service model). The study, also, recommended an "Attain" plan which proposed replacing undersized and/or outdated facilities with contemporary Library facilities that would provide improved Library service. The Facilities Condition Assessments included a detailed review of construction and maintenance documents for each of SCPL's facilities, as well as neighborhood demographics, previous SCPL planning studies, and other information provided by SCPL. Additional engagement with Library department heads and staff representatives from the County, as well as from the cities of Santa Cruz, Capitola and Scotts Valley were crucial in reviewing and confirming project findings and recommendations.

The existing Downtown Library was described as "appropriately sized overall, with a proportionate amount of space relative to its circulation level." However, because it houses systemwide resources (from music collections to local history materials and genealogy resources) and is also the center of Operations including the storage and sorting space of the system, the Master Plan strongly recommended extensive renovation or full replacement of the building. The replacement of the then 45-year-old building's systems, as well as interior and potential exterior upgrades were prioritized to meet current building codes; a major reorganization of the interior to recapture public space, enhance operational efficiency and improve customer wayfinding were also suggested. The recommended budget for needed structural upgrades or replacement of the building was set at the range of \$24.9 to \$35.6 million in 2013 dollars.

Measure S Funding

The Santa Cruz Public Libraries Facilities Master Plan process concluded that a local source of funding was required to cover the needs of the Library System. On February 11, 2016, the SCPL Facilities Financing Authority unanimously voted to place a \$67 million bond measure (Measure S) on the June 7, 2016, ballot to address the most urgent needs. With 70% approval, voters agreed to fund Measure S.

Library buildings that serve the local communities of the City of Santa Cruz, the City of Capitola, the City of Scotts Valley and Santa Cruz County will receive Measure S funds to improve Library service and building conditions of various kinds. Since the bond measure was approved, a number of projects have been initiated to address issues identified in the Facilities Master Plan at the majority of SCPL branches. Specifically, construction projects have moved forward for the Capitola and Felton branches, and analysis has been conducted for the renovations of the La Selva, Branciforte, Garfield Park, Boulder Creek and Live Oak branches.

DESIGN OPTIONS

Mixed-Use Feasibility Library Project

In 2016, the City of Santa Cruz re-engaged Group 4 Architecture, Research and Planning to study the feasibility of a mixed-use Library/Housing/Retail/Parking project on a City-owned property on Cedar Street. The Study included analysis of whether or not a mixed-use would be less expensive than a major renovation of the existing Library, as well as investigating the site's size and proportions for a modern new building that would not only meet the current building codes but would also integrate into and support a walkable, sustainable downtown Santa Cruz.

Downtown Library Advisory Committee Recommendations - 2016 and 2018

Following this initial Study, the City Council directed the formation of the Downtown Library Advisory Committee (DLAC) to examine the relative feasibility of developing Library projects on the existing and Cedar Street sites. In 2018, the DLAC worked with Noll & Tam Architects to explore national Library trends, assess current and future Library services and re-examine the existing Library building conditions. The study evaluated Library service needs for Santa Cruz City residents over the next twenty years and made recommendations for programmatic scope of Downtown Branch Library Services (Square footages for each specific Library space), the feasibility of co-locating the SCPL administrative offices on-site with the Downtown Library, the evaluation of three site options for the Downtown Branch Library and finally, a preliminary cost estimate of program goals in relationship to the project budget as set by Measure S Funding.

After an extensive process that included public meetings, surveys, and outreach, the DLAC unanimously voted to recommend relocating the Downtown Branch Library to a mixed-use project on Cedar, Lincoln, and Cathcart Streets. According to the DLAC Report (Appendix X), this design option "gives the Downtown Branch Library the desired square footage balanced with a fiscally responsible price". The Committee concluded that a mixed-use building that hosts the Downtown Branch on the ground floor, would be a valuable asset for downtown Santa Cruz and operate effectively as a dynamic resource for residents while including all the features of state-of-the-art, 21st century Library.

Renovation Conceptual Design Assessment and Cost Model Analysis of the Existing Downtown Branch- 2019

Because of continued interest in a renovation option, in 2019, Jayson Architecture was engaged by the City of Santa Cruz to assess the feasibility of renovating the existing building of the Downtown Branch Library. The consultant team, along with a team of engineering sub consultants, reviewed the available existing documentation of the building and evaluated the structural and mechanical systems as well as the materials and finishes of the building. Taking into consideration the available budget, the consultant team determined that the building should be reduced in size and key changes should be made to the layout of the building.

Because of the tight target construction budget that was set earlier in the process, the architects presented a design approach (Option B) with a base level finishing of the project, and alternates that could potentially provide increased functionality, program and quality for additional costs.

Mixed-Use Library Project Conceptual Design Assessment and Cost Model Analysis-2020

To have a fair basis of comparison, in February 2020, the City of Santa Cruz engaged Group 4 Architecture, Research and Planning as the consultant team to develop a Cost Assessment for a mixed-use project on Cedar Street using the same methodologies as was done for the renovation option. Given the previous evaluations conducted by the Library, this study compares all the available options and provides a comprehensive, "apples-to-apples" comparison that will support the Library, Subcommittee and City Council's decision-making process regarding the renovation or relocation of the Downtown Library.

Group 4 Architecture, Research and Planning, along with Van Meter Williams Pollack (VMWP) and Watry Design (housing and parking consultants, respectively), developed four pre-conceptual design mixed-use project components that fit the given site footprint and zoning envelope requirements and included a ground floor Library, housing, and an approximately 400 space parking structure. Retail space was also incorporated into one of the design options. Two options were eliminated following City and Library review and input, while two designs were further refined to incorporate conceptual structural, mechanical, and electrical engineering. These two options (hereafter referred to as Options C and D) both provide appropriate square footage for a visionary, flexible Library and customer experience, as well as efficient operational modes.



Figure 5 & 6 : Preliminary Conceptual Renderings from 2016 Feasibility Study by Group 4 Architecture, Research and Planning

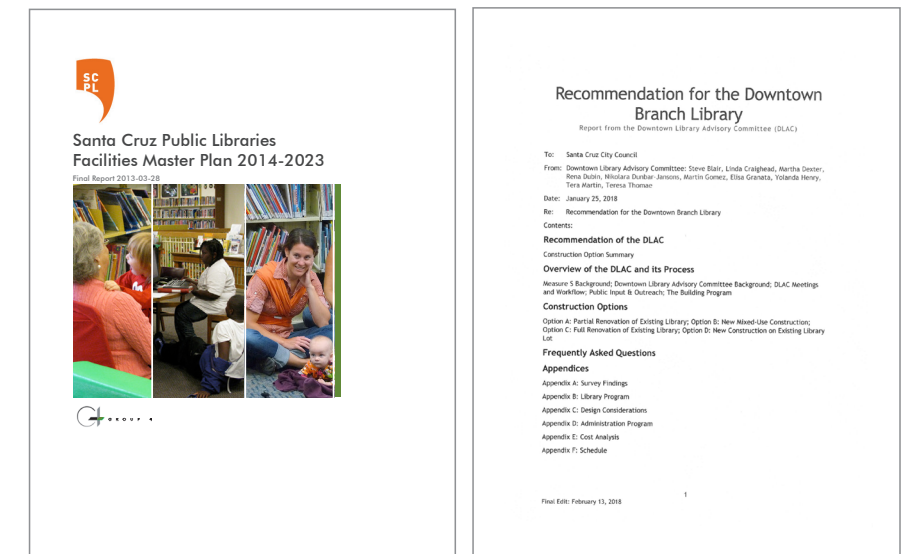


Figure 7 & 8 : Facilities Master Plan Report and DLAC Report



Figure 9 : Renovation of the Existing Building of the Downtown Branch. Study Completed in 2019



Figure 10 : Downtown Branch as a part of a mixed-use project. Study completed in 2020

Library Cost/SF

	EXISTING SITE		CEDAR STREET MIXED USE	
	A New Library	B Renovate Existing Library	C Library w/ Housing and Parking Above	D Library w/ only Housing Above Parking Adjacent
Library Cost per Square Foot	Not in Study	\$576.97/SF	\$577.08/SF	\$589.82/SF

Potential Library Size for a Constant Budget

	EXISTING SITE		CEDAR STREET MIXED USE	
	A New Library	B Renovate Existing Library	C Library w/ Housing and Parking Above	D Library w/ only Housing Above and Parking Adjacent
Library Base Area from \$27M	19,000 GSF	30,360 GSF	30,300 GSF	29,660 GSF
With \$3M Air Rights Fee Applied	N/A	N/A	5,190 GSF	5,080 GSF
Total	19,000 GSF	30,360 GSF	35,490 GSF	34,740 GSF
Maximum Floor Area Available for Library	19,000 GSF	30,360 GSF	44,000 GSF	37,000 GSF

Construction Impact on Library's Operations

	EXISTING SITE		CEDAR STREET MIXED USE	
	A New Library	B Renovate Existing Library	C Library w/ Housing and Parking Above	D Library w/ only Housing Above, Parking Adjacent
Construction Impact	OPEN	CLOSED or temporary site	OPEN	OPEN

Summary of all criteria to be considered

	EXISTING SITE		CEDAR STREET MIXED USE	
	A New Library	B Renovate Existing Library	C Library w/ Housing and Parking Above	D Library w/ only Housing Above, Parking Adjacent
Max Potential Library Size	19,000 GSF	30,360 GSF	44,000 GSF	37,000 GSF
Accessibility	Two-story	Two-Story	One-Story	One-Story
Operational Cost Impacts	Two-story, less efficient	Two-Story, less efficient	One-Story, more efficient	One-Story, more efficient
Flexibility		Multi-modal	Multi-modal	Multi-modal
Sustainability		Cal Green	Cal Green + LEED?	Cal Green + LEED?
Reuse of Existing		REUSED	?	?
Solar Potential		not possible	possible	Possible
Other				

Figure 11 : Evaluation Criteria were shared with the Leadership Team and the Community to help explore the benefits of all design options

Downtown Branch Library Design Options

A. New Freestanding Library on Existing Site

This option was introduced for comparative purposes but was not extensively studied. It was developed in 2019 to determine the maximum size for a new, two-story Library on the existing Library Site within a \$27 million Project Budget. It was determined that the Budget supported construction of a new two-story 19,000GSF Library in the parking lot of the existing Library, adjacent to the current building. Even though this option had the benefit of continuous operation of the Library during construction, the size of the potential building was determined to be inappropriate for required Library services as developed during the Facilities Master Plan and DLAC processes. This option was not fully developed by the consultants, but it is referenced as a point of comparison. No additional evaluation was done by Group 4 on this scheme.

B. Renovate Existing Library

This design option was also developed in 2019 for a \$27 million Project Cost. It followed a baseline/additive alternates cost model approach to develop a range of interior finish qualities, both within the Measure S funding limit, and beyond. This assessment found that the existing Library could be renovated with below-average quality finishes to create a 30,230 GSF two-story Library. No additional evaluation was done by Group 4 on this scheme. Refer to the Renovation report (Volume II) for more details.

C and D. Library as a part of a mixed-use project

These two design options were developed in 2020 for a \$27 million Project Cost. They both follow the baseline cost methodology to develop a range of interior and exterior finish qualities within the Measure S funding limit and possible alternates with increased budget from air-rights fees or other sources. These assessments are more fully presented in a later section of this report.

Evaluation Criteria

In order to support the Subcommittee and Council decision-making process, the Consultant team has developed a set of evaluation criteria (Fig.11) including Library size, quality, sustainable features, and other items seen below. This holistic review of all Design Options provides a resource for this critical decision for the Santa Cruz Public Library Downtown Branch.

Overall Cost Methodology

In parallel with the development of the mixed-use design options, the Consultant Team engaged Mack 5 cost estimators in order to develop Cost Models that accurately reflect the Library project budget both within the space, and in relationship to the overall mixed-use structure. In order to accurately compare these options with the previous costs for the Renovation Scheme (hereafter referred to as Option B) and building a new Library on the existing site (hereafter referred to as Option A), the following criteria were established:

“Apples-to-Apples” Comparison

The conceptual level designs were developed with an equivalent level of quality to the Renovation Cost Model. This equivalence included utilizing the same net-to-gross utilization factor, interior finishes quality, and interior room heights. By maintaining design consistency between options, all Library design cost models can be evaluated in relationship to each other. Additionally, as with the Renovation Concept, a series of Additive Alternate Design Options (both interior and exterior) were developed to provide additional opportunities for enhancements if additional funds become available.

No Bias Towards any Option

This study assessment, as previously mentioned, provides the necessary design and cost comparisons to allow the Subcommittee, City Council, and Library staff to evaluate and compare all design options that the City has developed to date, as well as the additional benefits of each concept for the local community and the City of Santa Cruz. This Report compiles both the quantitative and qualitative metrics necessary to allow the Library Subcommittee and City Council to decide the appropriate next steps for the Downtown Branch Library capital improvements.

“Fair Share” Cost Sharing Methodology for Mixed-Use Options C & D

In a mixed-use project, the Library cost model carries all Library-specific costs as well as the fair share, proportionate cost of all shared building systems including building foundations, super-structure, and enclosure as well as a portion of the MEP(Mechanical/Electrical/Plumbing) systems. Please see the Table of Library Fair Share (Fig.11) for further information on Library Cost Sharing methodology by individual building components.

As described above, the consultant team used the same level of finish for Options C + D as the Renovation Study(Option B). The Cost Model is developed specifically for the Library budget, and no cost modelling was created for the housing or the parking components of the mixed-use design options. Finally, Additive Alternates were developed during the Cost Modelling process, which indicate potential improvements in the size and/or level of quality of the Library space that can be achieved in a renovation or in a mixed-use project.

Housing Development and Public Benefit

Co-locating libraries and housing fits into the broader trend of developing the highest and best use for land in downtown environments, especially where available parcels are scarce. In particular, urban lands often built up with a range of uses in order to foster and support livable, walkable communities that offer a range of live, work, and play opportunities. These “dense” buildings in turn provide significant public value for the community-at-large. Additionally, mixed-use developments are eligible for a range of grants, loans, and other funding sources at both the state and federal level, while also furthering City goals to expand affordable housing and neighborhood development downtown and consolidate parking into structure (as outlined in the Housing Blueprint report).

Finally, Design Options C+D could also incorporate a range of housing, commercial and parking components as determined by City Council. These elements of the mixed-use project would in turn provide the opportunity for further funding through the lease or sale of air rights above the City-owned Library and parcel. The resulting affordable, and potentially some market-rate, housing units would positively contribute to the goal of increased housing in downtown Santa Cruz. The Library, as part of this project and as a public space that the City funds, would also benefit not just from additional patrons within the mixed-use building itself but also through funding streams provided by the air rights fee to fund Additive Alternates and improvements to the Library itself. Please note that the City Council would need to determine what proportion of any air rights fees from a mixed-use project to apply to the Library. The City Council will also need to determine whether to include a percentage of market rate units in the project since market rate units have the potential to provide a higher air rights fee than affordable ones.

Table of Library “Fair-Share” Costs

Category	Library Fair Share
Foundations	Slab on grade Foundations - proportionate by area
Superstructure	Columns, proportionate by building area
Enclosure	Ground floor perimeter 50% of common walls
Roofing & Waterproofing	100% Courtyard/skylight Parking level extra waterproofing
Interior Construction	100% including acoustical separations
Stairs / Elevators	None
Interior Finishes	100%
MEP/FP	Share of building service

Figure 11 : Library “Fair-share” cost categories



Figure 12 : Cornelius Place, Cornelius, OR is a new mixed-use development that features a library on the ground floor. Many cities have already developed this type of project in their downtowns



Figure 13: Downtown Columbia, MD Library Mixed-Use Project with Housing and Parking Structure Above

PROJECT PROCESS

Engagement

Group4 Architecture, Research and Planning 2020 Consultant Team

- David Shnee, Principal
- Daniel LaRossa, Associate
- Lydia Kontozoglou, Job Captain
- Bryant Lui, Designer

Library Subcommittee Members

- Justin Cummings, Mayor - City of Santa Cruz
- Donna Meyers, Vice Mayor - City of Santa Cruz
- Sandy Brown, Council Member - City of Santa Cruz

Project Management Team Members

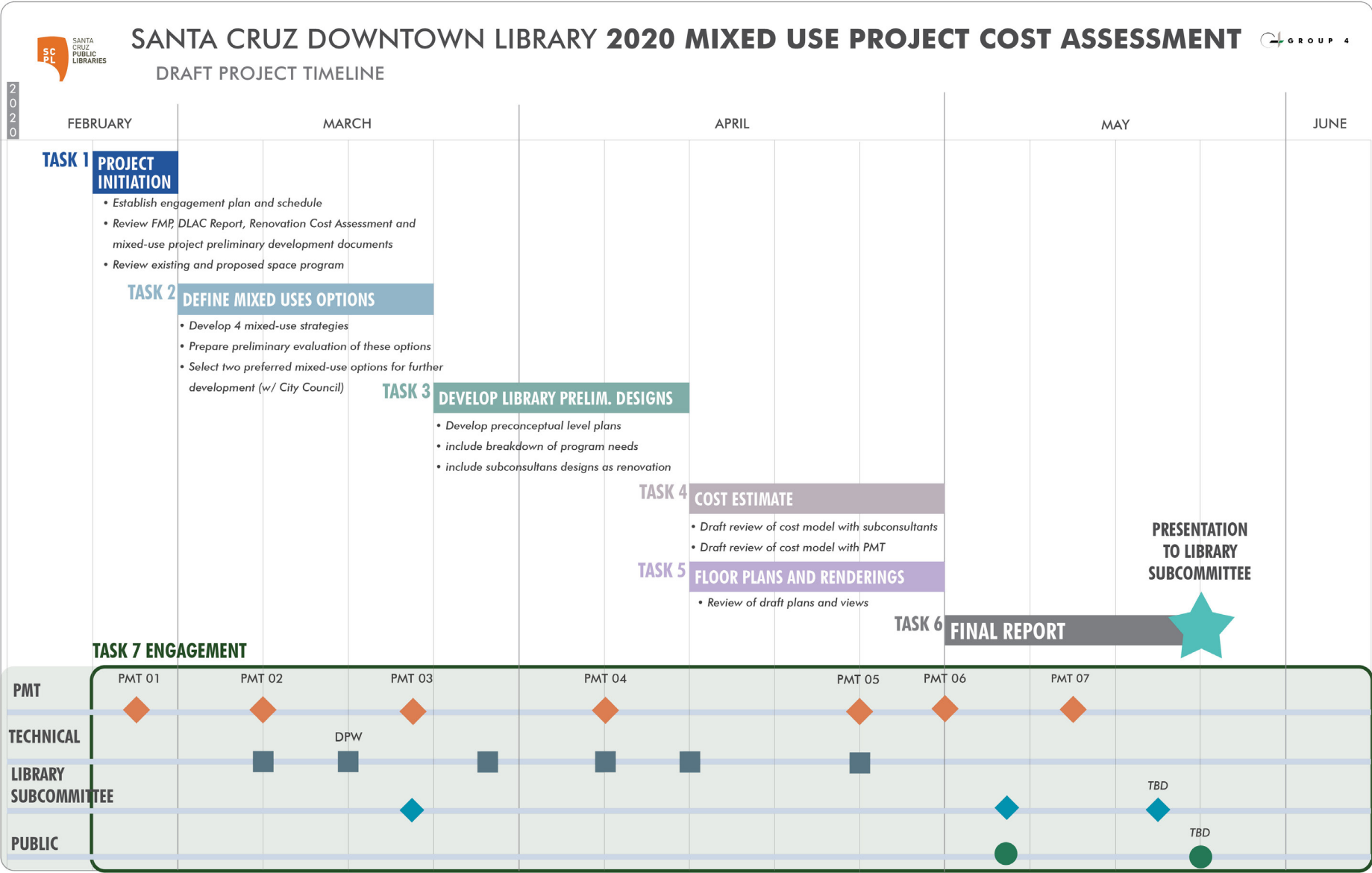
- Amanda Rotella, Principal Management Analyst - City of Santa Cruz
- Bonnie Lipscomb, Director of Economic Development - City of Santa Cruz
- Susan Nemitz, Director - Santa Cruz Public Libraries
- Eric Howard, Assistant Director - Santa Cruz Public Libraries
- Jessica Goodman, Regional Manager - Santa Cruz Public Libraries

Department of Public Works - City of Santa Cruz

- Mark Dettle, Director
- James Burr, Transportation Manager

Consultant Team

- Cynthia Madrid, Cost Consultant - Mack5
- Gokhan Akalan, Structural Engineering - BASEDesign, Inc.
- Tyler Bradshaw, Mechanical/Plumbing Engineering - Blue Forest Engineering
- Dave Maino - Electrical/Lighting/Low Voltage/Renewable Energy - Atium Engineering
- Rick Williams - Housing Consultant - Van Meter Williams Pollack (VMWP)
- Michelle Wendler - Parking Design Consultant - Watry Design, Inc.
- Jess McInerney - Parking Design Consultant - Watry Design, Inc.



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CONCEPTUAL DESIGN II.

II. CONCEPTUAL DESIGN

PRECEDENTS AND PROJECT DESCRIPTION

Local Mixed-use Precedents

Downtown Santa Cruz is a vibrant urban center that fosters commerce and recreation for both the local community and visitors from the Bay Area and beyond. Mixed land-use projects in this part of Downtown have been supported by the City for decades in order to cultivate a strong civic identity and maintain the mid-rise and varied scale and the character of the City of Santa Cruz. Pacific Avenue, the retail corridor and heart of Downtown, has evolved over time into a rich and pedestrian friendly environment with a strong retail base on the ground floor and nodes of diverse activities that provide opportunities for public gatherings. The Downtown Plan, acknowledging the strong identity of Pacific Avenue, aspires to reinforce and expand this pedestrian-oriented environment to Front Street, Cedar Street and beyond, within this district.

Library Mixed-Use Precedents

A mixed-use building with a ground-floor Library can be a vital asset for downtowns that lack civic space and housing within their core. Libraries provide numerous services to people of all ages and education levels. Communities across the United States, from cosmopolitan areas such as Portland, Chicago and New York, to suburban communities in Columbia, Maryland, are utilizing Library-anchored mixed-use projects to catalyze investment in small and large downtowns alike. The benefits of mixed-use developments are reinforced by the synergy between residential and civic components to create community-focused spaces that promote additional public and private investment and development.

There are multiple examples of mixed-use developments that have already proven the public benefits of such an investment for their neighborhoods. Both San Francisco Public Library and Chicago Public Library have co-located some of their branches with public housing, providing modern facilities and indispensable resources where they are most needed and providing long-lasting, positive impacts on their immediate neighborhood.

Mixed-Use Options Project Description

Building on the trend of increasing vitality in downtown Santa Cruz, the Downtown Branch of the Santa Cruz Public Libraries would be hosted on the ground floor of a new development and paired with housing and a parking structure. This new Library would incorporate traditional Library collections and services with contemporary spaces for creation, gathering, and play (amenities that residents have repeatedly requested).

The Cedar Street site, bounded by Lincoln Street to the north and Cathcart Street to the south, is owned by the City of Santa Cruz and is currently used as public parking lot #4. In the northeast corner of the lot is a small parcel which currently houses a single-story commercial building. While a mixed-use project could be planned without this parcel, the City requested its inclusion for the purposes of this study.

With the site parameters defined, Group 4 Architecture, Research and Planning, the consultant team, City and Library leadership collaborated to develop multiple Library program allocations. These studies were further developed into the two configurations proposed in Options C and D. For both Options, the primary entrance for the Library would be along Cedar Street with secondary exterior entrances for the Community Room and Children's Area. Staff areas and the support spaces would also be designed to efficiently service main public spaces. Finally, the design team prepared a series of narratives and drawings to support each option, matching building systems, fit, and finish to those specified in the 2019 renovation assessment study.

Per the 2019 renovation assessment, base scope and quality were calibrated to the available budget and represent minimum code compliance and functionality and an overall low level of quality, which is in turn supplemented with additive alternates that improve the Library's interior character and quality. Specific to the mixed-use project, Working with Library leadership, the design team incorporated additive alternates including higher ceilings and wood accent walls to improve both the scale and feel of the Library itself. That said, as shown in the base renderings, the Library would still be an appropriate and functional facility in the base options.

The specifics of the proposed conceptual design for both options is outlined in detail in this section of the report.



Figure 14 : Downtown Branch of the Santa Cruz Public Libraries today



Figure 15 : Northtown Branch of the Chicago Public Library in West Ridge neighborhood of Chicago. The library includes affordable housing for seniors on top of the branch. It was completed in March 2019



Figure 16 : Madisonville, OH Library Mixed-Use Project with Housing Above

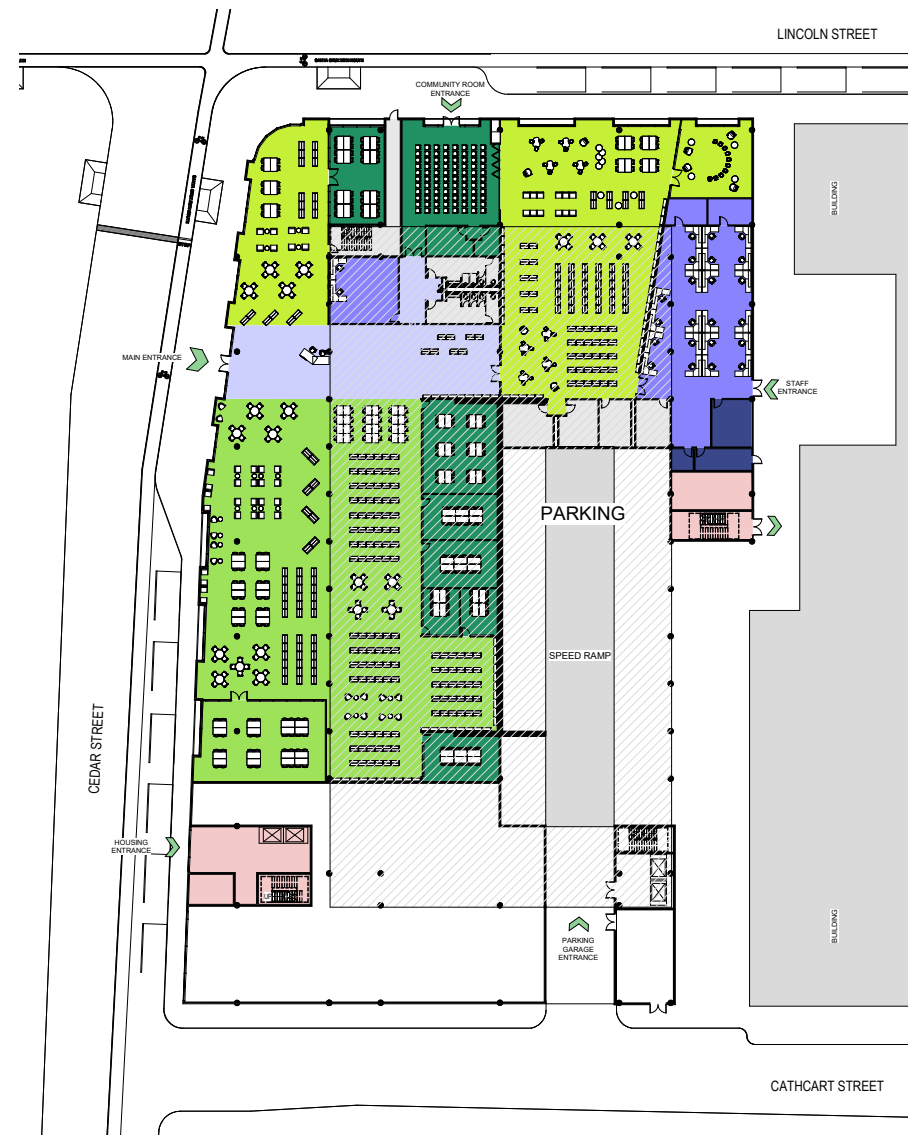
OPTION C

Library with Housing and Parking Above

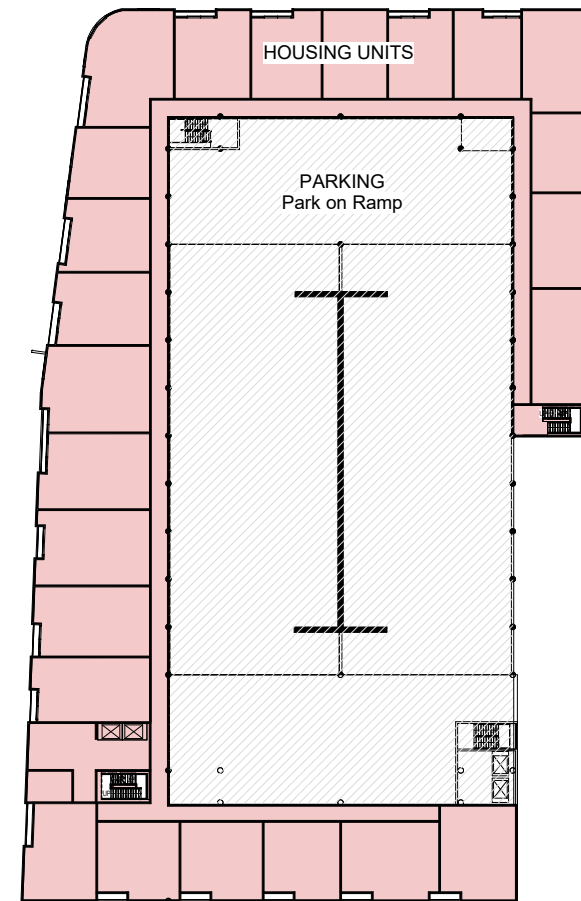
SUMMARY

This design option proposes a ground-floor 35,490 GSF Library as part of a mixed-use project that includes housing units and an approximately 400-space parking garage above. The Library fronts on Lincoln and Cedar Streets, while the housing lobby and an 8,900 square foot commercial space are located on Cedar and Cathcart Streets along the southern portion of the site. Finally, the parking structure entrance is located on Cathcart Street and accessed via a ground floor speed ramp that would transition into a park-on-ramp configuration above the first floor in order to maximize ground floor civic amenities.

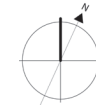
A Library visitor would approach the Library from Cedar Street passing through a large glass entry before entering the main lobby of the Library. Additionally, a secondary entry along Lincoln Street would provide access to the Community Room after hours. Further east along Lincoln Street, the Children's Library could also have a dedicated entry for independent operations, if desired. Once in the main lobby, a wide, bright marketplace lined with new materials leads to the Children's area, Community room, and Teen Space (Youth Services) to the north and the Adult Services Area to the south. Teen Library users will enjoy comfortable spaces with ample daylight and the co-located Makerspace. Dedicated restrooms for children and families are provided to create a comfortable and welcoming environment. To the south, the Adult Services Area would be outfitted with multiple meeting rooms, the Life Skills Center, and the Genealogy Lounge in order to accommodate different simultaneous activities. Finally, staff areas are located with direct access to the alley and next to the Marketplace to help personnel collaborate and engage community members efficiently during the workday.



GROUND FLOOR PLAN



TYPICAL UPPER LEVEL PLAN



Option C - Library with Housing and Parking Above

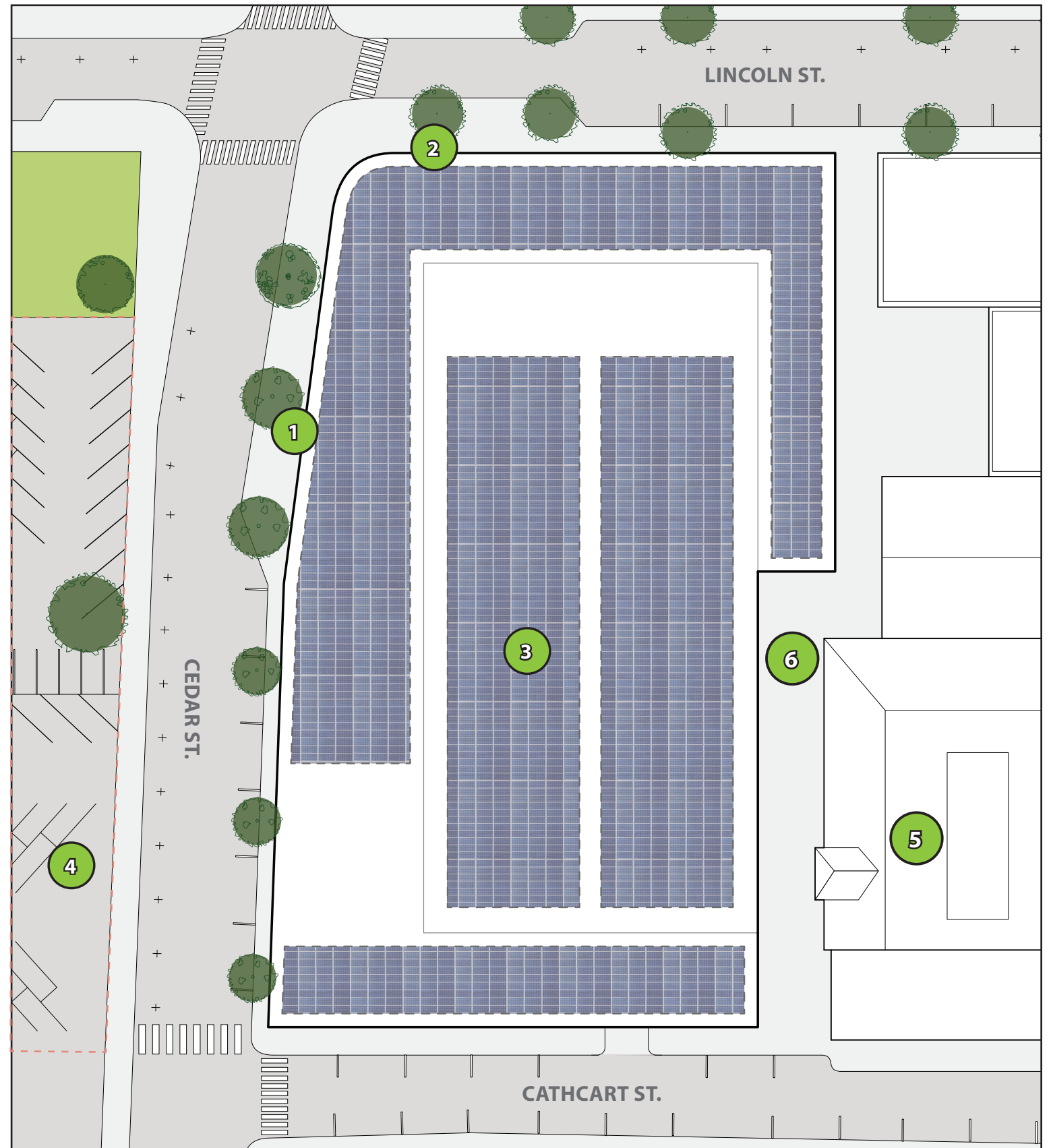
This option (hereafter referred to as Option C) has the Library occupying the majority of the ground floor, which also includes some additional space for a commercial use, plus lobby and support spaces for housing. The rest of the ground floor contains the entry to the parking garage with a ramp that connects to a second level, plus elevators, stairs and support spaces. On upper floors situated partially above the Library and commercial space are multiple levels of housing with units facing each street wrapped around a garage with a park-on ramp configuration. The number of floors would be determined in the future based on amount of affordable housing and parking desired by the City. The maximum ground floor square footage to be split between the Library and commercial space is approximately 44,000 square feet.

SITE PLAN

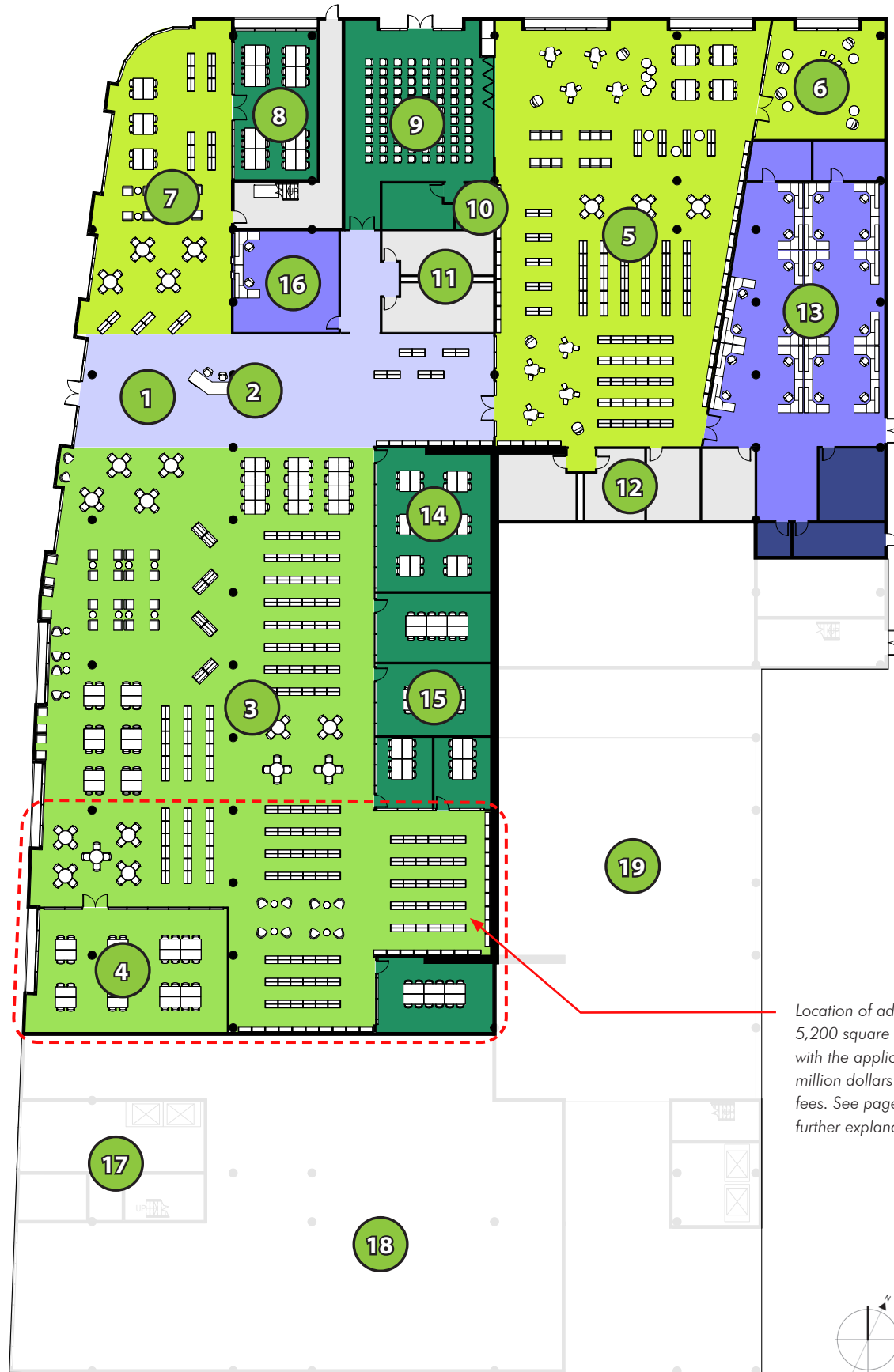
The Library, as was previously mentioned, fronts Cedar and Lincoln Street with the main entrance on Cedar and a secondary entrance on Lincoln for after-hours operations. The sidewalk in front of the Library would be widened to create a welcoming entry space, as well as equipment for bicyclists and passers-by. Planters and trees would also be introduced to complement the integrated niches and to create a pedestrian-friendly streetscape. An entry canopy and signage would also be recommended to advertise the Library's activities and reinforce its civic presence.

This design option also offers the opportunity to potentially include a renewable energy strategy on the roof that would benefit the project's energy consumption in general. In the diagram on this page solar panels are shown on the roof of the housing and the parking garage as a potential approach.

- 1** MAIN ENTRY
- 2** COMMUNITY ROOM ENTRY
- 3** POTENTIAL SOLAR PANELS
- 4** POTENTIAL FUTURE HOUSING DEVELOPMENT
- 5** UNIVERSITY TOWN CENTER BUILDING
- 6** EXISTING ALLEY



OPTION C



Location of additional 5,200 square feet possible with the application of \$3 million dollars of air rights fees. See page 139 for further explanation

- 1 LOBBY/MARKETPLACE
- 2 SERVICE DESK
- 3 ADULT COLLECTIONS
- 4 GENEALOGY
- 5 CHILDREN'S COLLECTIONS
- 6 CHILDREN'S STORYTIME
- 7 TEEN AREA
- 8 MAKER SPACE
- 9 COMMUNITY ROOM
- 10 COMMUNITY ROOM KITCHEN
- 11 PUBLIC RESTROOMS
- 12 CHILDREN'S RESTROOMS
- 13 STAFF
- 14 ADULT LIFE SKILLS
- 15 GROUP STUDY ROOMS
- 16 SORTING ROOM
- 17 HOUSING LOBBY
- 18 COMMERCIAL SPACE
- 19 PARKING STRUCTURE

PROGRAM PLAN

The Library would be designed with an open plan layout, divided only by key interior partitions that separate the Community Room and the Children's Area for operational independence. The primary point of service in the main lobby (indicated as Marketplace in the floor plans) has direct lines of sight to the Teen Space, the Adult Area, and the Children's section of the Library. The highly active Teen Space and Makespace advertise the vitality of the Library from the intersection of Cedar and Lincoln Streets, while the Children's Area could potentially be accessible from Lincoln Street via a separate entrance. A dedicated Storytime Room that is conveniently located within the Children's area allows for acoustical separation from the rest of the Library. Operable sliding glass partitions are, also, proposed at the Community Room to allow for direct access to larger children's events.

Another separate entrance is also proposed for the Community Room that allows for after-hours access to this part of the Library; a kitchen, a storage room and restroom access are also provided to fully support independent operation of the Community Room. The south part of the Library is dedicated to adult patrons. The Adult Life Skills Center, the Genealogy Research Center, as well as several meeting rooms would serve the different needs of visitors throughout the day. Lounge furniture as well as computer stations and study spaces would comfortably complement the collection of the Library.

The main staff space is located at the east side of the Library, bridging the alley to the interior space, while there is also a secondary staff space for sorting books adjacent to the main service point. Staff areas are also outfitted with a dedicated restroom. The layout of the staff area and its proximity to the alley allow for efficient delivery and circulation of materials, as well as for smooth coordination of personnel.

PROGRAM PLAN

Operational Flexibility

Community Room

As described above, one of the key benefits of the layout of the Library is the ability for the Community Room to operate independently after hours. This configuration allows for diverse events, such as community events, group activities, and workshops, to take place after the main Library is closed.

The dashed red line indicates the extent of the area that is available for operation after hours. The room is directly accessed by a secondary entrance on Lincoln Street while the adjacent kitchen, storage, and public restrooms would be accessible to the participants of the event. A roll-down gate would secure these spaces from the rest of the Library. Additionally, this space would be designed to utilize a separate mechanical system to minimize energy usage after hours.

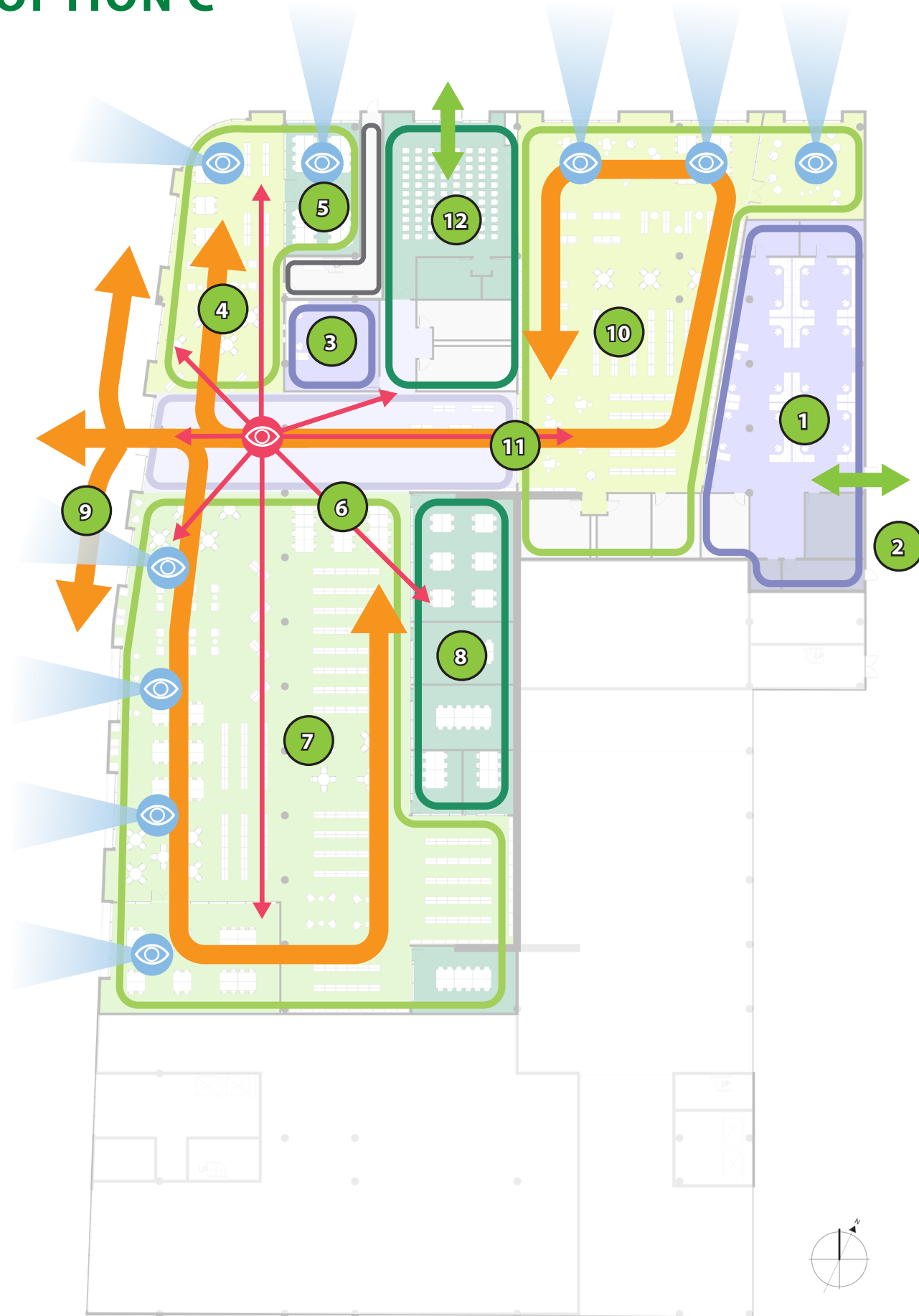
Children's Area

Utilizing a controllable series of doors and an architectural portal to enter the Children's Area would also provide an opportunity for the Library to operate this area more flexibly. Specifically, the portal, dedicated exterior entry to the Children's Area, and dedicated children's restrooms, would allow for independent operations not only during the day but also when a special event is planned for younger users of the Library when the rest of the Library is closed. The Community Room, directly accessible through large operable glass partitions, makes this space fully operational for a full range of events.

- 1 AFTER HOURS ENTRY
- 2 INDEPENDENTLY OPERABLE COMMUNITY ROOM
- 3 COMMUNITY ROOM KITCHEN
- 4 PUBLIC RESTROOMS
- 5 INDEPENDENTLY OPERABLE CHILDREN'S AREA



OPTION C



- 1 STAFF
- 2 DELIVERY AREA
- 3 SORTING ROOM
- 4 TEEN AREA
- 5 MAKER SPACE
- 6 SIGHTLINES FROM DESK
- 7 ADULT AREA
- 8 MEETING SPACES
- 9 CIRCULATION FROM STREET
- 10 CHILDREN'S AREA
- 11 CHILDREN'S PORTAL
- 12 COMMUNITY ROOM/ AFTER HOURS

CIRCULATION DIAGRAM

The proposed floor plan creates intuitive circulation paths across the whole Library, optimizing space efficiency, allowing for direct sight lines, and maximizing daylight and views throughout the Library. The Marketplace that serves as the backbone of the Library connects all the primary areas of the Library. The circulation desk would be located in the middle of the Marketplace, adjacent to the main entrance with clear sight lines to the Adult Area, the Teen Space, and the Children's Portal.

Staff access to the building is located along the East side of the Library, through a dedicated entry. The Staff Area connects directly to both the Children's area and the Marketplace. The location of the Sorting room directly behind the service desk allows for efficient access and re-shelving of materials. Meanwhile, the central location of the Community Room provides access for all community members, as well as direct access to the street.

Along the north and the west sides of the Library, large expanses of windows provide strong indoor-outdoor connections, as well as a sense of orientation for Library patrons and ample daylight for all of the interior spaces of the Library.

PUBLIC & PRIVATE

The proposed design aims to maximize the public space offered to patrons and distribute it appropriately to all user groups. As the tables below illustrate, public space (shown in light orange) predominates, occupying 89% of the whole area, while private space (shown in dark orange) makes up the remaining 11% of the Library. With over 31,000 square feet of public space, this design option offers almost 5,280 square feet more public space than the renovation option, as well as 4,000 square feet more public space than the existing building (in gross square footage).

EXISTING LIBRARY:

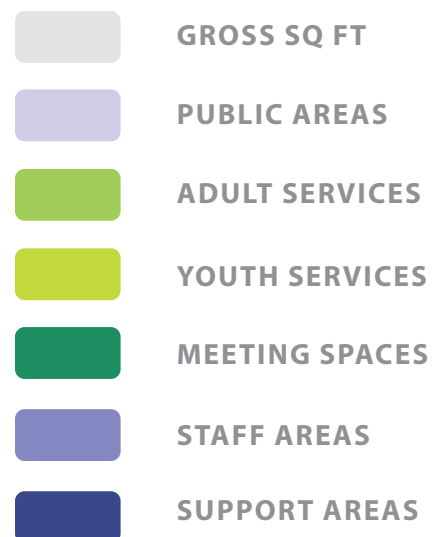
PUBLIC	27,394 SF (65%)
PRIVATE	14,916 SF(35%)
TOTAL	42,310 SF

RENOVATION:

PUBLIC	26,181 SF (87%)
PRIVATE	4,049 SF(13%)
TOTAL	30,230 SF

OPTION C:

PUBLIC	31,465 SF (89%)
PRIVATE	4,025 SF(11%)
TOTAL	35,490 SF










OPTION C

COLLECTIONS: NUMBER OF VOLUMES

	EXISTING (42,000 SF)	DLAC PROGRAM (47,000 SF)	OPTION B (30,000 SF)	OPTION C (36,200 SF)
KIDS	26,300	±33,100	±31,200	±35,250
TEENS	3,700	±4,700	±2,200	±7,300
ADULTS	105,500	±152,600	±73,500	±84,000
TOTALS:	135,500	±190,400	±106,900	±126,550

PROGRAM: SQUARE FOOTAGE

PROGRAM		EXISTING	OPTION B	OPTION C	CHANGE FROM OPTION B	
	00 GROSS SQ FT	11,510 SF	3,190 SF	2,125 SF	(1,065) SF	-30%
	01 PUBLIC AREAS	1,600 SF	1,545 SF	3,000 SF	1,455 SF	+95%
	02 ADULT SERVICES	16,000 SF	10,319 SF	12,125 SF	1,806 SF	+18%
	03 YOUTH SERVICES	4,000 SF	7,530 SF	8,930 SF	1,400 SF	+19%
	04 MEETING SPACES	1,200 SF	3,496 SF	5,270 SF	1,774 SF	+50%
	05 STAFF AREAS	6,000 SF	3,542 SF	3,540 SF	(2) SF	0%
	06 SUPPORT AREAS	2,000 SF	608 SF	500 SF	(108) SF	-20%
TOTAL GROSS SQUARE FOOTAGE		42,310 SF	30,230 SF	35,490 SF	+5,260 SF	+20%

PROGRAM ANALYSIS

The analysis of the program was based on the same metrics as the renovation project: the total number of volumes and the square footage of the different program areas of the Library.

Per the tables shown on this page, this option was designed to accommodate larger collections for the Children’s collection as well as for the Adult collection. In addition, following the Library’s direction, Teen stacks have been significantly increased in this option to match the growing collection in the existing building.

The proposed design option’s space allocation and programmatic needs were similar to the renovation scheme. However, due to the overall increase in the size of the in a mixed-use project when the additional square footage gained from selling air rights is applied Library, the square footages of all individual areas are increased, offering appropriate space not only for Library collections, but also for public spaces for all patrons to enjoy.

BASE RENDERING

View from Cedar and Lincoln

The view looking east from the intersection of Cedar and Lincoln Streets clearly highlights the civic presence of the Library. The series of alternating storefront windows of the facade, warm wood accents, and solid walls (material extents and design to be determined in future phases) would animate the streetscape and blur the boundary between exterior and interior. The Library would invite patrons inside by displaying its exciting range of spaces and events to passers-by. Along the windows, a series of planters, bicycle racks, and outdoor-rated benches could activate the entrances to the Library, while providing best-practice streetscape designs for urban environments.

Finally, integrated niches could be incorporated along the Library façade to provide a sense of scale and civic character, as well as define the separation of uses from the exterior while providing seasonal color and vibrancy to the interior. Sunshades could also reduce solar heat gain in the interior and reduce energy usage within the Library.

All materials are for illustration purposes only. Architectural Design of the Library would be developed in future phases with Council and Community input.

- 1 PUBLIC SEATING
- 2 COMMUNITY ROOM ENTRY
- 3 INTEGRATED PLANTERS
- 4 SUN SHADE
- 5 CURTAINWALL WINDOWS AT CORNER
- 6 PROPOSED BIKE PATH
- 7 PEDESTRIAN CROSSWALK



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OPTION C



ADD-ALTERNATE RENDERING

View from Cedar and Lincoln

The addition of alternates significantly improves the feeling of the space. This proposal could result in modest improvements to the materiality and design of the exterior, as well as integrate interior and exterior wood accents. The most prominent change would be to raise the Library space three feet, which would be reflected on the exterior through larger expanses of windows, increased openness, and an improved civic scale for the Library. Site landscaping would remain similar to the base level design option and improve a pedestrian-friendly urban environment.

All materials are for illustration purposes only. Architectural Design of the Library would be developed in future phases with Council and Community input.

- 1 PUBLIC SEATING
- 2 COMMUNITY ROOM ENTRY
- 3 WOOD-LOOK ACCENT WALL
- 4 INTEGRATED PLANTERS
- 5 RAISED CEILING
- 6 SUN SHADE
- 7 CURTAINWALL WINDOWS AT CORNER
- 8 PROPOSED BIKE PATH
- 9 PEDESTRIAN CROSSWALK



OPTION C



BASE RENDERING

View from Cedar Street - Main Entrance

This view demonstrates the experience of approaching the Library from Cedar Street, looking north. Clear signage and a bold entry canopy would frame the front door and give the Library a prominent civic presence. In particular, signage has been placed on the canopy and on the glass façade to announce the primary building entry, as well as demarcating the book drop and initial interior spatial organization.

As described in the previous rendering, trees and planters would create a welcoming civic environment appropriate for small gatherings and short breaks for Library patrons. Bike racks would also be placed close to the entrance of the Library to facilitate all bicyclists of the City.

All materials are for illustration purposes only. Architectural Design of the Library would be developed in future phases with Council and Community input.

- 1 MAIN ENTRY
- 2 WOOD-LOOK ENTRY AWNING
- 3 BOOK DROP
- 4 INTEGRATED PLANTERS
- 5 PUBLIC SEATING
- 6 BIKE RACKS
- 7 EXISTING BIKE PATH



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OPTION C



ADD-ALTERNATE RENDERING

View from Cedar Street - Main Entrance

The alternate design of exterior proposes modest improvements to the façade while introducing raised wood accent ceilings. The larger expanses of the windows offer increased openness and improved City views from outdoors to the indoor space and vice versa. The niches with the addition of wood accent ceilings and walls also play an important role to the general improvement of the exterior; other than, providing a sense of scale and a civic character to the surrounding space of the Library, they, also, provide a warm and inviting feeling to all passers-by.

All materials are for illustration purposes only. Architectural Design of the Library would be developed in future phases with Council and Community input.

- 1 MAIN ENTRY
- 2 WOOD-LOOK ENTRY AWNING
- 3 BOOK DROP
- 4 INTEGRATED PLANTERS
- 5 PUBLIC SEATING
- 6 RAISED CEILING
- 7 BIKE RACKS
- 8 EXISTING BIKE PATH



OPTION C



BASE RENDERING

View from Marketplace

The marketplace, the entry point of the Library, has been designed as the backbone of the space in this option as well. This view demonstrates how clear signage could orient the public to the full range of programmatic spaces. The proposed exterior glass façade encourages indoor-outdoor connections along the edges of the Library and provides refreshing views of both greenery and the City beyond. Vinyl wall graphics are proposed to support wayfinding and primary spatial flow of the Library.

The finishes used for this option are of base quality; the walls are painted gypsum wallboard and basic acoustic ceiling tiles are used for all the ceilings.

All materials are for illustration purposes only. Architectural Design of the Library would be developed in future phases with Council and Community input.

- 1 MAIN ENTRY
- 2 FULL HEIGHT WINDOWS
- 3 ACCENT CARPET
- 4 VINYL WALL GRAPHIC
- 5 SERVICE DESK
- 6 ACOUSTIC CEILING
- 7 CHILDREN'S PORTAL
- 8 AREA SIGNAGE



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OPTION C



ADD-ALTERNATE RENDERING

View from Marketplace

The alternate design option for the interior of the Library significantly improves the sense of the space. A wood accent ceiling has been added to the marketplace bringing warmth to the interiors and defining the entrance and primary spatial flow of the Library. Wider vinyl wall graphics not only would support the wayfinding and navigation of the Library, but also, they could provide additional wall space to exhibit community art.

All materials are for illustration purposes only. Architectural Design of the Library would be developed in future phases with Council and Community input.

- 1 MAIN ENTRY
- 2 ACCENT CARPET
- 3 VINYL WALL GRAPHIC
- 4 WOOD PANEL WALL
- 5 SERVICE DESK
- 6 WOOD PANEL CEILING
- 7 CHILDREN'S PORTAL
- 8 AREA SIGNAGE
- 9 ACOUSTIC CEILING
- 10 RAISED CEILING



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OPTION C



BASE RENDERING

View to Adult's Area

The Adult Area in this option takes up the south side of the Library. This view demonstrates the customer experience while entering the Library looking to the Adult Area; It clearly demonstrates the bold wayfinding signage that has been introduced to draw the users to the different spaces of the Library. The area is also complemented with comfortable and modern furnishings for every type of activity.

This view indicates how the open space configuration of the layout along with the exterior glass facades allow for unobstructed views of the greenery and the City beyond from every part of the Library. Finally, even though the meeting spaces are located relatively far from the exterior façade, they are not dark or uncomfortable; daylight is abundant in all spaces of the Library.

All materials are for illustration purposes only. Architectural Design of the Library would be developed in future phases with Council and Community input.

- 1 MAIN ENTRY
- 2 ACCENT CARPET
- 3 AREA SIGNAGE
- 4 VINYL WALL GRAPHIC
- 5 ACOUSTIC CEILING
- 6 FULL HEIGHT WINDOWS



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OPTION C



ADD-ALTERNATE RENDERING

View to Adult's Area

In the alternate design option, wood accent ceilings are selected for the axis of the entrance to give the space a warmer feeling and to orient the users to the main service desk. The Marketplace that way is framed as space in the interior and is more easily identifiable from the exterior.

The bigger height of the ceilings opens up the space even more bringing more daylight in the interior and allowing better indoor-outdoor visual connections.

All materials are for illustration purposes only. Architectural Design of the Library would be developed in future phases with Council and Community input.

- 1 MAIN ENTRY
- 2 WOOD-LOOK ENTRY AWNING
- 3 ACCENT CARPET
- 4 FEATURE LIGHTING
- 5 WOOD PANEL CEILING
- 6 VINYL WALL GRAPHIC
- 7 ACOUSTIC CEILING
- 8 AREA SIGNAGE
- 9 RAISED CEILING



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OPTION C



BASE RENDERING

View to Children's Area

This view shows the Children's portal and the portion of the Children's Library adjacent to the community room. This space takes advantage of the interior enclosure that provides increased privacy, and acoustic isolation from the rest of the facility, creating a protected play area for kids and families. The glass façade on the north of the building offers ample daylight to the interior as well as outside views of the streetscape. Shelving would be specifically selected for younger users of the Library while vinyl wall graphics would provide color and visual interest. To the left, the sliding glass operable partition directly connects the Children's space to the Community Room offering flexibility for the different types of activity

All materials are for illustration purposes only. Architectural Design of the Library would be developed in future phases with Council and Community input.

- 1 CHILDREN'S PORTAL
- 2 ACOUSTIC CEILING
- 3 VINYL WALL GRAPHIC
- 4 OPERABLE GLASS PARTITION
- 5 ACCENT CARPET
- 6 STOREFRONT WINDOWS
- 7 FULL HEIGHT WINDOWS



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- 7
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OPTION C



ADD-ALTERNATE RENDERING

View from Children's Area

The alternate design option would take advantage of higher ceilings and feature different lighting solutions. Wood accent ceilings are selected only for the Marketplace; however, this area would take advantage of their location since they would bring warmth in the interiors in general. The configuration of shelving and furniture, as well as the vinyl wall graphics would remain the same as in the base option.

All materials are for illustration purposes only. Architectural Design of the Library would be developed in future phases with Council and Community input.

- 1 CHILDREN'S PORTAL
- 2 FULL HEIGHT WINDOWS
- 3 RAISED CEILING
- 4 ACCENT CARPET
- 5 VINYL WALL GRAPHIC
- 6 ACOUSTIC CEILING
- 7 OPERABLE GLASS PARTITION
- 8 FEATURE LIGHTING
- 9 STOREFRONT WINDOWS



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OPTION C





OPTION D

Library with Only Housing Above and Parking Adjacent

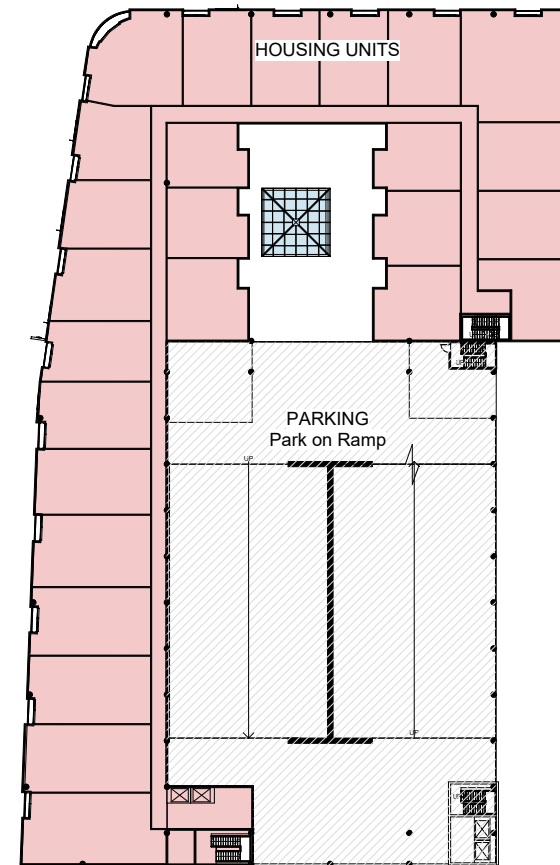
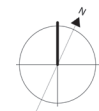
SUMMARY

This design option provides a ground-floor 34,740GSF Library as part of a mixed-use project that includes housing units above and an adjacent parking structure with approximately 400 parking spaces. The Library fronts on Lincoln, Cedar, and Cathcart Streets, while the housing lobby and parking structure can only be accessed from Cathcart Street. The parking entrance on Cathcart Street leads to a standard, freestanding park-on-ramp configuration structure.

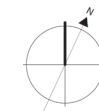
A Library visitor would approach the Library from Cedar Street passing through a large glass entry before entering the main lobby of the Library; a secondary entrance along Lincoln Street would provide access to the Community Room after hours. Further south along Cedar Street, the Children's Library could have a dedicated entry for independent operations of that space as well, if desired. These different access points would help to separately operate the Library and maximize flexibility. The Staff area would be centrally located with direct access to both the adult and children's areas. An independent Children's Librarian's office would also be adjacent to the Storytime Room on the southwest corner of the building. As with Option C, abundant windows along the exterior facade create attractive, well-lit Library spaces available to host any user. The floor plan also accommodates the Genealogy Research Center, Adult Life Skills, and Makerspace. Finally, the Community Room anchors the corner of Lincoln and Cedar Streets, visually connecting interior and exterior civic spaces and advertising Library events and activities.



GROUND FLOOR PLAN



TYPICAL UPPER LEVEL PLAN



Option D - Library with only Housing Above and Parking Adjacent

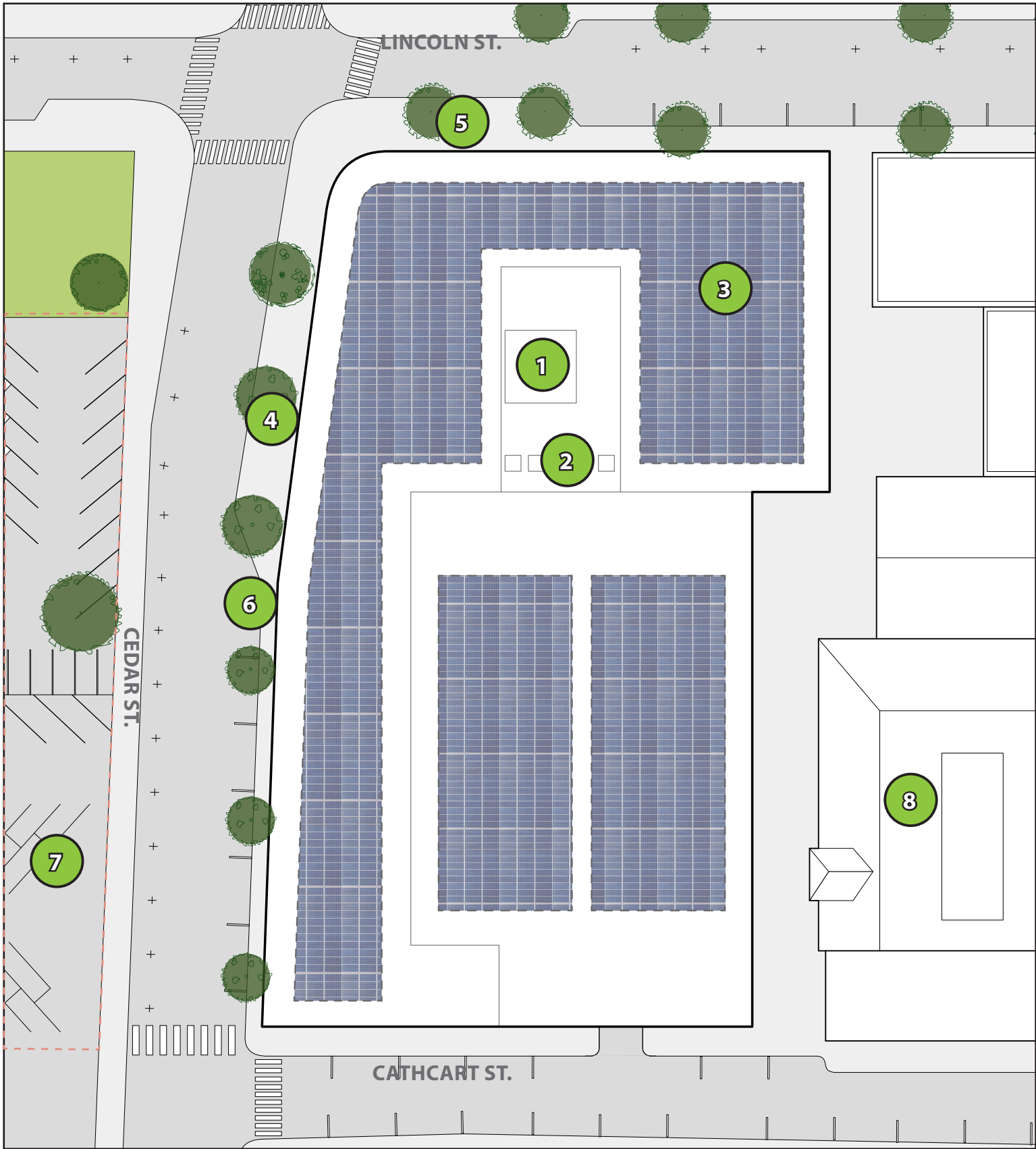
This option (hereafter referred to as Option D) differs in that the garage is configured with a lower cost park-on-ramp design starting at ground level, with only a limited amount of housing lobby and support spaces tucked under its small Cathcart street frontage. This option has less space available for other ground floor uses and the maximum Library area possible here is approximately 37,000 square feet.

SITE PLAN

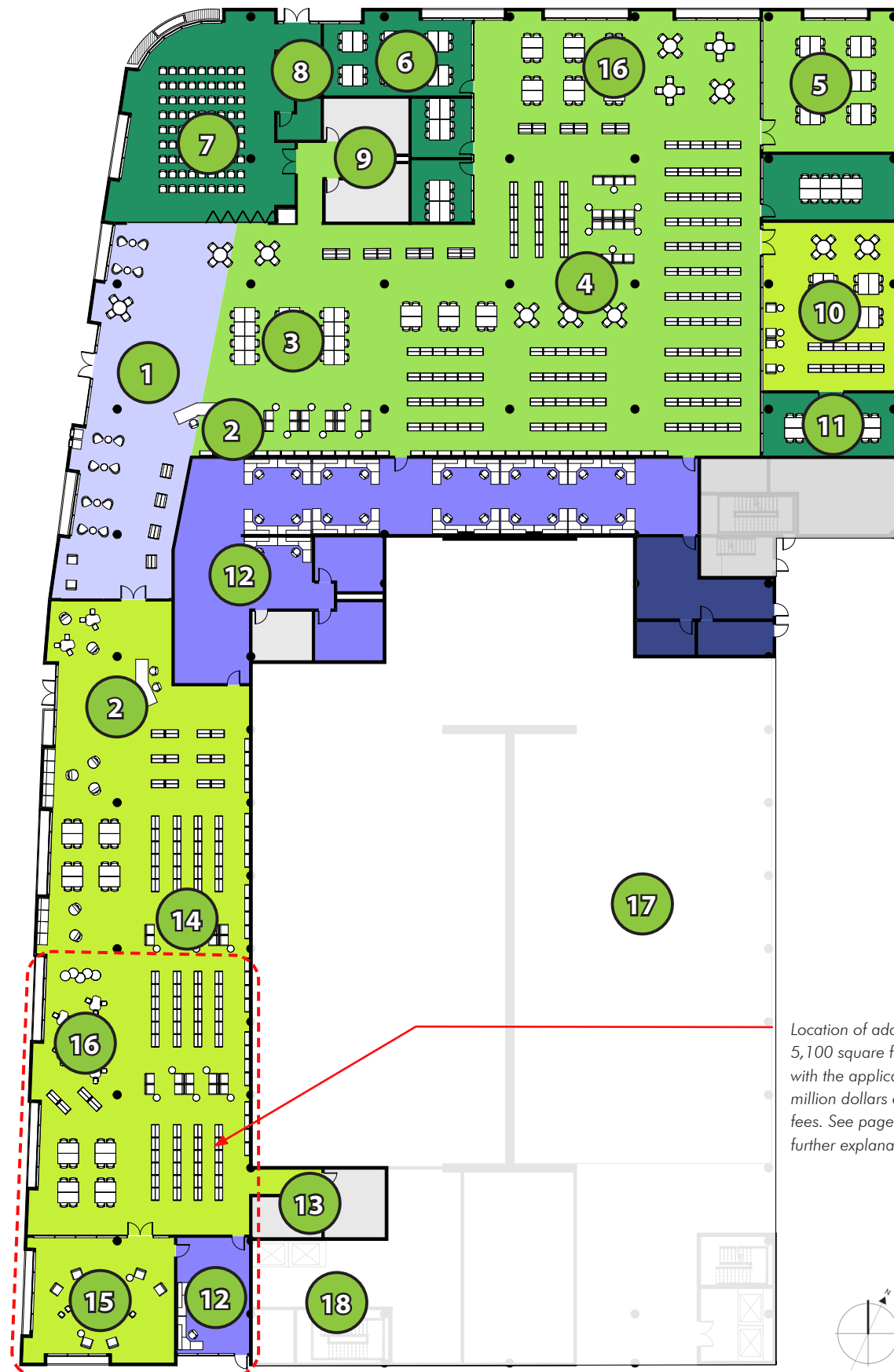
The Library in this option fronts on Cedar, Lincoln and Cathcart street anchoring the Genealogy Research Center, the Community Room and the Children’s Storytime Room on its three corners to advertise them. Widened sidewalks on Cedar and Lincoln Streets introduce the main access point to the Marketplace as well as a secondary one to the Community Room when the rest of the Library is closed. Trees and planters, as well as outdoor benches and bicycle racks would complement the integrated niches and would create a friendly urban streetscape for the users of the Library and for passers-by.

This option, similar to Option C, introduces solar panels on the roof of the housing and the parking garage as part of a potential effort to incorporate renewable energy strategies in the mixed-use project.

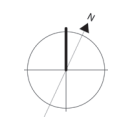
- 1 SKYLIGHT
- 2 STAFF SKYLIGHTS
- 3 POTENTIAL SOLAR PANELS
- 4 MAIN ENTRY
- 5 COMMUNITY ROOM ENTRY
- 6 SECONDARY ENTRY
- 7 POTENTIAL FUTURE HOUSING DEVELOPMENT
- 8 UNIVERSITY TOWN CENTER BUILDING



OPTION D



Location of additional 5,100 square feet possible with the application of \$3 million dollars of air rights fees. See page 139 for further explanation



- 1 LOBBY/MARKETPLACE
- 2 CIRCULATION DESK
- 3 COMPUTERS
- 4 ADULT COLLECTIONS
- 5 GENEALOGY
- 6 ADULT LIFE SKILLS
- 7 COMMUNITY ROOM
- 8 COMMUNITY ROOM KITCHEN
- 9 PUBLIC RESTROOMS
- 10 TEEN COLLECTIONS
- 11 MAKER SPACE
- 12 STAFF
- 13 CHILDREN'S RESTROOMS
- 14 CHILDREN'S COLLECTION
- 15 CHILDREN'S STORYTIME
- 16 SEATING
- 17 PARKING STRUCTURE
- 18 HOUSING LOBBY

PROGRAM PLAN

The Library would be designed with an open plan layout, divided only by key interior partitions that separate the Community Room and the Children's Area for operational independence. The primary point of service in the main lobby (indicated as Marketplace in the floor plans) creates direct lines of sight to the Teen Space, the Adult Area, and the Children's section of the Library. In this option, the Community Room occupies the prominent front corner of the building, showcasing Library events to curious passers-by. Finally, operable sliding glass partitions are proposed for the Community Room, so that the space can be opened up and host events beyond the room's capacity. An after-hours entrance, kitchen, restroom access, and storage space also allow the Community Room to operate independently from the rest of the Library.

The Children's Area is in the south part of the Library and has its own entrance from Cedar Street. Within the Children's Area, a dedicated Storytime Room allows for acoustical separation from the rest of the Children's Area.

The Adult Area in this option is located in the northeast part of the Library with dedicated enclosed rooms for the Genealogy Research Center and the Adult Skills Center. Multiple meeting rooms are also scattered throughout the Library to serve different groups of users. Lounge furniture as well as computer stations and study spaces would complement the collection.

The main staff space is centrally located in the plan acting as the heart of the Library. Personnel would have direct access and clear lines of sight to every part of the Library. The alley would serve as a secondary entry point for staff and book deliveries. Another staff space would also be located next to the children's Story time space with a separate entrance from Cathcart for easier access for the children's librarian.

PROGRAM PLAN

Operational Flexibility

Community Room

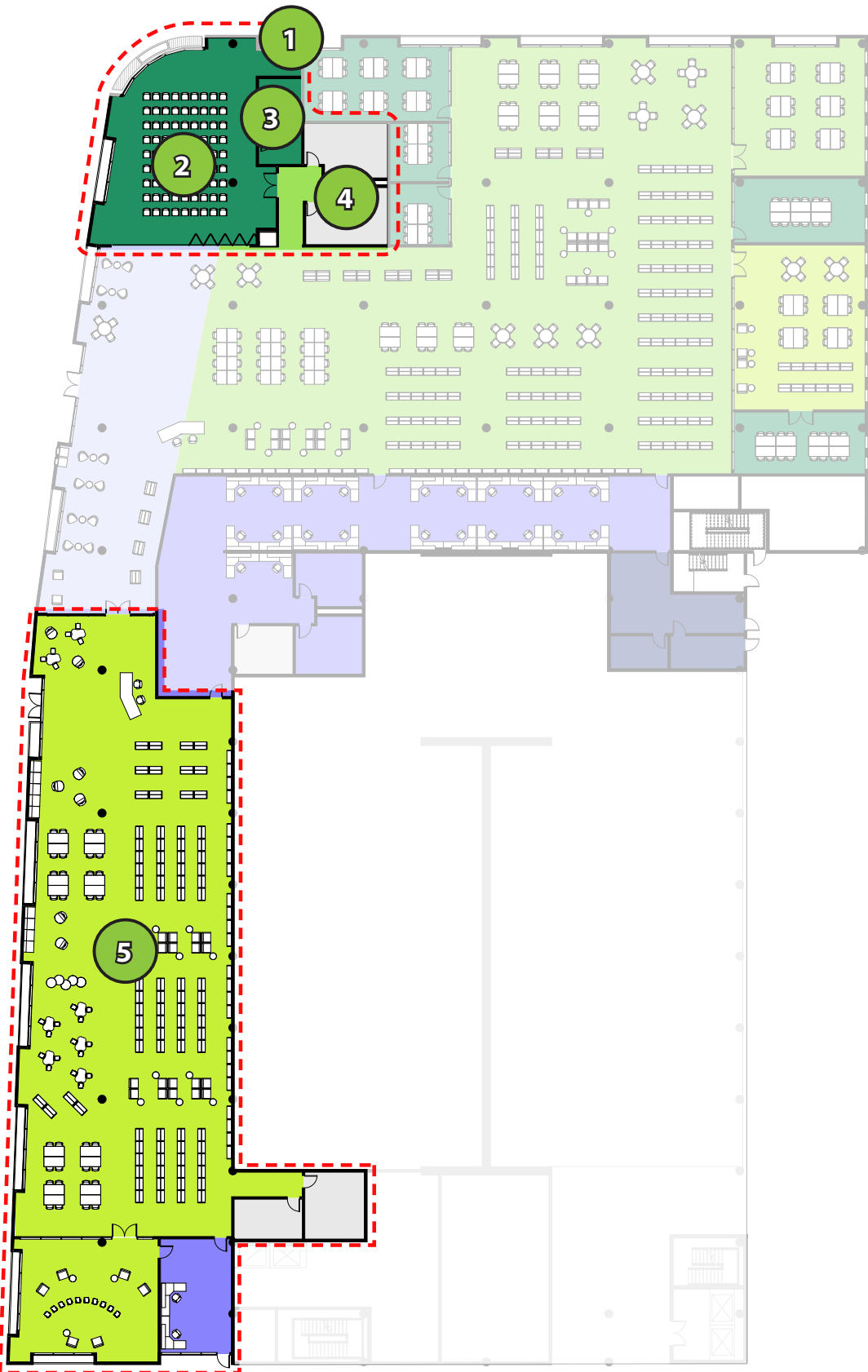
As described above, one of the key benefits of the Library's layout is the ability for the Community Room to operate independently after hours. This configuration allows for diverse events, such as community events, group activities, and workshops, to take place after the main Library is closed.

The dashed red line indicates the extent of the area that is available for operation after hours. The room is directly accessed by a secondary entrance on Lincoln Street while the adjacent kitchen, storage, and public restrooms would be accessible to the participants of the event. A roll-down gate would secure these spaces from the rest of the Library. Additionally, this space would be designed to utilize a separate mechanical system to minimize energy usage after hours.

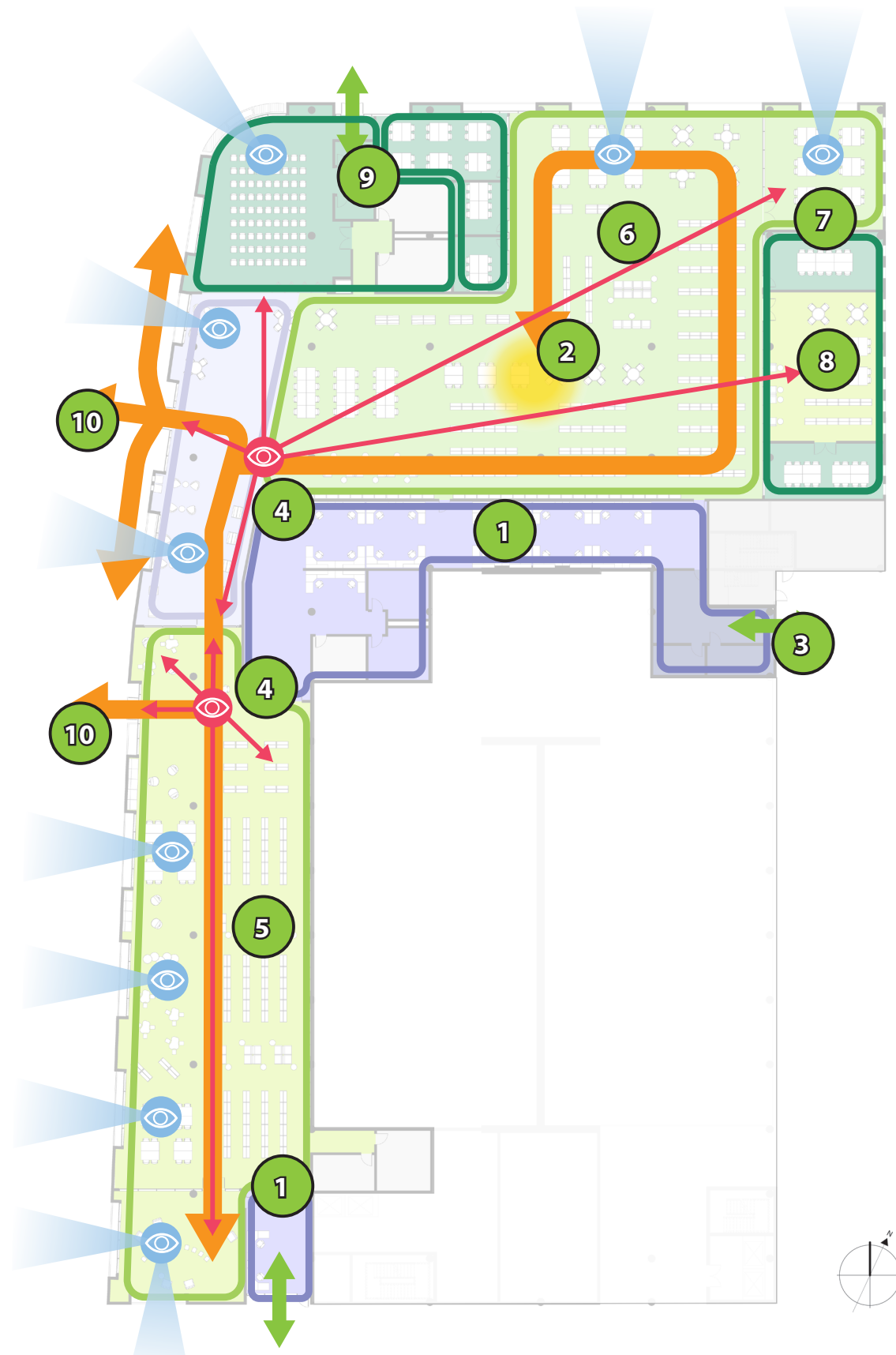
Children's Area

This design option, as well as Option C, proposes a portal to enter the Children's Area. Here, the Children's Area is located along the southern portion of the Library, fronting Cedar Street. Utilizing a controllable series of doors and an architectural portal to enter the Children's Area would also provide an operational opportunity for the Library to operate this area more flexibly. Specifically, the portal, dedicated exterior entry to the Children's Area, and dedicated children's restrooms, would allow for independent operations not only during the day but also when a special event is planned for younger users of the Library when the rest of the Library is closed. Finally, the Children's Librarian's office is directly adjacent to the Children's Area and Storytime corner, providing efficient access and oversight of public spaces.

- 1** AFTER HOURS ENTRY
- 2** INDEPENDENTLY OPERABLE COMMUNITY ROOM
- 3** COMMUNITY ROOM KITCHEN
- 4** PUBLIC RESTROOMS
- 5** INDEPENDENTLY OPERABLE CHILDREN'S AREA



OPTION D



- 1 STAFF
- 2 DAYLIGHTING FROM ABOVE
- 3 DELIVERY AREA
- 4 SIGHTLINES FROM DESK
- 5 CHILDREN'S AREA
- 6 ADULT AREA
- 7 MEETING SPACE
- 8 TEEN AREA
- 9 COMMUNITY ROOM/AFTER HOURS
- 10 CIRCULATION FROM STREET

CIRCULATION DIAGRAM

The proposed floor plan creates intuitive circulation paths across the whole Library, optimizing space efficiency, allowing for direct sight lines, and maximizing daylight and views throughout the Library. The Marketplace that serves as the backbone of the Library connects all primary areas of the Library. The circulation desk would be located in the middle of the Marketplace, adjacent to the main entrance with clear sight lines to the Adult Area, the Teen Space, and the Children's Portal.

Meanwhile, the staff area in this option functions as an internal staple of the space since it connects directly to the Children's area, the Marketplace, and the Adult Area from its central location. The Community room, on the other hand, takes advantage of its location at the northwest corner of the Library to operate independently when it is needed or to offer flexibility to the Library and be used as additional space for the various events that would happen in the future. Key benefits to its role would be the direct street access that the layout offers as well as its prominent location at the corner of Cedar and Lincoln.

Along the north and the west sides of the Library, large expanses of windows provide strong indoor-outdoor connections, as well as a sense of orientation for Library patrons and ample daylight for all of the Library's interior spaces.

PUBLIC & PRIVATE

The proposed design aims to maximize the public space offered to patrons and distribute it appropriately to all user groups. As the tables below illustrate, public space (shown in light orange) predominates, occupying 87% of the whole area, while private space (shown in dark orange) makes up the remaining 13% of the Library. With nearly 29,640 square footage of public space, this design option offers almost 4,000 square feet more public space than the renovation option, as well as 2,800 square feet more public space than the existing building (in gross square footage).

EXISTING LIBRARY:

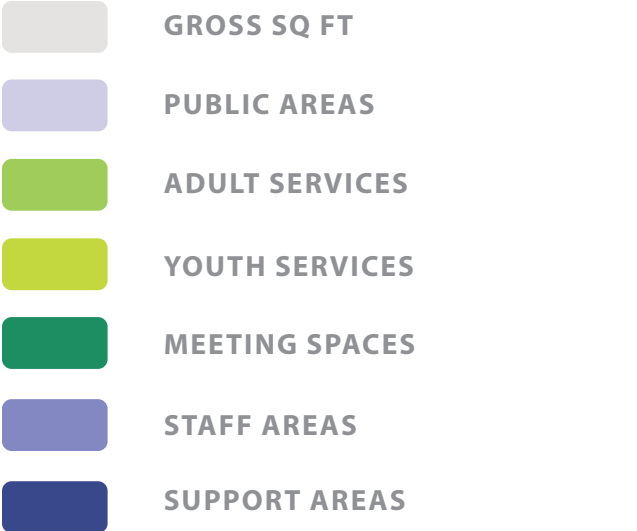
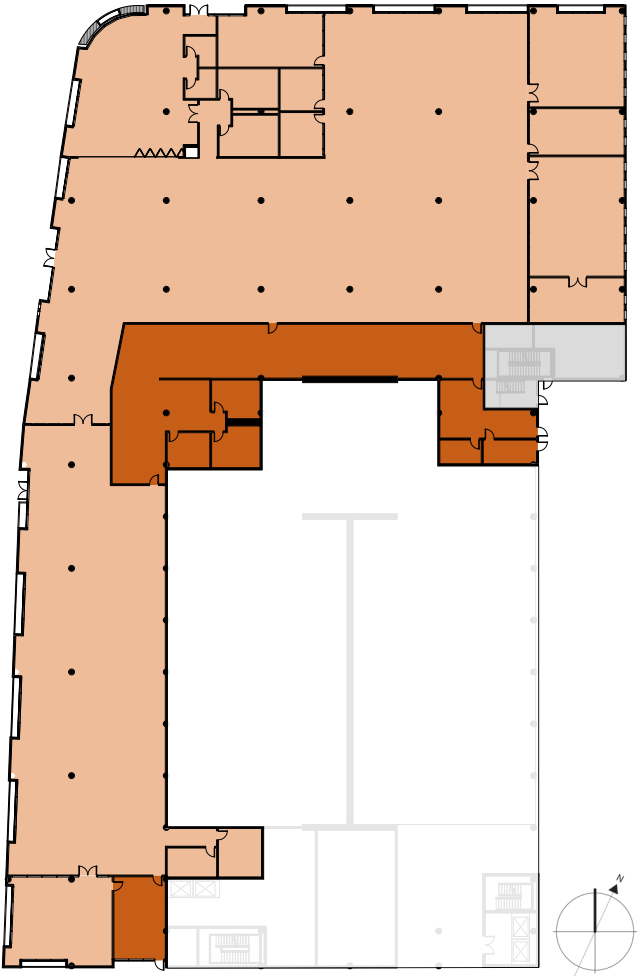
PUBLIC	27,394 SF (65%)
PRIVATE	14,916 SF(35%)
TOTAL	42,310 SF

OPTION B:

PUBLIC	26,181 SF (87%)
PRIVATE	4,049 SF(13%)
TOTAL	30,230 SF

OPTION D:

PUBLIC	30,220 SF (87%)
PRIVATE	4,520 SF(13%)
TOTAL	34,740 SF



OPTION D

COLLECTIONS: NUMBER OF VOLUMES

	EXISTING (42,000 SF)	DLAC PROGRAM (47,000 SF)	OPTION B (30,000 SF)	OPTION D (36,200 SF)
KIDS	26,300	±33,100	±31,200	±31,200
TEENS	3,700	±4,700	±2,200	±4,400
ADULTS	105,500	±152,600	±73,500	±84,800
TOTALS:	135,500	±190,400	±106,900	±110,400








PROGRAM ANALYSIS

The analysis of the program was based on the same metrics as the renovation project: the total number of volumes and the square footage of the different program areas of the Library.

Per the tables shown on this page, this option was designed to accommodate larger Adult collection and similar size as the existing ones for the Children's collections. Shelving space has been increased for the Teen collection, compared to the Renovation scheme, following the Library's direction for growing number of volumes in the existing one.

The proposed design option's space allocation and programmatic needs were similar to the renovation scheme. However, due to the overall increase in the size of the Library in a mixed-use project, the square footages of all individual areas are increased, offering appropriate space not only for Library collections, but also for the public spaces.

PROGRAM: SQUARE FOOTAGE

PROGRAM		EXISTING	OPTION B	OPTION D	CHANGE FROM OPTION B	
	00 GROSS SQ FT	11,510 SF	3,190 SF	2,475 SF	(715) SF	-22%
	01 PUBLIC AREAS	1,600 SF	1,545 SF	2,500 SF	955 SF	+60%
	02 ADULT SERVICES	16,000 SF	10,319 SF	11,825 SF	1,506 SF	+15%
	03 YOUTH SERVICES	4,000 SF	7,530 SF	9,470 SF	1,940 SF	+26%
	04 MEETING SPACES	1,200 SF	3,496 SF	4,155 SF	659 SF	+19%
	05 STAFF AREAS	6,000 SF	3,542 SF	3,605 SF	63 SF	+2%
	06 SUPPORT AREAS	2,000 SF	608 SF	710 SF	102 SF	+17%
TOTAL GROSS SQUARE FOOTAGE		42,310 SF	30,230 SF	34,740 SF	+4,510 SF	+15%

BASE RENDERING

View from Cedar and Lincoln

The view looking east from the intersection of Cedar and Lincoln Streets clearly highlights the civic presence of the Library. The façade's series of alternating storefront windows, warm wood accents, and solid walls (material extents and design to be determined in future phases) would animate the streetscape and blur the boundary between exterior and interior. The Library would invite patrons inside by displaying its exciting range of spaces and events to passers-by. Along the windows, a series of planters, bicycle racks, and outdoor-rated benches could activate the entrances to the Library, while providing best-practice streetscape designs for urban environments.

Finally, integrated niches could be incorporated along the Library façade to provide a sense of scale and civic character, as well as define the separation of uses from the exterior while providing seasonal color and vibrancy to the interior. Sunshades could also reduce solar heat gain in the interior and energy usage within the Library.

All materials are for illustration purposes only. Architectural Design of the Library would be developed in future phases with Council and Community input.

- 1 PUBLIC SEATING
- 2 COMMUNITY ROOM ENTRY
- 3 INTEGRATED PLANTERS
- 4 SUN SHADE
- 5 CURTAINWALL WINDOWS AT CORNER
- 6 EXISTING BIKE PATH
- 7 PEDESTRIAN CROSSWALK



OPTION D



ADD-ALTERNATE RENDERING

View from Cedar and Lincoln

This alternate proposal results in modest improvements to the materiality and design of the exterior and it integrates interior and exterior wood accents as well. The most prominent change would be to raise the Library space three feet, which would be reflected on the exterior through larger expanses of windows, increased openness, and an improved civic scale for the Library. Site landscaping would remain similar to the base level design option introducing a pedestrian-friendly urban environment.

All materials are for illustration purposes only. Architectural Design of the Library would be developed in future phases with Council and Community input.

- 1 PUBLIC SEATING
- 2 COMMUNITY ROOM ENTRY
- 3 WOOD-LOOK ACCENT WALL
- 4 INTEGRATED PLANTERS
- 5 RAISED CEILING
- 6 SUN SHADE
- 7 CURTAINWALL WINDOWS AT CORNER
- 8 PROPOSED BIKE PATH
- 9 PEDESTRIAN CROSSWALK



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OPTION D



BASE RENDERING

View from Cedar Street - Main Entrance

This view demonstrates the experience of approaching the Library from Cedar Street, looking north. Clear signage and a bold entry canopy are proposed to frame the front door and give the Library a prominent civic presence. More specifically, signage has been placed on the canopy and on the glass façade to announce the primary building entry, as well as demarcating the book drop and the initial interior spatial organization.

As described in the previous rendering, trees and planters would create a welcoming civic environment appropriate for small gatherings and short breaks for all Santa Cruz Library patrons. Bike racks would also be placed close to the entrance of the Library to facilitate all bicyclists of the City.

All materials are for illustration purposes only. Architectural Design of the Library would be developed in future phases with Council and Community input.

- 1 MAIN ENTRY
- 2 WOOD-LOOK ENTRY AWNING
- 3 BOOK DROP
- 4 INTEGRATED PLANTERS
- 5 PUBLIC SEATING
- 6 BIKE RACKS
- 7 EXISTING BIKE PATH



- 7
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OPTION D



ADD-ALTERNATE RENDERING

View from Cedar Street - Main Entrance

The alternate design of exterior proposes modest improvements to the façade while introducing raised wood accent ceilings in the interior. The larger expanses of the windows would offer increased openness and unobstructed City views from indoors to the outdoor space and vice versa. The niches with the addition of wood accent ceilings and walls also play an important role to the general improvement of the exterior; other than, providing a sense of scale and a civic character to the surrounding space of the Library, they, also, provide a warm and inviting feeling to all passers-by.

All materials are for illustration purposes only. Architectural Design of the Library would be developed in future phases with Council and Community input.

- 1 MAIN ENTRY
- 2 WOOD-LOOK ENTRY AWNING
- 3 BOOK DROP
- 4 INTEGRATED PLANTERS
- 5 PUBLIC SEATING
- 6 RAISED CEILING
- 7 BIKE RACKS
- 8 EXISTING BIKE PATH



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OPTION D



BASE RENDERING

View from Marketplace

The Marketplace, as the main entry point of the Library, has been designed as the backbone of the Library. This view demonstrates the openness of this space and how it creates a welcoming environment for the users as they step in. Clear signage is recommended that would orient the public to the full range of programmatic spaces. The exterior glass façade that spans the full height of the space, encourages indoor-outdoor connections along the edges of the Library and frames diverse views of both greenery and the city beyond. This view also shows the flexible Community Room and how it opens up to the rest of the Library as needed.

The finishes used for this option are of basic quality; the walls are painted gypsum wallboard and basic acoustic ceiling tiles are used for all the ceilings.

All materials are for illustration purposes only. Architectural Design of the Library would be developed in future phases with Council and Community input.

- 1 MAIN ENTRY
- 2 FULL HEIGHT WINDOWS
- 3 ACCENT CARPET
- 4 ACOUSTIC CEILING
- 5 VINYL WALL GRAPHIC
- 6 OPERABLE GLASS PARTITION
- 7 SERVICE DESK



OPTION D



ADD-ALTERNATE RENDERING

View from Marketplace

As an alternate design option for the Marketplace, wood accent ceilings are recommended. This addition significantly improves the feeling of the space bringing warmth to the interiors. The entrance is more clearly defined as well as the primary spatial flow of the Library. In addition, wider vinyl wall graphics are proposed that would support the wayfinding and navigation of the Library, while providing an opportunity for community art exhibitions.

All materials are for illustration purposes only. Architectural Design of the Library would be developed in future phases with Council and Community input.

- 1 MAIN ENTRY
- 2 FULL HEIGHT WINDOWS
- 3 RAISED CEILING
- 4 ACCENT CARPET
- 5 OPERABLE GLASS PARTITION
- 6 VINYL WALL GRAPHIC
- 7 WOOD PANEL CEILING
- 8 SERVICE DESK
- 9 FEATURE LIGHTING



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OPTION D



BASE RENDERING

View from Adult's Area

This design option features the Adult Area on the north east section of the Library. This view clearly demonstrates the key advantage of this configuration which is the introduction of a skylight. The skylight, according to the current design, would be located right above the Adult Area offering an excellent opportunity for additional natural lighting that would be smoothly diffused in the space.

The finishes used for this option are basic; the walls are painted gypsum wallboard and basic acoustic ceiling tiles are used for all the ceilings. Vinyl wall graphics are also proposed to create a strong visual and a creative way for wayfinding.

All materials are for illustration purposes only. Architectural Design of the Library would be developed in future phases with Council and Community input.

- 1 SKYLIGHT
- 2 MAIN ENTRY
- 3 AREA SIGNAGE
- 4 VINYL WALL GRAPHIC
- 5 ACOUSTIC CEILING
- 6 STOREFRONT WINDOWS



- 1
- 3
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OPTION D



ADD- ALTERNATE RENDERING

View from Adult's Area

As an alternate design option, a wood accent ceiling has been added to reinforce the direction to the Adult Area as well as to bring a sense of warmth in the space. Additionally, different lighting fixtures have been selected that would offer additional elegance in the space. The larger height of the ceilings also provides more openness and better visibility to the different space of the Library.

All materials are for illustration purposes only. Architectural Design of the Library would be developed in future phases with Council and Community input.

- 1 SKYLIGHT
- 2 MAIN ENTRY
- 3 WOOD PANEL CEILING
- 4 FEATURE LIGHTING
- 5 ACOUSTIC CEILING
- 6 RAISED CEILING
- 7 AREA SIGNAGE
- 8 STOREFRONT WINDOWS



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OPTION D



BASE RENDERING

View from Children's Area

The Children's area in this option is located on the south portion of the Library and fronts Cedar Street. The current design suggests a narrow configuration of the Children's area that would help with daylight diffusion and easy surveillance of the whole space. In order to give the space a more interesting and fun tone, full-height wall graphics are recommended in the niches in addition to the vinyl wall graphics that have already been proposed for orientation and wayfinding. This view looks to the north and clearly demonstrates the portal of the Children's Area which offers supplementary security and acoustical isolation from the rest of the Library.

All materials are for illustration purposes only. Architectural Design of the Library would be developed in future phases with Council and Community input.

- 1 CHILDREN'S PORTAL
- 2 ACOUSTIC CEILING
- 3 VINYL WALL GRAPHIC
- 4 ACCENT CARPET
- 5 STOREFRONT WINDOWS



5

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4

OPTION D



ADD-ALTERNATE RENDERING

View from Children's Area

The alternate design option for the Children's Area in this option, suggests the addition of wood accent ceiling and different lighting fixtures as most of the elements described in the base option remain the same. This view indicates, once more, that higher wood accent ceilings offer a sense of openness, better outdoor-indoor connections and abundance of daylight as well as a warmer spatial feeling that would ultimately support the customer experience in the Library.

All materials are for illustration purposes only. Architectural Design of the Library would be developed in future phases with Council and Community input.

- 1 CHILDREN'S PORTAL
- 2 WOOD PANEL WALL
- 3 WOOD PANEL CEILING
- 4 RAISED CEILING
- 5 STOREFRONT WINDOWS
- 6 FEATURE LIGHTING
- 7 VINYL WALL GRAPHIC
- 8 ACOUSTIC CEILING
- 9 ACCENT CARPET



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OPTION D







ENGINEERING NARRATIVES III.





III. ENGINEERING NARRATIVES

SUBCONSULTANT TEAM

Group 4 Architecture, Research and Planning engaged an experienced Consultant Team including specialty subconsultants in both Housing (Van Meters Williams Pollack) and Parking Structure design (Watry Design) in order to generate project options and mixed-use strategies that would best serve the Library and the City decision-making process. The consultant team also included cost estimator Mack5 to evaluate the mixed-use design options and develop both base and add-alternate cost models. To inform the cost estimating, engineering subconsultants (civil, structural, mechanical, electrical, tel/data) prepared narratives and drawings to comparable level as the previous renovation concept.



Mack5
1900 Powell Street, Suite 470
Emeryville, CA 94608
510.595.1755



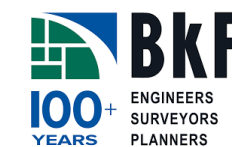
BASE Design Inc.
582 Market Street Suite 1402
San Francisco, CA 94104
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415.466.2997



Blue Forest Engineering
3622 Kingsley Street
Oakland, CA 94610-2833
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Atium Engineering
3533 York Lane
San Ramon, CA 94582
913.961.1658



BKF Engineers
150 California Street, Suite 600
San Francisco, CA 94111
www.bkf.com
415.930.7900



Van Meter Williams Pollack
San Francisco
333 Bryant Street, Suite 300
San Francisco, CA 94107 USA
415.974.5352



Watry Design, Inc.
2099 Gateway Place, Suite 550
San Jose, CA 95110
(833)-917-PARK

STRUCTURAL NARRATIVE



Introduction

The overall project will consist of construction of a new multi-story mixed use building in downtown Santa Cruz. The primary focus of this assessment document is the new library as part of the mixed-use building.

The intent of this assessment is to identify structural design parameters for the mixed-use project as well as for the new library as part of a larger mixed-use concept. The mixed-use project will consist of the following types of usage: Library, approximately 44,000 sf, multi-story parking, approximately 20,000 to 30,000 sf, housing, approximately 40,000 to 60,000 sf, and commercial space, approximately 14,000 sf. Each of these types of usage has its own particular requirements which influence the structural systems that will be used for the mixed-use building.

Two layout options will be evaluated. These options will cover alternative library configurations within the mixed-use building.

1. Building Occupancy

1.1 Building Code Requirements

The building will be designed to meet the requirements of the California Building Code (CBC), current edition.

1.2 Building Size and Usage

The proposed building will be located in downtown Santa Cruz on the City-owned surface parking lot between Lincoln, Cedar and Cathcart streets, Lot 4, on an approximately 64,000 square feet of surface area. The building will consist of library, housing, parking and commercial spaces.

2. Design Parameters

2.1 Site Seismicity

Site geotechnical studies will be necessary to implement a full design.

2.2 Geotechnical Considerations

A conventional shallow foundation system is assumed in this assessment. The foundation design will be modified based on the site geotechnical report.

2.3 Structural Design Parameters

Structural design parameters for seismic, wind, and gravity forces are as noted below:

A. Seismic

The site is located at latitude / longitude coordinates of (36.972045, -122.026680). According to the USGS seismic design maps used with the 2019 CBC, the site has seismic coefficients of $SS = 1.64g$ and $S1 = 0.626g$. Site-specific design values should be included in the project geo-hazards report and these site-specific values may be higher than the USGS mapped values (provided here for reference). These site accelerations will be amplified based on the soil profile type on the site, as determined in the geohazards report, to determine the building design force level. Lateral force procedure will be either the static or dynamic procedure as required by soil conditions.

B. Wind

Wind design will be based on the CBC 1609 or ASCE Standard 7-16, Chapter 26. Forces are based on a 95 mile per hour gust speed and Wind Exposure Category C. Wind is not expected to govern the design of the main lateral force resisting system of the building, but will likely govern the design of exterior wall elements.

C. Gravity

Dead Loads

The following loads are estimates only:

Housing

Roof:

Weight of Structure	13psf
MEP	05psf
Architectural + Misc.	02psf

Typical Floor:

Weight of Structure	15psf
MEP	05psf
Architectural + Misc.	05psf

Library

Typical Floor:

Weight of Structure	90psf
MEP	10psf
Architctural + Misc.	10psf

Applied Loads

Housing

Roof:

Live Load	20psf
Mech.Equip. Allowance	
(Actual equip. wt. + Live Load)	

Typical Floor:

Live Load	40psf
Corridors	100psf

Library

Typical Floor:

Live Load Corridors Above First Floor	80psf
Live Load Reading Rooms	60psf
Stack Rooms	150psf

3. Structural Systems Selection

3.1 Gravity Systems

The building will be a combination of wood frame over concrete podium and reinforced concrete construction. Multi-story wood frame construction will be used for the housing portion of the building supported by reinforced concrete podium. This will cover the library area. The podium slab will be supported by reinforced concrete round (or rectangular) columns placed on approximately 30ft x 30ft grid. The parking structure will consist of reinforced concrete slab supported by reinforced concrete beams. These beams will be supported by reinforced concrete walls at the core and reinforced concrete columns around the perimeter.

3.2 Lateral Systems

The lateral force resisting systems will be; plywood shearwalls at the wood framed housing portion and reinforced concrete shearwalls at the podium and parking structure.

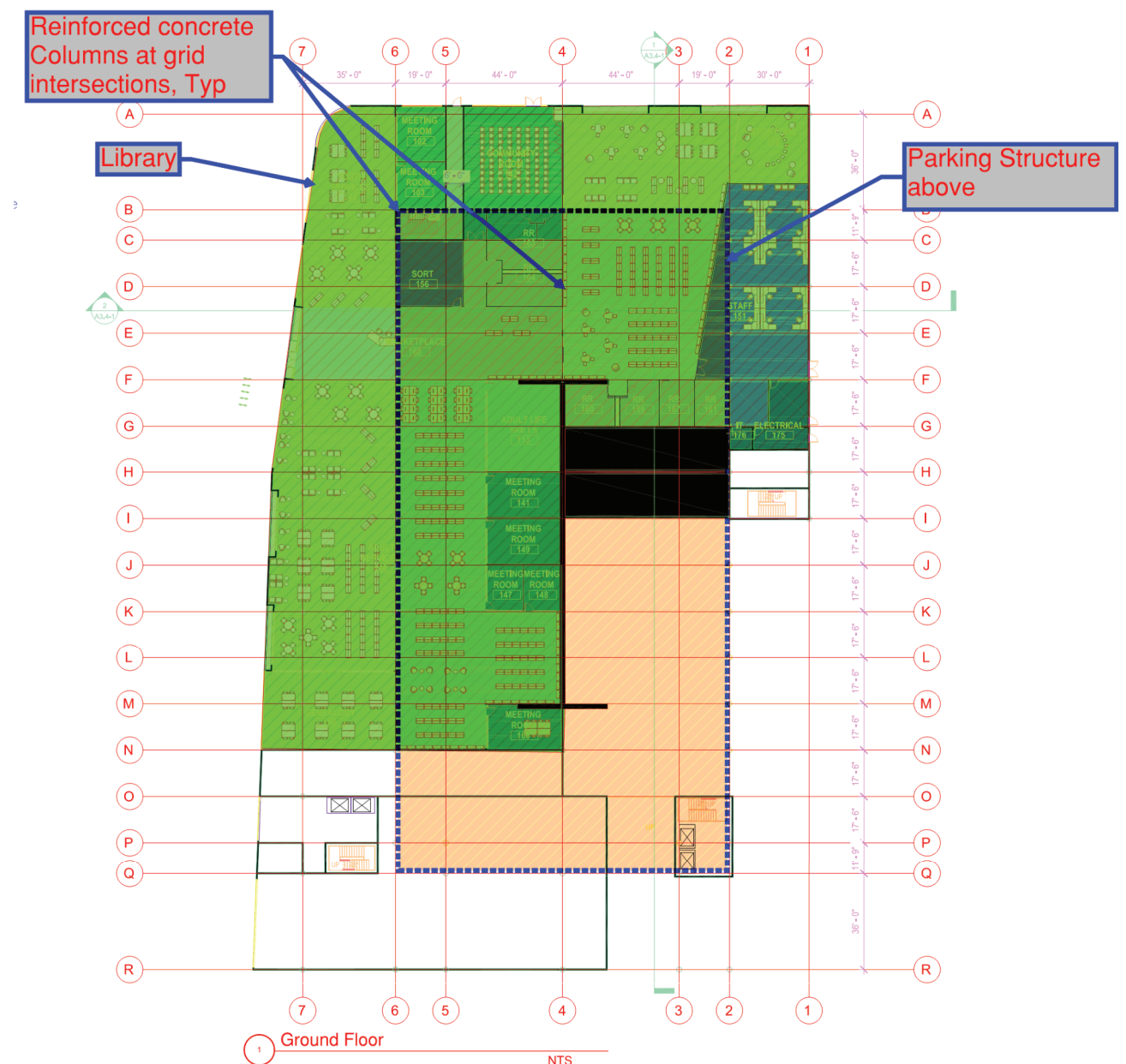
3.3 Foundations and Slab-on-Edge

For this design assessment, shallow foundations are assumed. Foundation design will be reevaluated following the recommendation by a Geotechnical Engineer. Reinforced concrete shear walls will be supported on continuous footings. Reinforced concrete columns will be supported on spread footings connected by grade beams. Foundations will be depressed as necessary to be supported on adequate soil, as determined by the Geotechnical Engineer. The slab-on-grade will consist of a 5-inch concrete slab over a base crushed rock and/or sand. An under-slab drainage system will likely be provided.

4. Building layout options

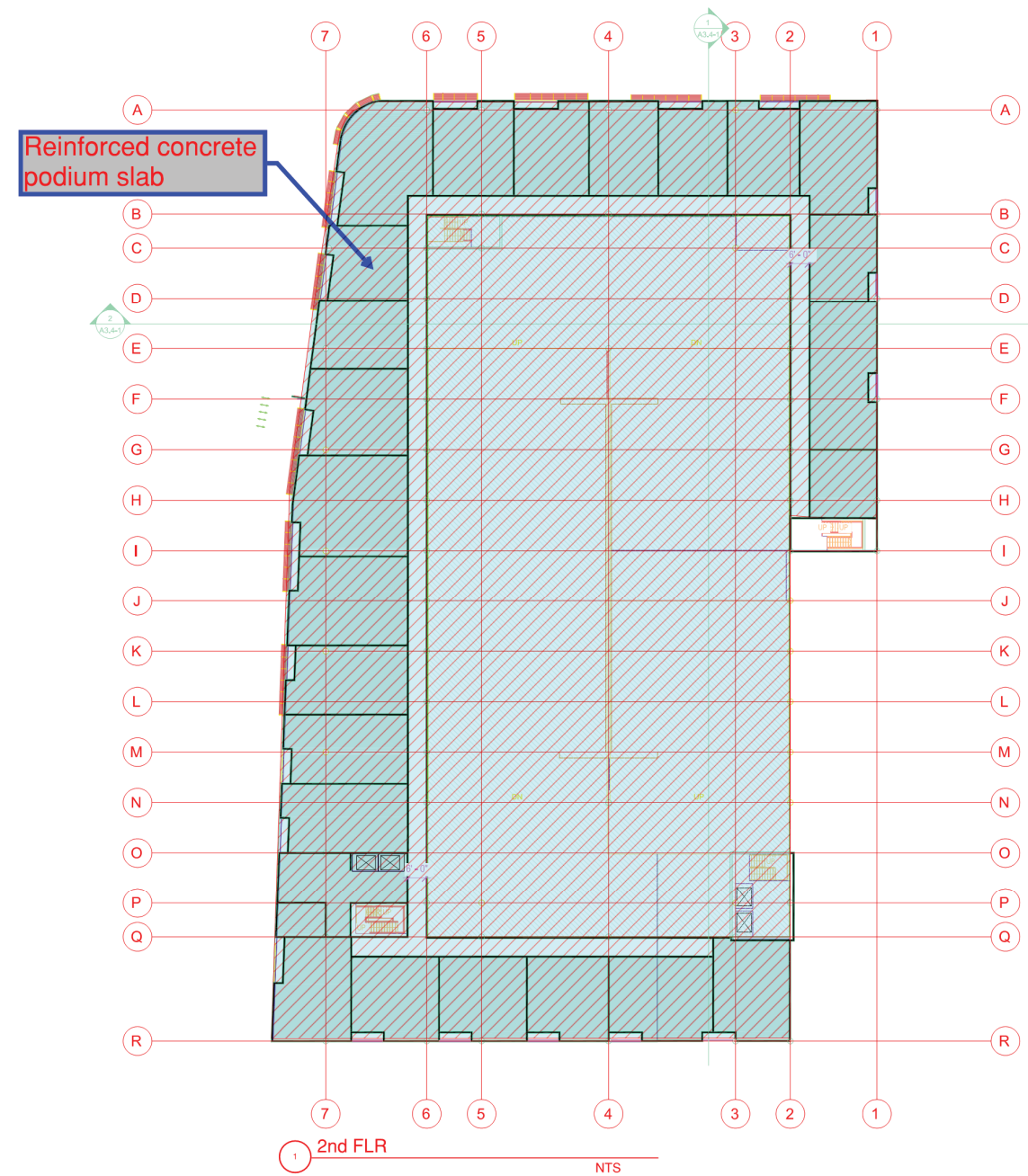
4.1 Option 1

A. Ground Floor Library & Commercial Space

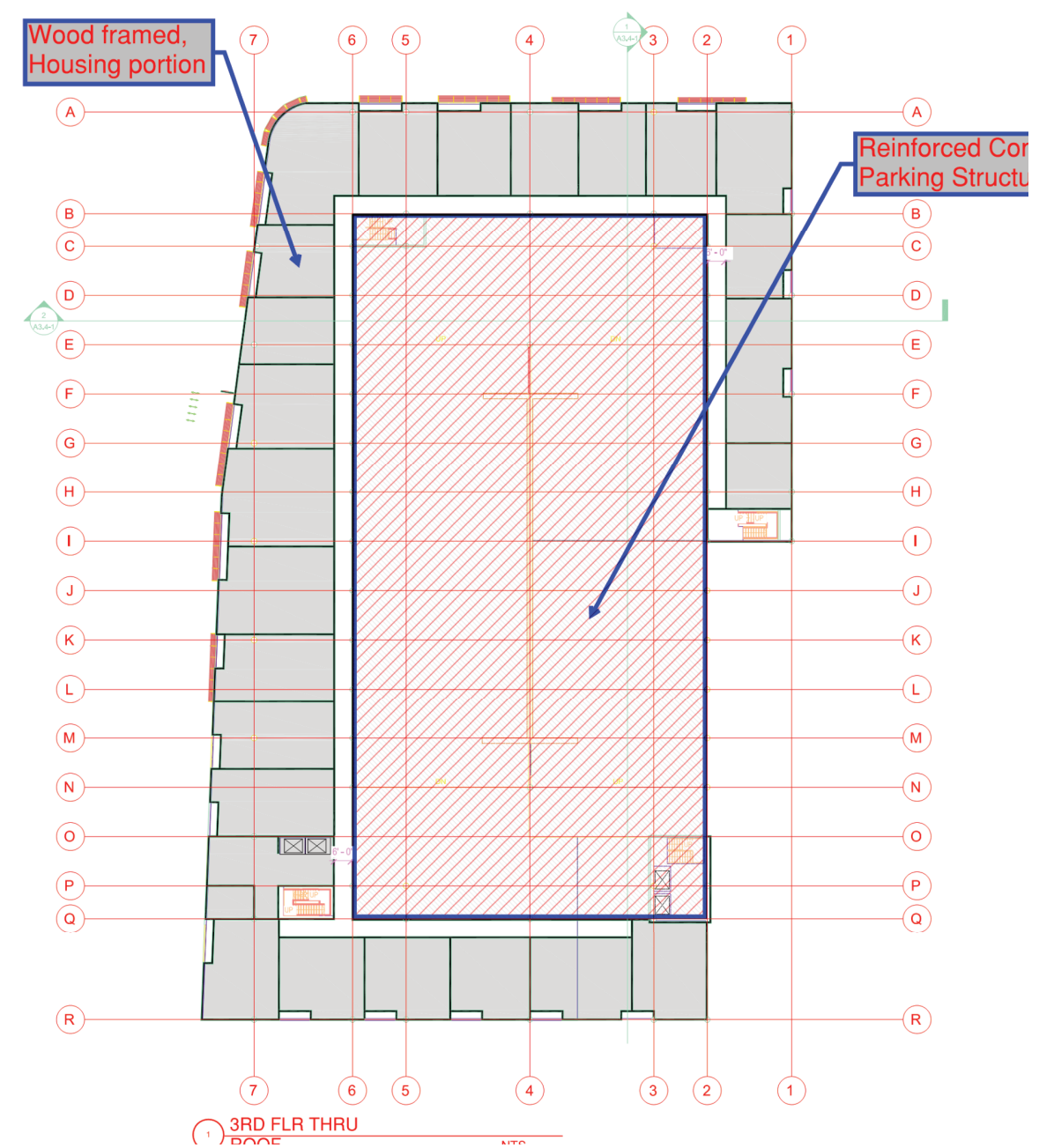


STRUCTURAL NARRATIVE

B. Second Floor - Housing & Parking



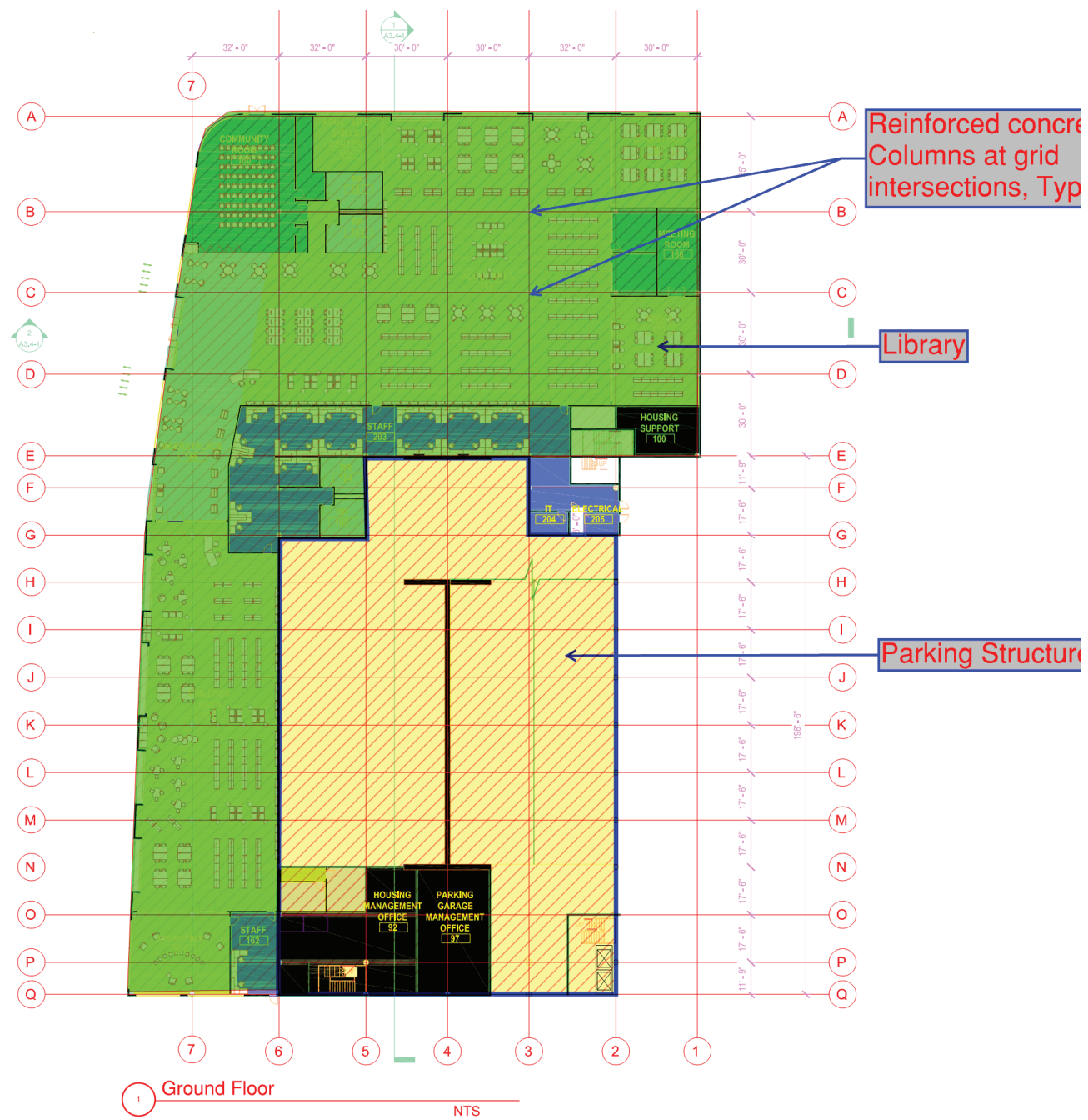
C. Third Floor Through Roof - Housing & Parking



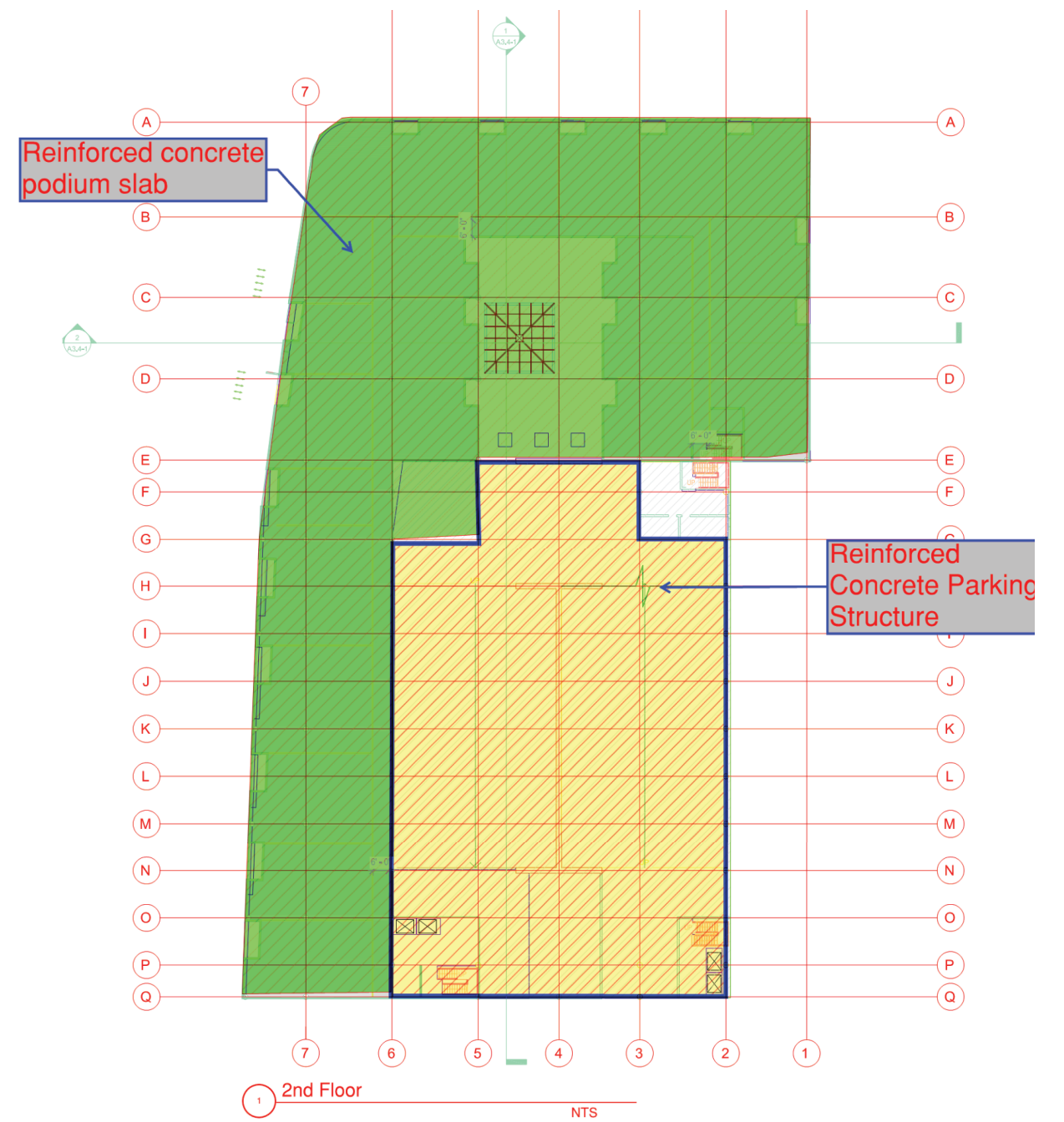
4. Building layout options

4.2 Option 2

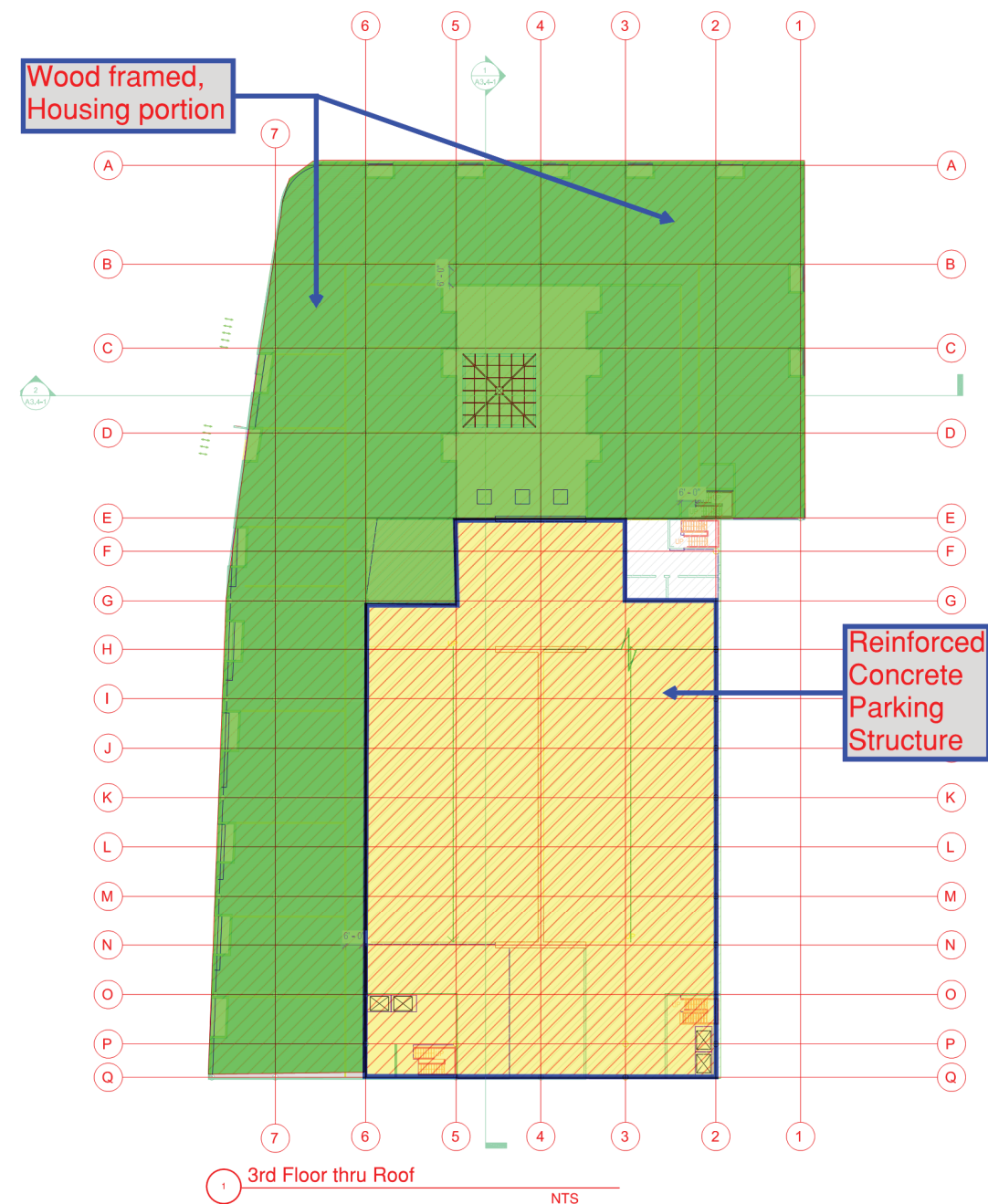
A. Ground Floor Library & Parking



B. Second Floor - Housing & Parking



C. Third Floor Through Roof - Housing & Parking



5. Fair Share Distribution of Construction Costs

Mixed-use building type with the proposed building height requires podium construction at the ground floor to accommodate commercial and parking spaces. The addition of library space does not change or impact this requirement. Regardless of the ground floor library occupancy, the building's structural system would have been similar. The only changes are related to the large open spaces the library may require; these open spaces will require special floor framing layout. The costs associated with the special floor framing layout should be included in library costs.

6. Other Design Parameters

6.1 Vibrations

Vibration due to typical walking footfalls, vehicle movements, fitness and dance rooms will be considered in the design of the floor systems.

MECHANICAL/PLUMBING NARRATIVE

Codes & standards

Codes

- 2019 T-24 Part 2 California Building Code
- 2019 T-24 Part 3 California Electrical Code
- 2019 T-24 Part 4 California Mechanical Code
- 2019 T-24 Part 5 California Plumbing Code
- 2019 T-24 Part 6 California Energy Code
- 2019 T-24 Part 9 California Fire Code
- 2019 T-24 Part 11 California Green Building Standards Code (CALGreen)
- County & City amendments to state codes above

Standards

- AHRI 310/380 - Packaged Terminal Air-Conditioners and Heat Pumps; 2014
- AHRI 340/360 - Performance Rating of Commercial and Industrial Unitary Air-Conditioning and Heat Pump Equipment; 2011
- AHRI 550/590 (I-P) - Performance Rating of Water-Chilling and Heat Pump Water-Heating Packages Using the Vapor Compression Cycle; 2015
- ASHRAE (HVACA) - ASHRAE Handbook - HVAC Applications; 2015
- ASHRAE Std 55 - Thermal Environmental Conditions for Human Occupancy; 2017
- ASHRAE Std 62.1 - Ventilation for Acceptable Indoor Air Quality; 2016
- SMACNA (DCS) - HVAC Duct Construction Standards Metal and Flexible; 2005 (Rev. 2009)
- NFPA 13 - Standard for the Installation of Sprinkler Systems; 2019

HVAC

Load Calculations

Outdoor Design Conditions

The project will use the highest summer and lowest temperatures from the 2019 CEC Joint Appendices allowed by the energy code, which are:

City	Latitude	Elevation (ft)	Longitude	Cooling				Heating										
				DB	MCWB	DB	MCWB	DB	MCWB	Design Wetbulb	Design Drybulb	Design Drybulb	HDD*					
Santa Cruz	37	125	122	94	68	88	66	86	66	81	64	69	67	28	27	32	35	3136

these figures do not
use of how the daytime

Figure 1 - Santa Cruz Weather Data Based on ASHRAE Weather Data

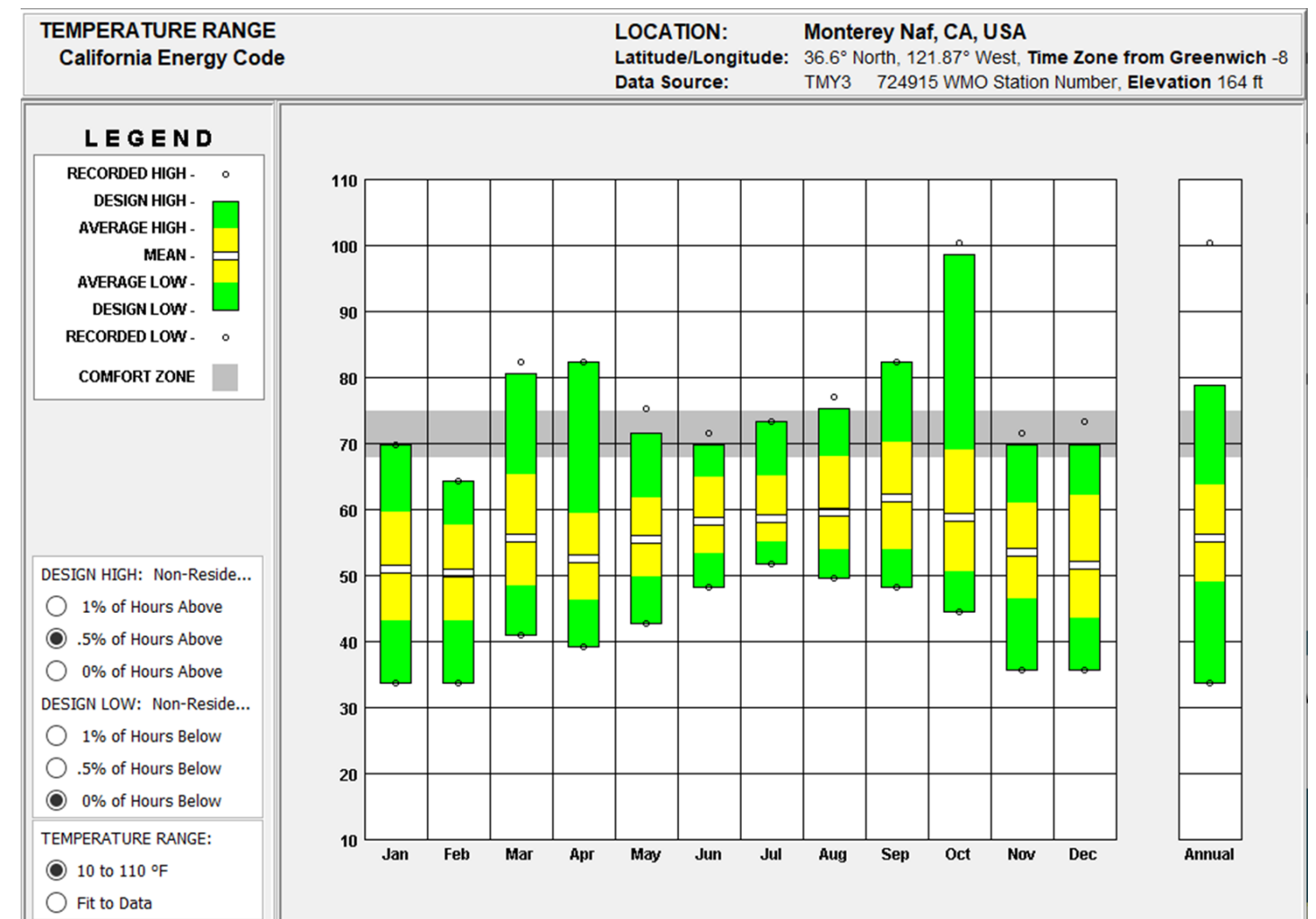


Figure 2 - Outside Air Temperature Historical Range by Month (Monterey)

MECHANICAL/PLUMBING NARRATIVE



Indoor Design Conditions

We will be designing the HVAC system around the following assumptions for indoor setpoints that the HVAC system(s) will target.

Space	System Type	Ceiling Fans?	Summer (°F)	Winter (°F)	Humidity %
Community room	Concealed overhead VRF	Yes	75	70	N/A
Adult area + market place + children area	Cassette unit	No	75	70	N/A
Office + library+Staff	Mixed air - overhead	No	75	70	N/A
Restrooms	Mixed air - overhead	No	78	68	N/A
Electrical Rooms	Exhaust Only	No	N/A	N/A	N/A
IT Rooms	Wall mounted fancoil	No	75	75	N/A

N/A = Not controlled or monitored

Interior Load Assumptions

- People – 250 BTU/h Sensible + 250 BTU/hr Latent for all spaces
- Ventilation rates per 2019 CMC Table 422.1 and/or ASHRAE 62.1-2007
- Lights currently assumed to be 0.7W/ft²
- Plug loads – 0.25 W/ft²

Space	Occupancy (ft ² /person)	Ventilation (CFM/person)	People Sensible/Latent (BTU/ft ²)	Lighting (W/ft ²)	Cfm\sqft
Community room	150	7.5	250/250	0.7	0.06
Adult area + market place + children area	100	5	250/250	0.7	0.06
Office + library+ Staff area	100	5	250/250	0.7	0.12

Load Calculation Methodology

This project will utilize Trane Trace 700, Elite CHVAC or other industry recognized load calculation computer software to calculate both the heating and cooling peaks for use in sizing the respective heating and cooling equipment described in this narrative.

Safety Factors

While the California Energy Code allows designers to provide up to 32% increased cooling capacity and 43% increased heating capacity in the form of safety factors and pull-down/warm-up capacities, we find this using too generous safety factors yields oversized equipment that wastes client's upfront capital, shortens equipment life, reduces project HVAC efficiency and can often reduce thermal comfort. For these reasons, we are assuming more realistic safety factors of 15% on cooling and 20% on heating system sizing calculations.

Equipment & Systems

Heating

All the occupiable areas will be heated through VRF heat pumps mounted on the upper level of the garage where shown on plans. The VRF system will use concealed air-handlers for the larger common areas, while the office areas will use cassette fancoil units. The restrooms will be passively heated by drawing conditioned makeup air from adjacent common areas and not supplied directly with hot supply air.

Cooling

All the occupiable areas will be cooled through VRF heat pumps mounted on the upper level of the garage where shown on plans. The VRF system will use concealed air-handlers for the larger common areas, while the office areas will use cassette fancoil units. The restrooms will be passively cooled by drawing conditioned makeup air from adjacent common areas and not supplied directly with cold supply air.

Ventilation

Ventilation will be provided from either the outside air fan or VRF ductable fan coils as a fixed air ratio from a various designated wall louver marked on floor plans. Outside air intakes would be taken through the back side of the building wall, 10 Ft away from any exhaust outlets.

Ceiling Fans

The addition of ceiling fans strategically throughout the project has the potential to save energy and first costs by extending the comfort range during the building's summer natural ventilation mode and save annual energy usage the upper end of comfort for indoor occupants. The cooling effect varies from project to project but in general ceiling fans will typically provide 3-5°F of "apparent cooling" on a project.



Figure 3 - Daikin VRV-IV Heat Pump Unit

Equipment Schedules (C-Option)

While not inclusive of all HVAC equipment for the project, this list summarizes in greater detail the major HVAC equipment for the project.

Name	QTY	Size	Notes
VRF outdoor Unit	2	32/34 Tons	Daikin
CASSETTE Unit	12	1 & 3 ton	Daikin
VRF fan coil Units ductable	8	2, 3, 6 & 8 ton	Daikin
Restroom exhaust fans	1	300 CFM	Greenheck exhaust fans.
Make up air fans	2	2765/2850 CFM	Greenheck Make up air fans.

Equipment Schedules (D-Option)

While not inclusive of all HVAC equipment for the project, this list summarizes in greater detail the major HVAC equipment for the project.

Name	QTY	Size	Notes
VRF outdoor Unit	2	34 Tons	Daikin
CASSETTE Unit	9	1 & 3 ton	Daikin
VRF fan coil Units ductable	9	2, 3 & 8 ton	Daikin
Restroom exhaust fans	3	100 CFM	Greenheck exhaust fans.
Make up air fans	2	2765/2850 CFM	Greenheck Make up air fans.

MECHANICAL/PLUMBING NARRATIVE

Plumbing

Fixture Water Efficiency

- Lavatories: 0.5 GPM
- Water closets: 1.28 GPF Flushometer
- Urinals: 0.125 GPF
- Bar sinks: 1.5 GPM
- Kitchen sinks: 1.8 GPM
- Showerheads (if any) 1.8 GPM

Domestic Cold Water

Provide a 2" water main from the municipal water mains to Restrooms, Hose bibs etc. A BackFlow Preventer (BFP) shall be in an accessible outdoor location on the site. All above grade indoor water piping shall be type L copper and below grade, piping shall be type K with a double wrap of PE take for corrosion protection. All fittings shall be either brazed, soldered or threaded connections. If a connection for irrigation is required from the building water main, the connection shall be protected with its own dedicated irrigation line BFP device.



Domestic Hot Water (Heat Pump Hot Water)

Provide Heat pump hot water heater (A. O Smith, Model: CHP 120) which will be mounted within a well ventilated room on the Roof. Provide the room with a louvered wall for adequate ventilation. Provide a 2" Cold water riser, 1-1/2" Hot water riser and 1" Hot water return riser from the roof up to the Restrooms on the first floor. All piping downstream of water heater shall be insulated to minimum 1.5" insulation thickness and any piping exposed to outdoors shall be shielded with an aluminium insulation shield with removable boots over fittings.



Domestic Hot Water (Plumbing Alt 1)

Provide Tankless hubbell hot water heater mounted below the lavatories/ Sinks. The water heater shall service lavatories, Mop Sinks, Hand Sinks and any other fixtures identified as needing hot water. All piping downstream of water heater shall be insulated to minimum 1.5" insulation thickness and any piping exposed to outdoors shall be shielded with an aluminum insulation shield with removable boots over fittings.

Condensate

Provide type L from the following fixtures to a CPC approved indirect waste connection with airgap to the building sanitary sewer line.

- 1" cooling coil condensate connection from Indoor units
- 3/4" cooling condensate from each of the fan coils in the ceiling of the classrooms and other spaces.
- 3/4" domestic hot water heater condensate with condensate neutralizer kit installed inline before the indirect connection is made
- 3/4" condensate drain pan from ASHP

Sanitary Sewer & Venting

Provide American made cast iron sewer and vent piping throughout building in compliance with the 2019 CPC for all devices requiring sanitary sewer connections. All lines shall gravity drain to the municipal sewer main at the street at 1/4" per 1' slope unless noted otherwise on drawings.

Storm

Provide American made cast iron storm drain connection to roof drains and overflow connections shown on roof plans. With the current roof configurations, most rooftop storm runoff is expected to be collected via roof gutters and external sheet metal rain water leaders but any in structure or underground storm collection will be made using hubless cast iron piping.

Sanitary Sewer & Venting

Provide American made cast iron sewer and vent piping throughout building in compliance with the 2016 CPC for all devices requiring sanitary sewer connections. All lines shall gravity drain to the municipal sewer main at the street at 1/4" per 1' slope unless noted otherwise on drawings.

Natural Gas

Currently the assumption is that all heating for buildings, hot water and kitchen appliances will be without the use of fossil fuels in compliance with Santa Cruz Ordinance 2020-06.

ELECTRICAL SYSTEMS NARRATIVE



Project Overview

Project Description

Item	Description
Building Type	Single Story Library, with Housing and Parking Above
Floors	Six (one floor library with five floors of housing above)
Floor Area	33,606 SF (Option C) 32,312 SF (Option D)
Construction Type	New Construction
Location	Santa Cruz, CA

Project Goals

Safety

A safe electrical system shall be the highest priority in the building. All systems installed shall meet or exceed all code requirements to ensure a safe working environment for all building occupants. All systems shall be properly installed, grounded/bonded, and tested to the strictest standards.

Flexibility

The electrical system shall also be flexible and shall allow for the building occupants to utilize their space effectively without the use of make-shift workarounds, excessive use of plug strips or extension cords, or sub-optimal furniture arrangements that may result from inconvenient or hard to reach electrical outlets. The system shall be flexible enough to accommodate current and future needs without major changes to the electrical system.

Efficiency

The building shall utilize electricity throughout the Mechanical, Lighting, Plumbing, Architectural, and Owner provided systems. As such, maximizing the efficiency of the electrical system will be critical to achieving maximum energy savings within the building.

Sustainability

The electrical and lighting systems shall be designed using sustainable design principles with the goal of providing an enhanced environment for its users, minimizing energy consumption, minimizing the emission of global warming causing greenhouse gasses, being resource efficient, and minimizing the introduction of toxic materials into the environment.

All-Electric

To reduce the overall carbon footprint of the building, all systems shall be run off electricity, and no natural gas appliances shall be utilized. A larger electrical service may result, however the elimination of a gas distribution system is expected to offset this cost.

Energy Production

The building shall be provided with infrastructure as required to support a future PV system, including conduits to the roof and space for disconnect switches and inverters.

Comparison to Other Options

Apples-to-Apples Comparison: Note that the base items noted herein have been included to best compare this new building scheme to the previous reuse/renovation scheme developed by Jayson Architecture. Additional add-alternates have been identified which we recommend for additional functionality, better aesthetics, ease of maintenance, or as required for code compliance. The add alternates shall all be provided as separate line items within the cost estimate for further consideration by the Owner. Add-alternates have been identified throughout this document in red.

Scope Summary

The following items shall be included as part of the scope of this project. Refer to individual sections for more detailed information and system requirements.

Building System	Description
Power Distribution	Base: 800A, 208V, 3-phase, 4-wire electrical service. Distribution panels, branch panels, circuit breakers, feeders, and branch circuitry. Add-Alternate: 1,600A, 208V, 3-phase, 4-wire electrical service.
Backup Power	Integral battery packs to provide emergency power to lighting only. No other backup power anticipated to be required for library.
Receptacle Controls	Controlled receptacles connected to room lighting controls in office, office support, and meeting spaces as required by code and other locations indicated.
Lighting	High-efficiency LED lighting throughout
Lighting Controls	Base Interior: Networked controls, including dimming switches, photocells, occupancy sensors, and time clocks. Exterior: Networked controls, including astronomic time clocks, occupancy sensors, and photocells
Tele/Data	Telephone and Data inactive equipment and distribution system.
Audio/Visual (A/V)	Base: None Add-Alternate: A/V system for community room, including flat panel display and/or projector, controls, sound system, video and audio inputs/outputs, and integration with other systems.
Security	Base: None Add-alternate: Intrusion detection, card access, and camera system
Fire Alarm (FA)	Fully automatic, addressable fire alarm system with voice evacuation capabilities.
Renewable Energy Systems	Solar-ready only.

ELECTRICAL SYSTEMS NARRATIVE



Design Criteria

Codes and Standards

This project shall comply with the most current version of all state and local codes, including, but not limited to, those noted below. This project shall not be considered a code-minimum job and shall exceed the requirements of the code where required as part of this document.

Codes:

- California Building Code (CBC)
- California Electrical Code (CEC)
- California Mechanical Code (CMC)
- California Plumbing Code (CPC)
- California Energy Code (CEnc)
- California Fire Code (CFC)
- California Green Code (CGC)
- California Referenced Standards Code
- Local Santa Cruz Amendments to California Codes
- NFPA 72 National Fire Alarm Code
- NFPA 110 Standards for Emergency and Standby Power Systems
- ADA Standards for Accessible Design - Code of Regulations (Including Amendments)
- State of California Public Utilities Commission (CPUC)
- Occupational Safety and Health Administration (OSHA)

Standards:

- American National Standards Institute (ANSI)
- American Society for Testing and Materials (ASTM)
- Association of Edison Illuminating Companies (AEIC)
- Certified Ballast Manufacturers (CBM)
- Electrical Testing Laboratories (ETL)
- Electronic Industries Association (EIA)
- Illuminating Engineering Society of North America (IESNA)
- Institute of Electrical and Electronics Engineers (IEEE)
- Insulated Power Cable Engineers Association (IPCEA)
- National Electrical Manufacturers Association (NEMA)
- International Electrical Testing Association (NETA)
- National Fire Protection Association (NFPA)
- Underwriters' Laboratories (UL)

Load Calculations and Assumptions

Loads shall be calculated based on the requirements outlined in CEC Article 220. All relevant demand factors and spare capacity shall be included in the service sizing. In addition to code required loads, the following information shall be used for owner equipment and requirements. Equipment or spaces not noted below shall have a minimum load agreed upon by Owner and Engineer prior to finalizing service sizing.

Equipment or Space Type	Load Requirements
MDF Rooms	10,000 VA Each
Mechanical Equipment	8 VA / SF
Receptacles	3 VA / SF
Spare Ampacity	20% Additional future capacity
Spare Circuits	20% Space for future breakers at each panelboard

Light Levels

Light levels in all interior and exterior spaces shall be as recommended by the IESNA, unless otherwise noted. Where light levels proposed are less than those recommended by the IESNA, written approval shall be obtained from the Owner and Engineer prior to finalization of lighting layout.

Electrical Systems

Site Infrastructure

Provide (2) 5" primary conduit per utility company requirements from utility point of connection at the street to new underground transformer vault location adjacent to the building. Provide a new sun-surface transformer vault per utility company requirements in a location agreed upon by the Architect and Utility. Provide (5) 5" secondary conduit from utility transformer to new main switchboard location on the first floor of the building.

Utility Service

Due to the size of the building and the library, residential units, and garage loads, separate utility services are anticipated to be required for the library and for the residential and parking garage portion of the building. The additional service provided by the residential portion of the project shall be provided independently of the library and shall have no cost impact for the library. No portion of the garage or residential areas shall be fed from the library electrical service equipment.

A “special services” fee is anticipated to be required for the additional utility service, and we anticipate that this fee would be split equally between the library and residential project budgets.

The utility service provider shall be PG&E, and all equipment shall be installed per PG&E Greenbook requirements. A new 208Y/120V, 3-phase, 4-wire utility service shall be provided. All primary and secondary wiring shall be provided by the utility.

Power Distribution

Provide a new main switchboard in the main electrical room on the first floor of the building. A new pull section, meter/main circuit breaker section, and distribution section(s) (quantity as required) shall be provided. Provide meter socket per utility requirements and provide (1) 2” conduit from switchboard to exterior of building and (1) 2” conduit from switchboard to MPOE as required for remote meter reading per utility company requirements. Refer to equipment list below for switchboard size.

Provide quantity of circuits, distribution panels, and panelboards as required to feed all lighting, receptacles, architectural equipment, mechanical equipment, plumbing equipment, and other miscellaneous devices required for the functioning of the building. Refer to equipment list below for sizes and quantities of panels required. Loads shall be separated by category onto separate panels based on the following categories. Dedicated panels may contain loads of a different type, provided they do not exceed 10% of the total load on the panel.

Load Type	Requirements
Lighting	All interior and exterior lighting loads and lighting controls
HVAC Systems	All HVAC equipment
Domestic Water	All pumps, water heaters, and water treatment equipment
Receptacles and Appliances ≤ 25 kVA	All general purpose and miscellaneous receptacle loads, separated by area (5,000sf maximum) or floor
IT Equipment	All IDF and MDF room receptacles
Loads ≥ 25 kVA	Each load shall be capable of being monitored individually

Provide Ground Fault Circuit Interrupter (GFCI) protection for all receptacles provided for bathrooms, exterior locations, kitchenettes, or where installed within 6’-0” of water sources.

Where devices are duplex or quad outlets, all GFCI receptacles shall be provided with integral test/reset buttons. Where devices are special NEMA type, provide GFCI circuit breaker and provide label at receptacle indicating that the device is protected by a GFCI circuit breaker. Feed-thru devices shall not be used.

A floor box with power devices shall be placed in open areas, minimum (1) per column bay to match the reuse/renovation scheme. Convenience receptacles shall be placed throughout.

Refer to floor plans for base requirements for power layout.

Refer to table below for add-alternate requirements for each space. These requirements shall be in addition to the items shown on the plans. Unless otherwise noted, dedicated circuits indicated below shall be 20A/1P.

Space Type	Add-Alternate Requirements
Meeting Rooms	(1) duplex USB receptacle every 12’ along perimeter wall to allow for no point along the wall to be more than 6’-0” from a receptacle, approximately (2) additional locations each meeting room (CEC 210.71)
Staff Areas	(1) additional duplex receptacle every 25’ along perimeter wall
Community Room	(1) duplex receptacle every 12’ along perimeter wall to allow for no point along the wall to be more than 6’-0” from a receptacle, approximately (15) additional locations (CEC 210.71)
Youth Services	(1) additional duplex USB receptacle every 25’ along perimeter wall (4) additional floor boxes with quad USB receptacles under desks/seating areas
Marketplace	(1) additional duplex receptacle every 25’ along perimeter wall
Children’s Area	(1) additional duplex receptacle every 25’ along perimeter wall Receptacles to be tamper resistant type
Storytime	No additional receptacles Receptacles to be tamper resistant type
Adult Life	(1) duplex USB receptacle every 12’ along perimeter wall to allow for no point along the wall to be more than 6’-0” from a receptacle, approximately (6) additional locations (CEC 210.71)
Adult Services	(1) additional duplex receptacle every 25’ along perimeter wall (6) additional floor boxes with quad USB receptacles under desks/seating areas
Genealogy	No additional receptacles
Hallways	No additional receptacles
Sort (Option C Only)	No additional receptacles
Storage and Support Spaces (Option D Only)	No additional receptacles
Teen (Option D Only)	No additional receptacles Receptacles shown on plans shall be USB type

ELECTRICAL SYSTEMS NARRATIVE



Back Power

Provide UL listed emergency lighting battery packs in select fixtures throughout the library. Battery packs shall allow the fixtures to be controlled with the room lighting during normal power operations and shall automatically illuminate the fixture upon loss of normal power. Battery packs shall provide emergency lighting for a minimum of 90 minutes. A dedicated “traveler” wire shall be provided from the battery pack back to an unswitched portion of the circuit such that the fixture can sense loss of normal power.

Approximately 1 in every 4 fixtures shall be provided with an emergency battery pack, or a minimum of (1) fixture in each room.

Plug Load Controls

Controlled receptacles shall be provided for all office workstations, private offices, conference rooms, break rooms, kitchenettes, and other office support spaces as required by Title 24. In those areas, duplex receptacles shall be provided as half-switched type receptacles, with the top half being unswitched and the bottom half being controlled with the room lighting such that when the local occupancy sensor detects no motion the receptacle turns off. All controlled receptacles shall be properly labeled in a permanent manner by the receptacle manufacturer and shall clearly indicate which receptacle turns off with the room lighting.

Receptacles in furniture systems shall be coordinated with the furniture vendor to ensure that each workstation is provided with both controlled and uncontrolled sets of receptacles.

Switchgear

All switchboard sections shall be free-standing, front-accessible, sectional type. Sections shall be mounted on a 6” high concrete housekeeping pad that shall extend a minimum of 6” beyond the footprint of the switchgear.

Main circuit breakers shall be electronic, adjustable trip type. Branch breakers shall be molded case type. Each section shall have full-height, tin-plated copper bussing to allow for addition of future breakers in unused spaces.

Service entrance equipment shall meet all requirements of the local utility, including, but not limited to, all requirements for low voltage telecom connections, metering, and termination of service conductors.

Panelboards and Distribution Panels

All distribution panels and panelboards shall have full-height, tin-plated copper bussing and shall be door-in-door type to allow servicing of equipment without needing to remove panelboard cover. Doors shall have full-height piano hinge and shall be lockable. All panels shall be provided with a Main Circuit Breaker (MCB). Main Lug Only (MLO) panels shall not be permitted except when wiring between sections of multi-section panels.

Surge Protective Devices (SPDs) shall be provided on each panelboard that serves computer loads.

Branch circuit panelboards shall have a maximum of 42 circuits, unless otherwise noted. MCB shall be located at either the top or bottom of the panel, based on conduit routing requirements and Contractor’s convenience for installation. All breakers shall be thermal/magnetic, molded case type, unless otherwise noted.

Equipment Connections

Provide connections to all mechanical, electrical, plumbing, architectural, and owner equipment as required for a fully functioning system. Refer to other disciplines’ documents for additional information. General equipment connections shall be as follows, refer to specific equipment requirements for deviations from this list.

Lighting	208Y/120V, 3 phase, 4 wire, 60 hertz Maximum of 1,600 VA per 20A/1P circuit
HVAC Systems	1HP and Larger: 208Y/120V, 3 phase, 4 wire, 60 hertz 3/4HP and Smaller: 120V, 1 phase, 2 wire, 60 hertz
Domestic Water	1HP and Larger: 208Y/120V, 3 phase, 4 wire, 60 hertz 3/4HP and Smaller: 120V, 1 phase, 2 wire, 60 hertz
Receptacles and Appliances ≤ 25 kVA	120V, 1 phase, 2 wire, 60 hertz Maximum of (6) duplex receptacles per 20A/1P circuit Maximum of 1,600 VA per 20A/1P circuit
IT Equipment	208Y/120V, 3 phase, 4 wire, 60 hertz for UPS connections 120V, 1 phase, 2 wire, 60 hertz for receptacles
Loads ≥ 25 kVA	208Y/120V, 3 phase, 4 wire, 60 hertz

Equipment Type	Requirements
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Raceways

Galvanized Rigid Conduit (GRC) shall be used in utility spaces when exposed. Vinyl-wrapped GRC shall be used for elbows below grade.

Electrical Metallic Tubing (EMT) shall be used for interior concealed work.

Flexible Metallic Conduit (FMC) shall be used for connections to motor loads, or for final connections to light fixtures in lengths less than 6’-0”

Liquid-tight Flexible Metallic Conduit (LFMC) shall be used for connections to pumps or motor loads located in exterior locations or locations subject to incidental contact with water.

Metal-Clad (MC) Cable shall be used for branch circuitry concealed above ceiling.

Polyvinyl Chloride (PVC) or High Density Polyethylene (HDPE) conduit shall be used below grade.

Devices



Color: Shall be as directed by architect in finished spaces and shall be galvanized steel with beveled edges in unfinished spaces.

Form Factor: All devices shall be Decora-style.

Receptacles: Duplex receptacles shall be rated for 20A and shall be commercial grade. Special receptacles with NEMA designations matching their power requirements shall be provided for connection to equipment where required.

Half-switched Receptacles: Provide receptacles with permanent markings indicating which half of the receptacle is controlled.

USB Receptacles: Provide duplex receptacle with (2) integral USB charging ports.

GFCI receptacles: Provide duplex receptacle with integral GFCI protection device

Figure 1 - Half-switched receptacle (left), USB and test/reset switches. receptacle (right)

Wiring

Wire shall be installed in conduit throughout, unless otherwise noted. THHN/THWN insulation shall be provided on wiring #8 AWG and smaller. XHHW insulation shall be provided on wiring #6 AWG and larger.

Lighting Systems

Light Fixtures

All lighting shall be high-efficiency LED with 3500K color temperature. See equipment list below and attached cutsheet package for fixture types.

Refer to plans for fixture locations and types.

As an add-alternate, several areas shall have alternative light fixtures. Refer to table below for add alternate light fixtures.

Meeting Rooms	(1) Type K pendant over table
Staff Areas	No alternate fixture
Community Room	Type M recessed fixtures, similar lengths to the Type A fixtures shown on the plan
Youth Services	No alternate fixture
Marketplace	No alternate fixture
Children's Area	Above seating/reading area provide: (8) 2' Diameter Type L pendant (6) 2' Diameter Type L pendant (4) 4' Diameter Type L pendant Provide equal quantities of un-illuminated versions of the above diameters and provide acoustically treated panels with various premium colors Above stacks provide: No alternate fixture, provide base fixtures only
Storytime	(11) Type O fixtures RGBW controller for color changing of the upright component of the fixture
Adult Life	No alternate fixture
Adult Services	No alternate fixture
Genealogy	No alternate fixture
Hallways	No alternate fixture
Sort (Option C Only)	No alternate fixture
Storage and Support Spaces (Option D Only)	No alternate fixture
Teen (Option D Only)	No alternate fixture

ELECTRICAL SYSTEMS NARRATIVE



Lighting Controls

The lighting controls shall be fully networked together, and the head-end equipment shall be tied into the building data network.

A Lighting Control Panel (LCP) shall be provided to control common area lighting and exterior lighting. The LCP shall be provided with an integral astronomic time clock to allow for scheduling of the lighting to turn on and off. All common area lights shall be provided with occupancy sensors to allow for after-hours usage of the space, and manual controls shall allow staff members to easily override the lighting as needed.

The lighting controls system shall consist of occupancy sensors, photocells, astronomic timeclocks, and dimmer switches as noted in the table below. Photocells shall be provided for all areas adjacent to windows or that contain skylights.

The basis of design shall be Wattstopper DLM.

Refer to table below for lighting control requirements in each space.

Meeting Rooms	(1) Dimmer switch at each entry door (1) dual-technology occupancy sensor for every 600sf (approx.. (2) sensors)
Staff Areas	(1) Dimmer switch at each entry door (1) dual-technology occupancy sensor for every 600sf (approx. (6) sensors)
Community Room	(1) Dimmer switch at each entry door Photocells at perimeter (1) dual-technology occupancy sensor for every 600sf (approx.. (3) sensors)
Youth Services	Dimmer switches at staff-accessible location Connected to lighting control panel for timeclock controls Photocells at perimeter (1) dual-technology occupancy sensor for every 600sf for after-hours control (approx.. (5) sensors)
Marketplace	Dimmer switches at staff-accessible location Connected to lighting control panel for timeclock controls Photocells at perimeter (1) dual-technology occupancy sensor for every 600sf for after-hours control (approx.. (3) sensors)
Children's Area	Dimmer switches at staff-accessible location Connected to lighting control panel for timeclock controls Photocells at perimeter (1) dual-technology occupancy sensor for every 600sf for after-hours control (approx. (7) sensors)
Storytime	(1) Dimmer switch at each entry door Photocells at perimeter

	(1) dual-technology occupancy sensor for every 600sf (approx. (2) sensors)
Adult Life	(1) Dimmer switch at each entry door Photocells at perimeter (1) dual-technology occupancy sensor for every 600sf for after-hours control (approx. (1) sensor)
Adult Services	Dimmer switches at staff-accessible location Connected to lighting control panel for timeclock controls Photocells at perimeter (1) dual-technology occupancy sensor for every 600sf for after-hours control (approx. (23) sensors)
Genealogy	(1) Dimmer switch at each entry door Photocells at perimeter (1) dual-technology occupancy sensor for every 600sf (approx. (2) sensors)
Hallways	(1) Dimmer switch at each entry door Light fixtures with integral occupancy sensors
Sort (Option C Only)	(1) Dimmer switch at each entry door (1) dual-technology occupancy sensor for every 600sf (approx. (2) sensors)
Storage and Support Spaces (Option D Only)	(1) Dimmer switch at each entry door (1) ultrasonic occupancy sensor for every 600sf (approx. (1) sensor in each space)
Teen (Option D Only)	(1) Dimmer switch at each entry door (1) dual-technology occupancy sensor for every 600sf (approx. (2) sensors)

Emergency Lighting

See backup power section above.

Systems Integration

The controls shall be capable of accepting a Demand Response (DR) signal from the utility to automatically dim the lights to a pre-determined level, and shall be capable of integrating with the building BMS system to allow for shared scheduling of lighting and HVAC systems

Site Infrastructure

Provide (2) 4" conduits from joint trench point of connection 5' outside the building footprint and stub them up in the main telecom room at the MPOE location. Provide site pull boxes per utility provider's requirements. Provide an 8' x 4' x 3/4" sheet of fire treated plywood for mounting of utility equipment. Provide grounding busbar for bonding of all telecommunications device equipment and bond per utility company and manufacturer requirements.

Tele/Data

Telephone and data devices shall be provided throughout as shown in attached floor plans. All data and telephone cables and jacks shall be Category 6 rated, shall be capable of gigabit speeds, and shall support PoE functionality. All wiring shall terminate at rack mounted patch panels.

Two 2-post, floor mounted, 7' high x 2' wide IT racks shall be provided in the main telecom room to house all patch panels, switches, and miscellaneous equipment as required. Power devices shall be mounted on top of the IT racks.

Refer to table below for add-alternate requirements for each space.

Meeting Rooms	(1) additional data drop at flat screen TV or projector location in each space (1) additional ceiling mounted data port for connection to Wireless Access Points (WAPs) in each space
Staff Areas	(1) additional ceiling mounted data port for connection to WAPs for every 1000sf (approx. (3) ports)
Community Room	(1) additional data drop at flat screen TV or projector location (1) additional ceiling mounted data port for connection to WAPs for every 1000sf (approx. (2) ports)
Youth Services	(1) additional ceiling mounted data port for connection to WAPs for every 1000sf (approx. (3) ports)
Marketplace	(1) additional ceiling mounted data port for connection to WAPs for every 1000sf (approx. (3) ports)
Children's Area	(1) additional ceiling mounted data port for connection to WAPs for every 1000sf (approx. (6) ports)
Storytime	(1) additional ceiling mounted data port for connection to WAPs for every 1000sf (approx. (1) port)
Adult Life	(1) additional ceiling mounted data port for connection to WAPs for every 1000sf (approx. (1) port)
Adult Services	(1) additional ceiling mounted data port for connection to WAPs for every 1000sf (approx. (13) ports)
Genealogy	(1) additional ceiling mounted data port for connection to WAPs for every 1000sf (approx. (1) port)
Hallways	No additional tele/data ports
Sort (Option C Only)	(1) additional ceiling mounted data port for connection to WAPs for every 1000sf (approx. (1) port)
Storage and Support Spaces (Option D Only)	No additional tele/data ports
Teen (Option D Only)	(1) additional ceiling mounted data port for connection to WAPs for every 1000sf (approx. (1) port)

Local Audio/Visual (AV) Systems

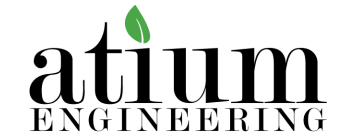
As part of the base bid, no AV system shall be provided for any library spaces in order match the reuse/renovation scheme.

As part of the add-alternate, selected spaces shall be provided with complete local audio/visual systems, including ceiling speakers and multiple selectable AV inputs. The systems in these spaces shall be dedicated to that space and shall not be interconnected with any other spaces.

In small spaces, a wireless collaboration device shall be provided. The device shall mount behind the flat panel display within the space and shall allow occupants to wirelessly connect to the device to display the contents of their computer without having to physically connect cables or worry about selecting the correct input.

Meeting Rooms	(1) Wireless collaboration gateway device behind each flat panel display
Staff Areas	No additional AV devices
Community Room	(4) HDMI connections at various locations (wall and floor) for connection of laptop or computers (2) Microphone input locations (6) Ceiling speakers HDMI output connections for a projector and flat panel displays AV Switcher to allow for input switching AV Streaming device to allow for streaming meetings and presentations to the internet Wall control station to allow for input selection, volume control, etc. Assistive Listening System (ALS)
Youth Services	No additional AV devices
Marketplace	No additional AV devices
Children's Area	No additional AV devices
Storytime	(1) Wireless collaboration gateway device behind each flat panel display
Adult Life	(1) Wireless collaboration gateway device behind each flat panel display
Adult Services	No additional AV devices
Genealogy	No additional AV devices
Hallways	No additional AV devices
Sort (Option C Only)	No additional AV devices
Kitchen (Option D Only)	No additional AV devices
Storage and Support Spaces (Option D Only)	No additional AV devices
Teen (Option D Only)	(1) Wireless collaboration gateway device behind each flat panel display

ELECTRICAL SYSTEMS NARRATIVE



Security

As part of the base bid, no security system shall be provided for any library spaces in order match the reuse/renovation scheme.

As part of the add-alternate, provide 3/4" conduit and pull string from each exterior door back to IDF for connection of door alarm contacts, card readers, electronic strikes, and request to exit devices. Provide 3/4" conduit and pull string from motion detectors in the main library spaces and each space with windows or access to the exterior back to IDF. Provide 3/4" conduit and pull string from camera locations around the entry areas and at the exterior near doors. Provide back boxes for each device and intermediate pull boxes as required.

Wiring, devices, and head-end equipment shall be provided by the owner's security system vendor.

Fire Alarm

Provide a fully automatic, addressable fire alarm system throughout the space. Provide smoke detectors and notification devices throughout all areas of the library. Notification devices shall be speakers, strobes, and speaker/strobes. Voice evacuation capabilities shall be provided and a microphone station shall be provided in a staff accessible location for making emergency announcements. Provide addressable monitor modules for all fire sprinkler components. Provide dedicated telephone lines to main fire alarm panel for automatic dialer.

Fire Alarm Control Panel (FACP) shall be a black, semi-recessed cabinet mounted near the circulation desk.

Renewable Energy Systems

Photovoltaics

Infrastructure shall be provided to support a future rooftop PV system. Provide (2) 3" conduits stubbed up to the roof from the main electrical panel for future wiring. Provide weatherproof cap at roof for each conduit.

Equipment Type	Manufacturer
Switchboard	SquareD QED series or approved equal
Distribution Panels	SquareD I-Line or approved equal
Panelboards	SquareD I-Line or approved equal
Receptacles	Leviton Commercial Grade or approved equal
Wiring	Southwire or approved equal
Plug Load Controls	Base: Wattstopper DLM Receptacle Room Controller Add-alternate: Lutron Ecosystem Plug Load Controller

Provide distribution equipment in quantities and types as noted below.

(1)	800A	208Y/120V	Base: MSB - Main Switchboard with utility meter socket
(1)	1,600A	208Y/120V	Add-alternate: MSB - Main Switchboard with utility meter socket
(1)	800A	208Y/120V	Add-alternate: DPM1 - Distribution Panel – Mechanical
(1)	400A	208Y/120V	M1 - 42 Circuit Panelboard – Mechanical
(1)	225A	208Y/120V	L1 - 42 Circuit Panelboard – Lighting
(3)	225A	208Y/120V	R1, R2, R3 - 84 Circuit Panelboard – Receptacles
(1)	125A	208Y/120V	P1 - 42 Circuit Panelboard – Plumbing
(1)	125A	208Y/120V	T1 - 42 Circuit Panelboard – IT

Lighting Equipment

Equipment Type	Manufacturer
Headend Equipment	Base: Wattstopper DLM
Switches	Wattstopper DLM Dimming Wall Switch: LMDM-101 Scene Switch: LMSW-105 Leviton 20A On/Off Toggle Switch
Sensors	Wattstopper DLM Dual Technology Occ Sensors Ceiling Mount: LMDC-100 Wall Mount: LMDX-100 Wattstopper DLM Ultrasonic Occ Sensors Ceiling Mount: LMUC-100 Wattstopper DLM Photocells Multi-zone: LMLS-500
Lighting Control Panel	Wattstopper LI Panel with LMCP interior
Fixtures	Refer to cutsheet package for fixture types

Low Voltage Equipment

Tele/Data	<p>Wiring: Berk-Tek Leviton CX6150 Category 6 cable or approved equal</p> <p>Jacks: Leviton eXtreme Category 6 or approved equal</p> <p>Patch Panels: Leviton QuickPort Category 6 patch panels or approved equal</p> <p>IT Cabinet: Chatsworth or approved equal</p>
Fire Alarm	<p>Notifier NFS2-3030 with DVC or approved equal</p>
Audio/Visual	<p>A/V Equipment Manufacturer: Extron or approved equal</p> <p>Wireless Collaboration Gateway: Extron Sharelink 250 Series</p> <p>Streaming: Extron SMP 300 series</p>





COST ESTIMATE DOCUMENTS V.





IV. COST ESTIMATE DOCUMENTS

To effectively inform the cost estimation and the feasibility of the two design options within the project budget, Group 4, along with the overall subconsultant team, developed two preconceptual design option drawing sets. These drawings and narratives present the ground floor Library combined with housing and a parking structure utilizing the same level of fit and finish as the renovation scheme. These two drawing sets, combined with the illustrative renderings and the engineering narratives, were provided to Mack5 to develop comprehensive cost estimation models for both design options.



OPTION C

LIBRARY WITH HOUSING AND PARKING ABOVE

ARCHITECTURAL DRAWING ABBREVIATIONS

A.B.	ANCHOR BOLT	FDN.	FOUNDATION	P.C.	PORTLAND CEMENT	W.C.	WATER CLOSET
ABV.	ABOVE	F.E.	FIRE EXTINGUISHER	PHEN.	PHENOLIC	WD.	WOOD
A.C.	ASPHALT CONCRETE PAVING	F.E.C.	FIRE EXTINGUISHER CABINET	PL.	PLATE	W.H.	WATER HEATER
A.C.T.	ACOUSTIC CEILING TILE	F.F.	FINISHED FLOOR	P.L.	PROPERTY LINE	WIND.	WINDOW
ACOUS.	ACOUSTICAL	F.F.E.	FINISHED FLOOR ELEVATION	P.LAM.	PLASTIC LAMINATE	W/O	WITHOUT
A.D.	AREA DRAIN	F.G.	FIXED GLASS	PLAS.	PLASTER	WP.	WATERPROOF OR WATERPROOFING
ADD.	ADDITIONAL	F.H.C.S.	FLAT HEAD COUNTERSUNK	PLUMB.	PLUMBING	W.P.	WORK POINT
ADJ.	ADJUSTABLE	FIN.	FINISH	PLYWD.	PLYWOOD	WSCT.	WAINSCOT
A.E.S.S.	ARCHITECTURAL EXPOSED STRUCTURAL STEEL	FL.	FLOOR	PR.	PAIR	WT.	WEIGHT
A.F.F.	ABOVE FINISH FLOOR	FIXT.	FIXTURE	PRCST.	PRECAST		
AGGR.	AGGREGATE	FLASH.	FLASHING	PREFIN.	PREFINISHED	&	AND
ALT.	ALTERNATE	FLUOR.	FLUORESCENT	PT.	POINT	∠	ANGLE
AL.	ALUMINUM	F.O.	FACE OF	PTD.	PAINTED	@	AT
ALUM.	ALUMINUM	F.O.C.	FACE OF CONCRETE	P.T.D.	PAPER TOWEL DISPENSER	☉	CENTERLINE
APPROX.	APPROXIMATE	F.O.F.	FACE OF FINISH	P.T.D./RE	COMBINATION PAPER TOWEL DISPENSER & RECEPTACLE	DIA.	DIAMETER
ARCH.	ARCHITECTURAL, ARCHITECT	F.O.M.	FACE OF MASONRY	P.V.C.	POLYVINYLCHLORIDE	PERP.	PERPENDICULAR
ASPH.	ASPHALT	F.O.S.	FACE OF STUD			DN.	SLOPE DOWN/STAIR DOWN
		F.R.P.	FIBERGLASS REINFORCED PANEL				
BD.	BOARD	FRPF.	FIREPROOF	(R)	REMOVE EXISTING		
BET.	BETWEEN	FRPG.	FIREPROOFING	(RL)	RELOCATE EXISTING		
BIT.	BITUMEN	F.S.	FOOD SERVICE	R.	RISER		
BLDG.	BUILDING	FT.	FOOT OR FEET	RAD.	RADIUS		
BLK.	BLOCK	FTG.	FOOTING	R.D.	ROOF DRAIN		
BLKG.	BLOCKING	FURR.	FURRING	REF.	REFERENCE		
BM.	BEAM			REFL.	REFLECTED		
BND/BYND	BEYOND	GA.	GAUGE	REFR.	REFRIGERATOR		
BOT.	BOTTOM	GAL.	GALLON	REINF.	REINFORCED OR REINFORCING		
B.O.	BOTTOM OF	GALV.	GALVANIZED	REQ.	REQUIRED		
B.O.B.	BOTTOM OF BEAM	G.B.	GRAB BAR	R.E.S.	RESILIENT EDGE STRIP		
B.O.C.	BOTTOM OF CONCRETE	GL.	GLASS OR GRIDLINE	RESIL.	RESILIENT		
B.O.S.	BOTTOM OF STEEL	GND.	GROUND	RGTR.	REGISTER		
B.R.B.	BUCKLING RESTRAINT BRACE	GR.	GRADE	RM.	ROOM		
BTWN.	BETWEEN	GYP.	GYPSTUM	R.O.	ROUGH OPENING		
B.U.W.P.	BUILT UP WATERPROOFING	G.W.B.	GYPSTUM WALL BOARD	RV.	ROOF VENT		
B.U.R.	BUILT UP ROOF			R.W.L.	RAIN WATER LEADER		
		HB.	HOSE BIBB	S.	SOUTH		
CAB.	CABINET	HDWD.	HARDWOOD	S.A.D.	SEE ARCHITECTURAL DOCUMENTS		
C.B.	CATCH BASIN	HDWE.	HARDWARE	S.C.D.	SEE CIVIL DOCUMENTS		
CEM.	CEMENT	H.M.	HOLLOW METAL	S.E.D.	SEE ELECTRICAL DOCUMENTS		
CER.	CERAMIC	HORIZ.	HORIZONTAL	S.G.D.	SEE GRAPHIC DOCUMENTS		
C.G.	CORNER GUARD	H.P.	HIGH POINT	S.L.D.	SEE LANDSCAPE DOCUMENTS		
C.J.	CONTROL JOINT	HR.	HOUR	S.M.D.	SEE MECHANICAL DOCUMENTS		
C.L.	CENTERLINE	HT.	HEIGHT	S.P.D.	SEE PLUMBING DOCUMENTS		
CLG.	CEILING	HVAC	HEATING, VENTILATING & AIR CONDITIONING	S.S.D.	SEE STRUCTURAL DOCUMENTS		
CLO.	CLOSET			S.T.D.	SEE TELECOM AND AV DOCUMENTS		
CLR.	MINIMUM CLEAR DIMENSION, F.O.F. TO F.O.F.	I.D.	INSIDE DIAMETER	S.C.	SOLID CORE		
		INSUL.	INSULATION	S.C.P.	SEAT COVER DISPENSER		
C.M.U.	CONCRETE MASONRY UNIT	INT.	INTERIOR	SCHED.	SCHEDULE		
C.O.	CONCRETE OPENING	J.	JUNCTION	S.D.	SOAP DISPENSER		
COL.	COLUMN	J.B.	JUNCTION BOX	S.F.	SQUARE FOOT		
COMP.	COMPOSITION	JAN.	JANITOR	SH.	SHELF		
CONC.	CONCRETE	JNT.	JOINT	SHLV.	SHELVES		
CONN.	CONNECTION	JST.	JOIST	SECT.	SECTION		
COND.	CONDITION	JT.	JOINT	SHWR.	SHOWER		
CONSTR.	CONSTRUCTION	KIT.	KITCHEN	SHT.	SHEET		
CONT.	CONTINUOUS			SHTG.	SHEATHING		
CORR.	CORRIDOR	LAM.	LAMINATE	SIM.	SIMILAR		
CNTR.	COUNTER	LAV.	LAVATORY	SK.	SINK		
C.T.	CERAMIC TILE	LAV.	LAVATORY	S.N.D.	SANITARY NAPKIN DISPENSER		
CTR.	CENTER	LOC.	LOCATION	S.N.R.	SANITARY NAPKIN RECEPTACLE		
CTSK.	COUNTERSUNK	L.F.	LINEAR FEET	SOF.	SOFFIT		
C.U.	CONDENSER UNIT	L.P.	LOW POINT	SPEC.	SPECIFICATION		
C.W.	CURTAIN WALL OR CUSTOM WOOD	LT.	LIGHT	SQ.	SQUARE		
				S.S.	STAINLESS STEEL		
D.A.	DISABLED ACCESS	MACH.	MACHINE	STA.	STATION		
DBL.	DOUBLE	MAX.	MAXIMUM	STD.	STANDARD		
DEPT.	DEPARTMENT	MECH.	MECHANICAL	STL.	STEEL		
DET.	DETAIL	MEMB.	MEMBRANE	STOR.	STORAGE		
D.F.	DRINKING FOUNTAIN	MET.	METAL	STRL.	STRUCTURAL		
DIA.	DIAMETER	MFG.	MANUFACTURER	STUCT.	STRUCTURE		
DIAG.	DIAGONAL	MFR.	MANUFACTURER	SUSP.	SUSPENDED		
DIM.	DIMENSION	MH.	MANHOLE	SYM.	SYMMETRICAL		
DISCONT.	DISCONTINUOUS	MIN.	MINIMUM	T.	TREAD		
DISP.	DISPENSER	MIR.	MIRROR	T.B.	TOWEL BAR		
DN.	DOWN	MISC.	MISCELLANEOUS	T.C.	TOP OF CURB		
D.O.	DOOR OPENINGS	M.R.	MOISTURE RESISTANT	TEL.	TELEPHONE		
D.P.	DIMENSION POINT	M.O.	MASONRY OPENING	TEMP.	TEMPERED		
DR.	DOOR	MSNRY.	MASONRY	TEXT.	TEXTURE		
D.S.	DOWNSPOUT	M.T.	METAL THRESHOLD	THK.	THICK		
S.S.P.	DRY STANDPIPE	MTD.	MOUNTED	THRES.	THRESHOLD		
D/W	DISHWASHER	MTG.	MOUNTING	T.P.	TOP OF PAVEMENT		
DWG.	DRAWING			T.P.D.	TOILET PAPER DISPENSER		
DWR.	DRAWER			T.S.	TUBE STEEL		
		(N)	NEW	T.O.	TOP OF		
(E)	EXISTING	N.	NORTH	T.O.B.	TOP OF BEAM		
E.	EAST	N.A.	NOT APPLICABLE	T.O.C.	TOP OF CURB OR TOP OF CONCRETE		
EA.	EACH	N.I.C.	NOT IN CONTRACT	T.O.P.	TOP OF PARAPET		
E.F.	EXHAUST FAN	NO. or #	NUMBER	T.O.R.	TOP OF ROOF		
E.J.	EXPANSION JOINT	NOM.	NOMINAL	T.O.S.	TOP OF STEEL		
EL.	ELEVATION	N.T.S.	NOT TO SCALE	T.O.W.	TOP OF WALL		
ELEC.	ELECTRICAL	O.	OUTSIDE	TYP.	TYPICAL		
EMER.	EMERGENCY	O/	OVER	UNF.	UNFINISHED		
ENCL.	ENCLOSURE	O.A.	OVERALL	U.O.N.	UNLESS OTHERWISE NOTED		
E.P.	EDGE OF PAVEMENT	O.C.	ON CENTER	UR.	URINAL		
EPS.	EXPANDED POLYSTYRENE	O.D.	OUTSIDE DIAMETER	V.C.T.	VINYL COMPOSITE TILE		
EQ.	EQUAL	O.F.C.I.	OWNER FURNISHED CONTRACTOR INSTALLED	VERT.	VERTICAL		
EQPM.	EQUIPMENT	O.H.	OPPOSITE HAND	VEST.	VESTIBULE		
E.W.C.	ELECTRIC WATER COOLER	OFF.	OFFICE	V.I.F.	VERIFY IN FIELD		
EXP.	EXPANSION, EXPANDED	OPNG.	OPENING	V.T.R.	VENT TO ROOF		
EXPO.	EXPOSED	OPP.	OPPOSITE	W.	WEST		
EXIST.	EXISTING	O.R.D.	OVERFLOW ROOF DRAIN	W/	WITH		
EXT.	EXTERIOR	O.R.S.	OVERFLOW ROOF SCUPPER				
		O.S.B.	ORIENTED STRAND BOARD				
F.A.	FIRE ALARM	O.S.W.	OCCUPANCY SEPARATION WALL				
F.D.	FLOOR DRAIN						

ARCHITECTURAL DRAWING TITLE ABBREVIATIONS

NOTE: THE ABBREVIATIONS BELOW APPLY TO DETAIL DRAWING TITLES.

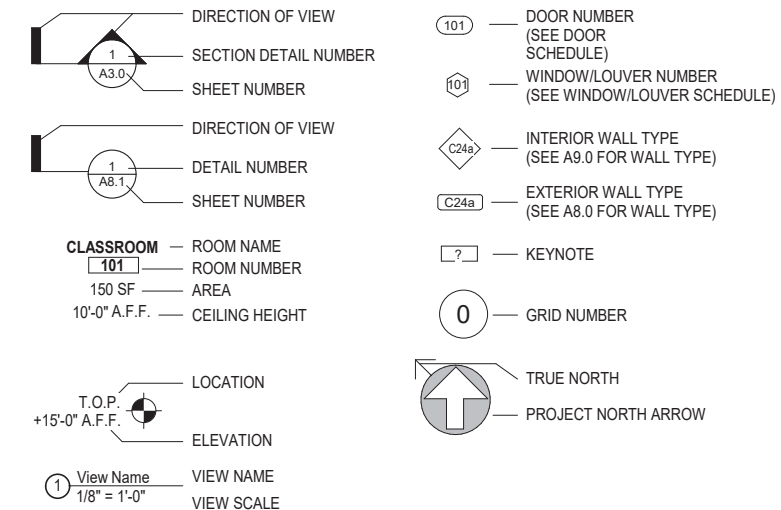
NOTE: THE ABBREVIATIONS BELOW APPLY TO PLAN AND ELEVATION DRAWING TITLES.

I	INTERIOR
E	EXTERIOR
BC	BICYCLE CANOPY
CL	CEILING
CS	CASEWORK
DA	DISABLED ACCESS COMPLIANCE
DR	DOOR
EQ	EQUIPMENT
FL	FLOOR
GL	WINDOW
MP	METAL PANEL
PN	PENETRATIONS
RF	ROOF
SG	SIGNAGE
ST	SITE
VC	VERTICAL CIRCULATION
WA	WALL
WP	WATERPROOFING BELOW GRADE
WS	WINDOW SCHEDULE

(E)	EXISTING
CP	CEILING PLAN
CPE	ENLARGED CEILING PLAN
EE	ENLARGED ELEVATION
EL	ELEVATION
FP	FLOOR PLAN
FPE	ENLARGED FLOOR PLAN
FPR	REFERENCE FLOOR PLAN
GR	GRID PLAN
RCP	REFLECTED CEILING PLAN
RP	ROOF PLAN
RPR	REFERENCE ROOF PLAN
SP	SITE PLAN

ARCHITECTURAL DRAWING SYMBOLS LEGEND

(SEE SHEET LEGENDS FOR ADDITIONAL INFORMATION)



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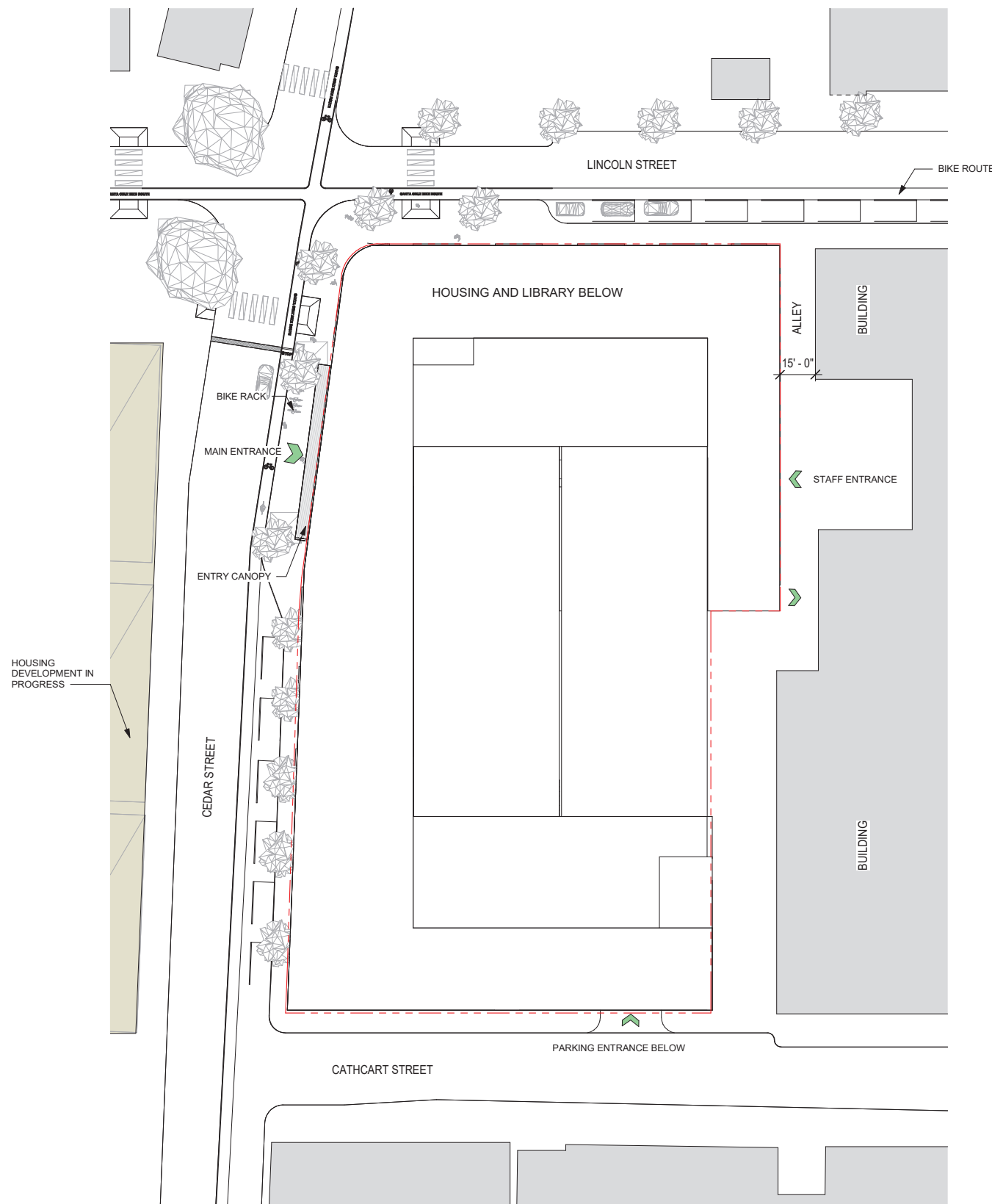
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SHEET TITLE AND NO.

ABBREVIATIONS &
LEGEND



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LEGEND

--- PROPERTY LINE



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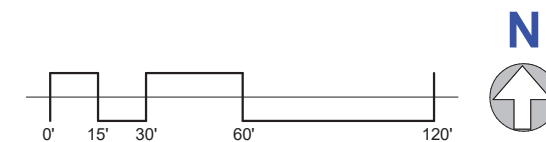
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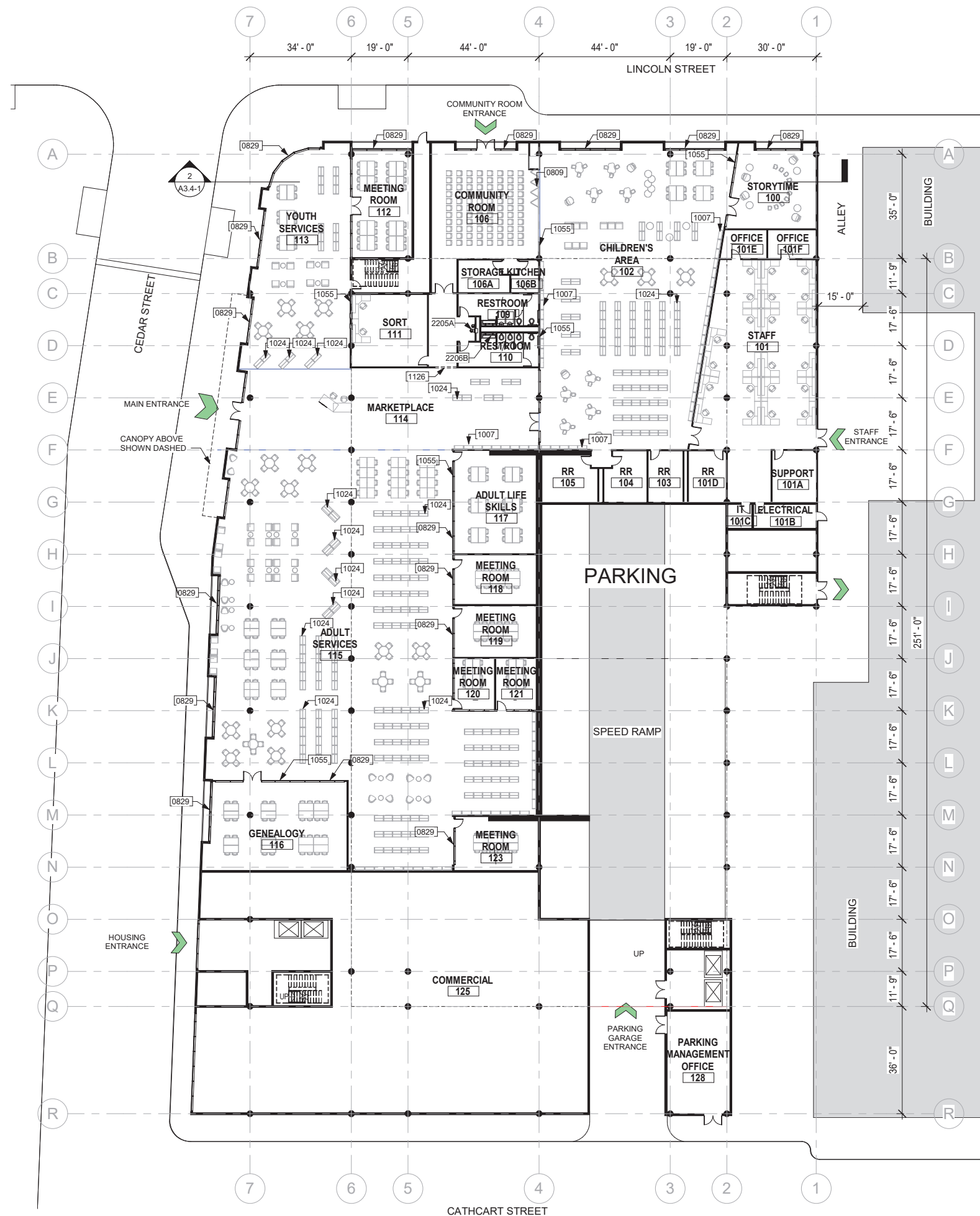
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SITE PLAN

OPTION C:
 HOUSING &
 PARKING ABOVE

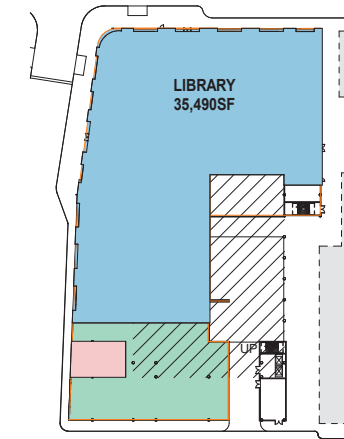
A1.1-1

① SP- SITE PLAN OPTION C
 1" = 30'-0"





SHEET NOTES



AREA PLAN LEGEND

- LIBRARY_35,490 GSF
- HOUSING
- COMMERCIAL

KEYNOTE

NO.	KEYNOTE TEXT
0809	BASE: ALUM BASED GLASS PARTITION ALT: OVERHEAD SUPPORTED ALUM. BI-FOLDING DOORS
0829	ALUM FRAMED INSULATED GLAZING SYSTEM
1007	METAL CANTILEVERED SHELVING SFS 66"
1024	METAL CANTILEVERED SHELVING DFS 66"
1055	VINYL WALL GRAPHIC
1126	ROLL-DOWN GATE
2205A	DRINKING FOUNTAIN, HIGH-LOW WITH WATER BOTTLE FILLER
2206B	LAVATORY, RAMP SINK, S.P.D.



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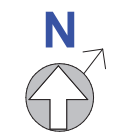
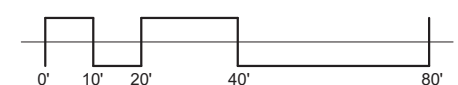
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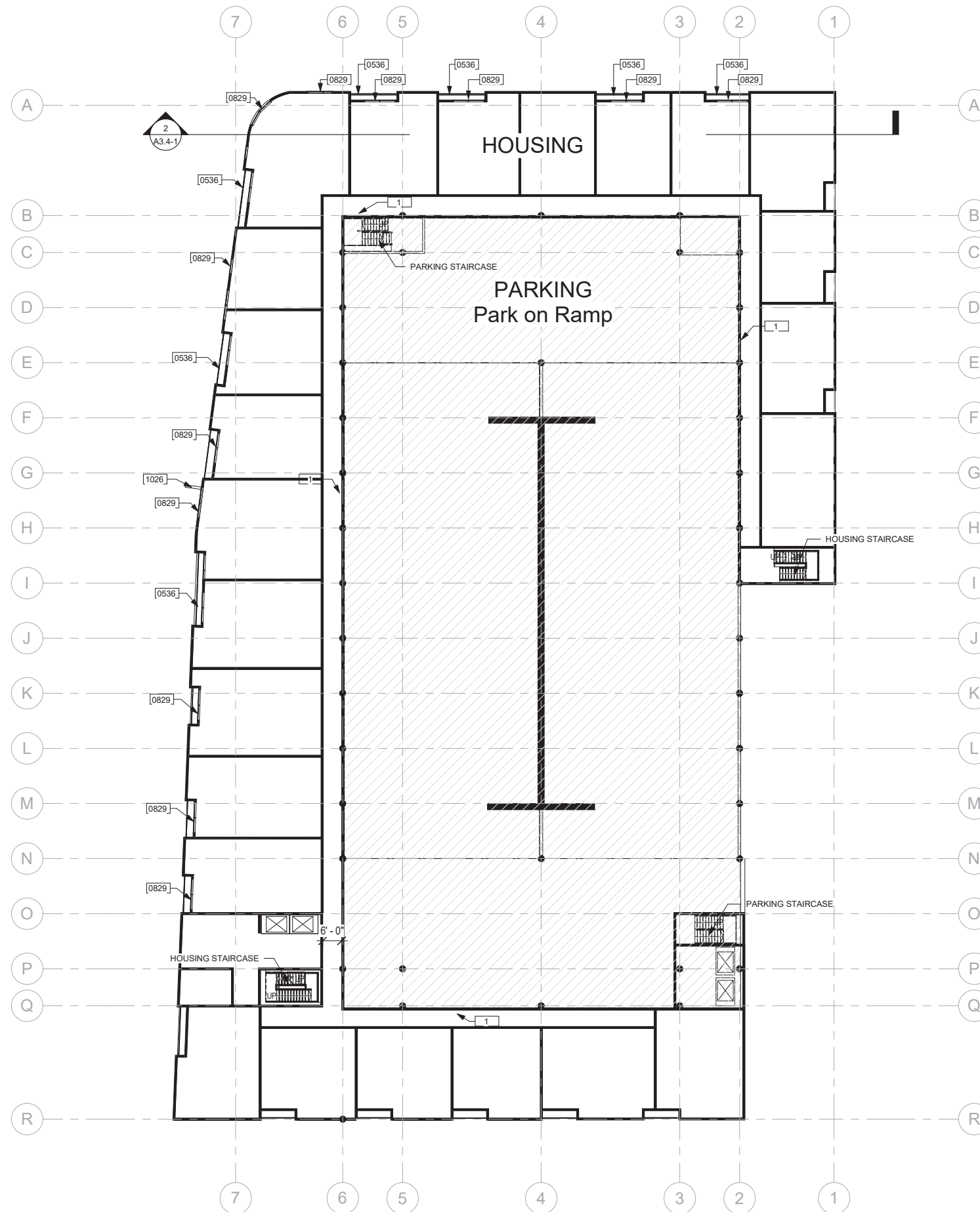
SHEET TITLE AND NO.
**FLOOR PLAN-
 FIRST FLOOR**

OPTION C:
 HOUSING &
 PARKING ABOVE

A2.4-1 99

① FP01- FIRST FLOOR FURNITURE PLAN OPTION C
 1" = 20'-0"





SHEET NOTES

1. ALL HOUSING UNIT QUANTITIES AND SIZES ARE DIAGRAMMATIC AND FOR REFERENCE ONLY. INDIVIDUAL HOUSING UNIT SIZES AND DESIGN WOULD BE DEVELOPED IN FUTURE PHASES WITH COUNCIL AND COMMUNITY INPUT.
2. NUMBER OF ADDITIONAL LEVELS (HOUSING AND PARKING) TO BE DETERMINED AS PART OF MIXED-USE HOUSING AND PARKING DESIGN

KEYNOTE

NO.	KEYNOTE TEXT
1	SPRAYED FIRE-RESISTIVE MATERIAL (2-HR RATED WALL)
0536	MTL GUARDRAIL
0829	ALUM FRAMED INSULATED GLAZING SYSTEM
1026	CANOPY



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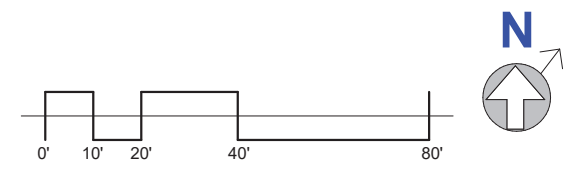
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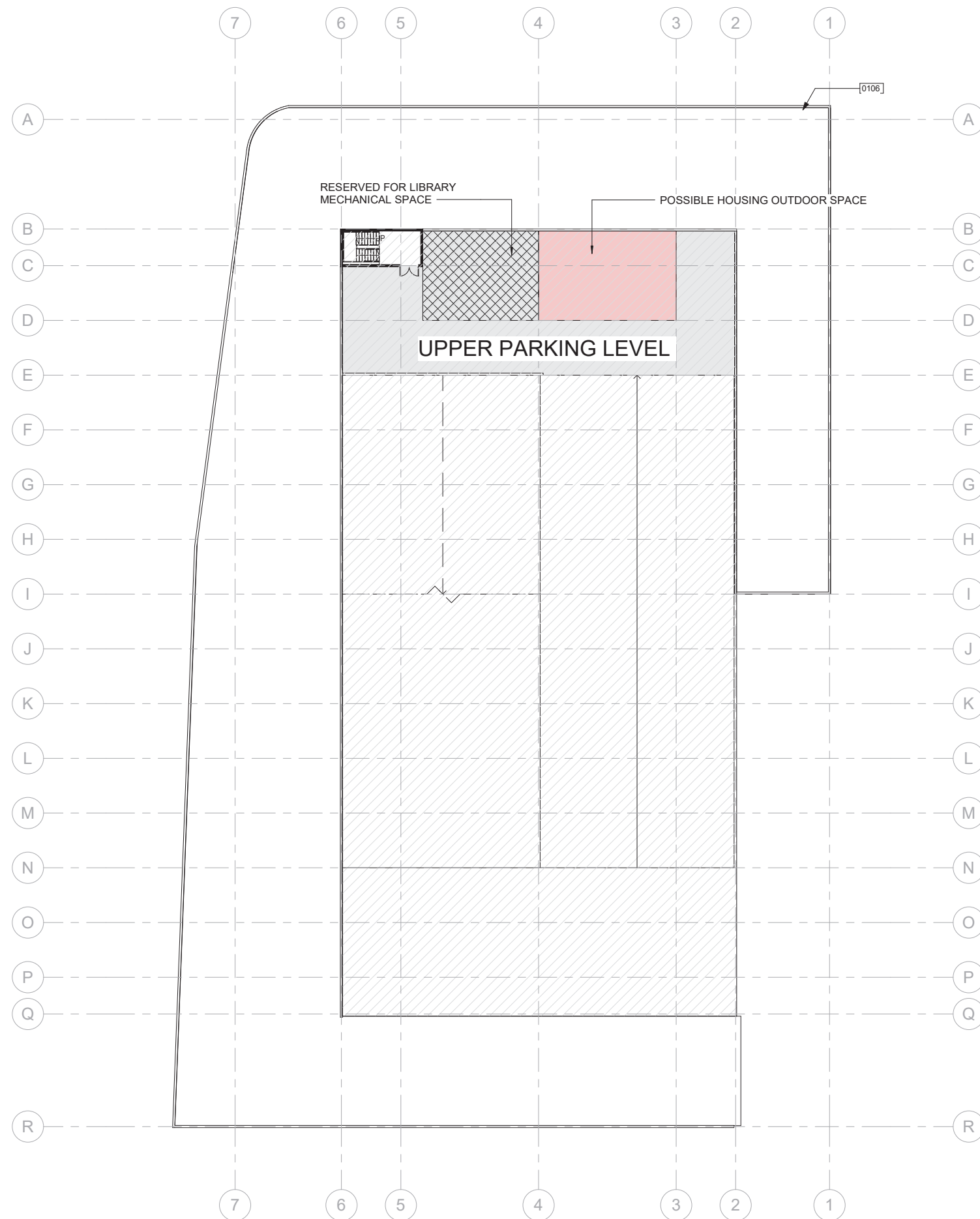
SHEET TITLE AND NO.
 FLOOR PLAN-
 TYPICAL UPPER
 LEVEL

OPTION C:
 HOUSING AND
 PARKING ABOVE

A2.4-2

① FP02-TYPICAL UPPER LEVEL OPTION C
 1" = 20'-0"





SHEET NOTES

1. ALL HOUSING UNIT SIZES ARE DIAGRAMMATIC AND OVERALL FLOOR SQUARE FOOTAGE ONLY. INDIVIDUAL HOUSING UNIT SIZE AND DESIGN WOULD BE DEVELOPED IN FUTURE PHASES WITH COUNCIL AND COMMUNITY INPUT.
 2. NUMBER OF ADDITIONAL LEVELS (HOUSING AND PARKING) TO BE DETERMINED AS PART OF MIXED-USE HOUSING AND PARKING DESIGN

KEYNOTE

NO.	KEYNOTE TEXT
0106	PARAPET WALL



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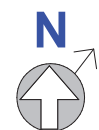
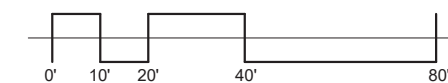
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SHEET TITLE AND NO.
 ROOF PLAN

OPTION C:
 HOUSING AND
 PARKING ABOVE

A2.4-3 101

① RF-ROOF PLAN OPTION C
 1" = 20'-0"

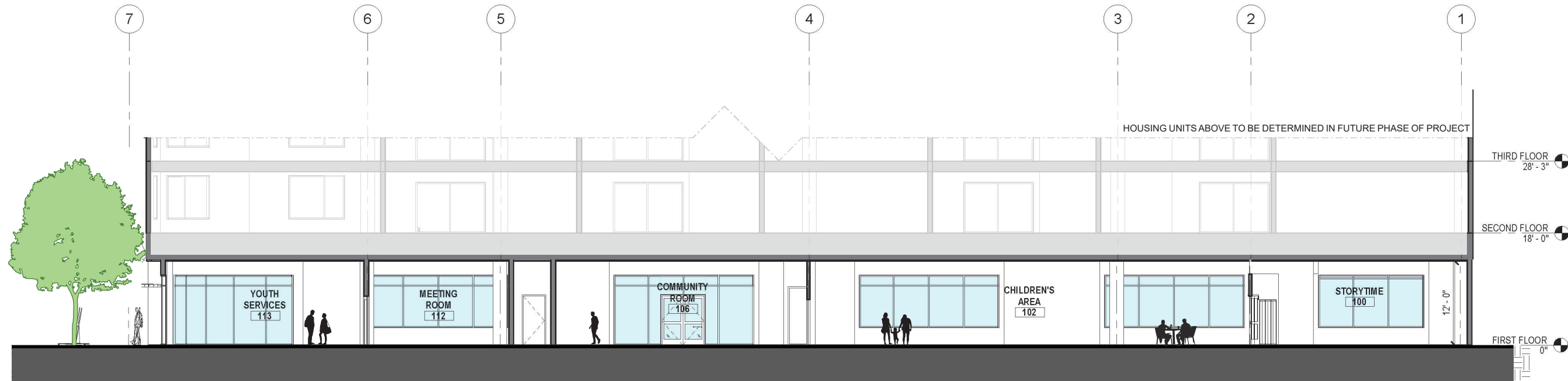


SHEET NOTES

1. NUMBER OF ADDITIONAL LEVELS (HOUSING AND PARKING) TO BE DETERMINED AS PART OF MIXED-USE HOUSING AND PARKING DESIGN



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2 WEST-EAST SECTION OPTION C (BASE)
 1/8" = 1'-0"



2 WEST-EAST SECTION OPTION C (ALTERNATE)
 1/8" = 1'-0"



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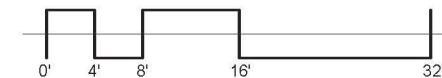
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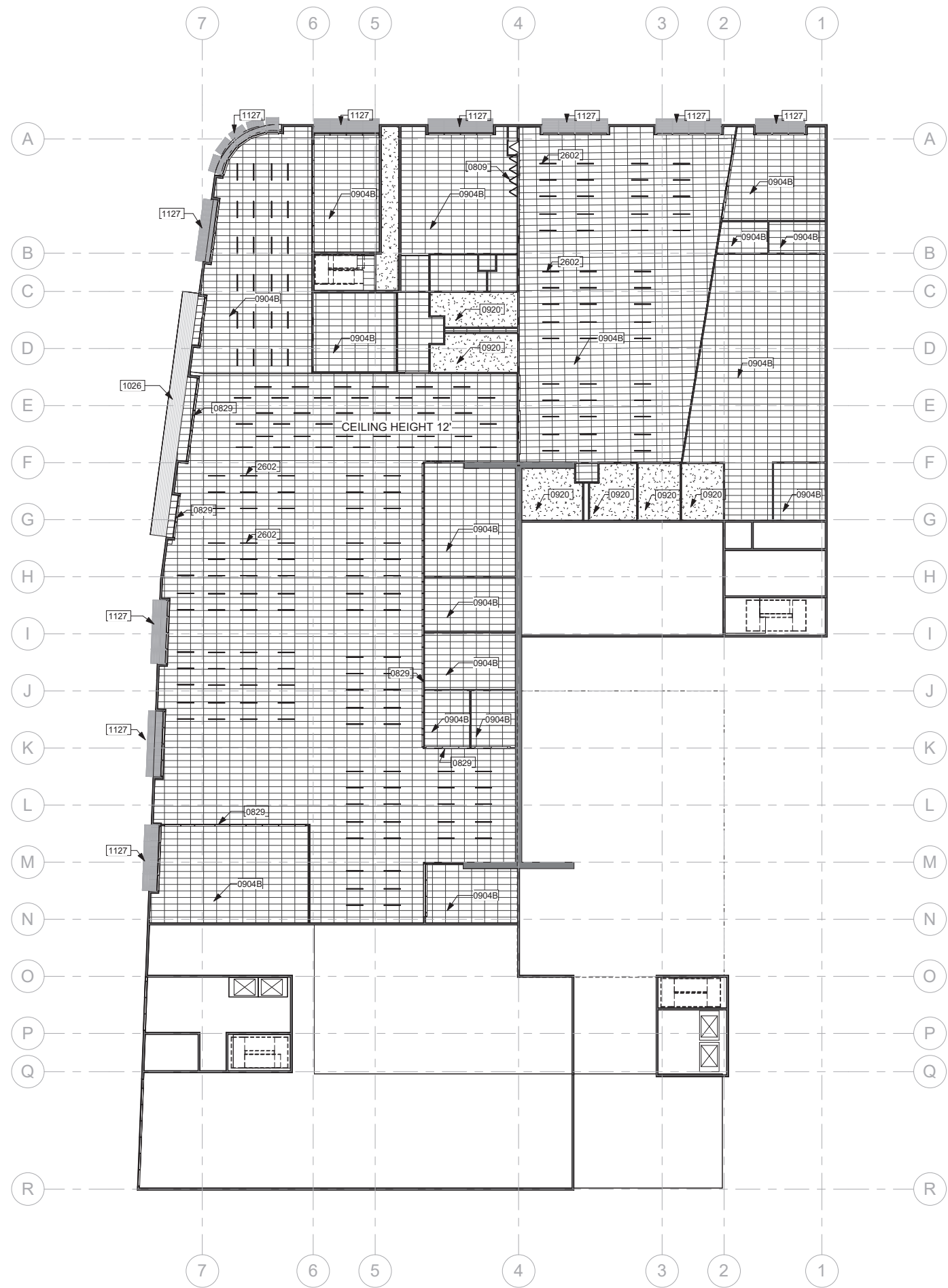
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SHEET TITLE AND NO.
 BUILDING SECTIONS

OPTION C:
 HOUSING AND
 PARKING ABOVE



A3.4-1





SHEET NOTES

REFLECTED CEILING PLAN LEGEND

-  G-1: GYPSUM BOARD CEILING
-  ACT-1: 2' X 4' HIGH FINISH ACOUSTIC CEILING TILE

KEYNOTE

NO.	KEYNOTE TEXT
0809	BASE: ALUM BASED GLASS PARTITION ALT: OVERHEAD SUPPORTED ALUM. BI-FOLDING DOORS
0829	ALUM FRAMED INSULATED GLAZING SYSTEM
0904B	ACOUSTICAL CEILING
0920	GYPSUM BD CEILING
1026	CANOPY
1127	EXTERIOR SUNSHADES
2602	LIGHT FIXTURE, S.E.D.



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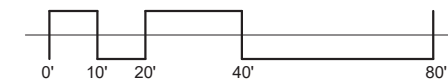
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SHEET TITLE AND NO.
**REFLECTED
 CEILING PLAN-
 FIRST FLOOR**
 OPTION C:
 HOUSING &
 PARKING ABOVE

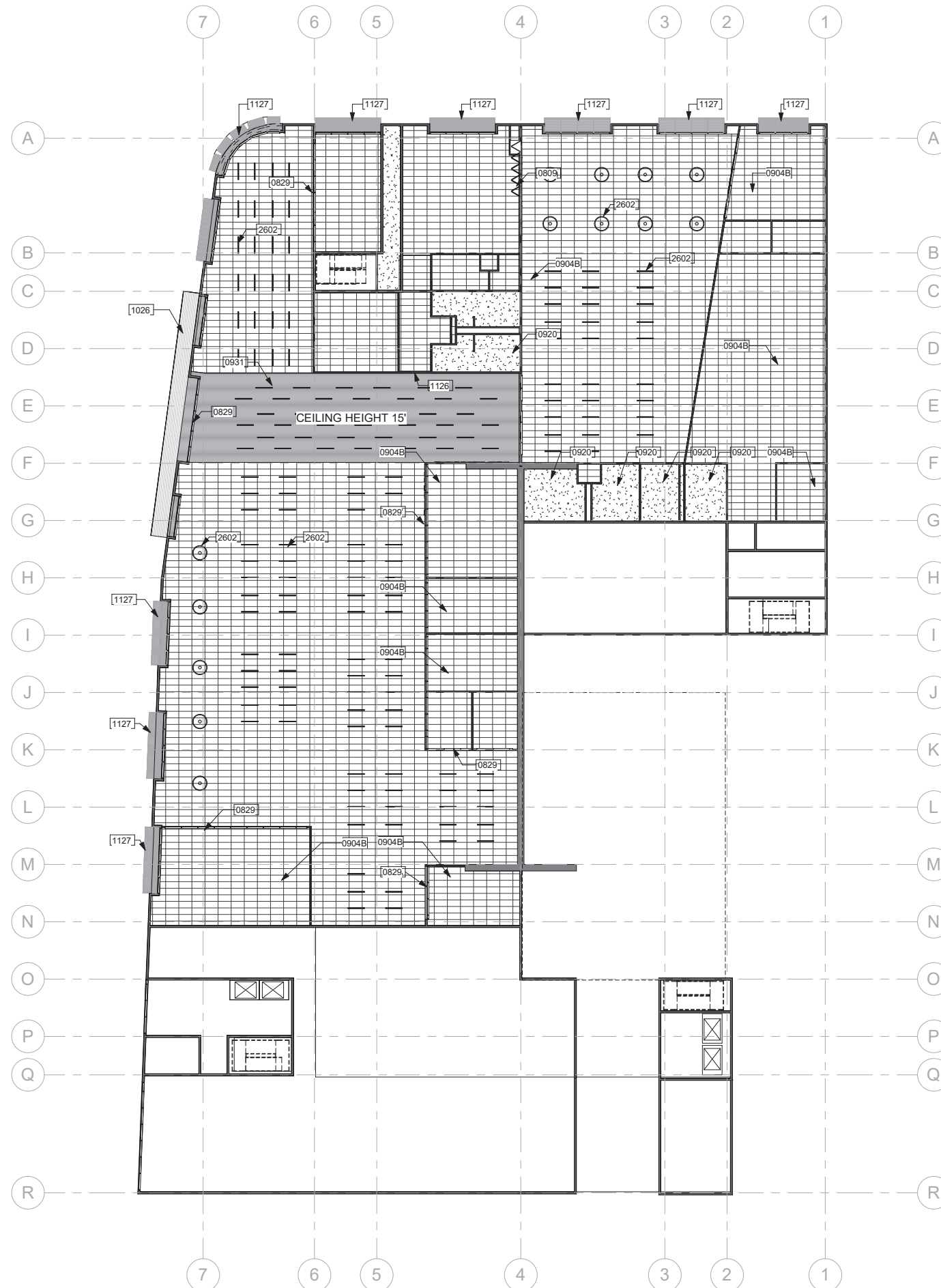
A6.0-1 103

① RCP01-REFLECTED CEILING PLAN- FIRST FLOOR OPTION C (BASE)
 1" = 20'-0"





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REFLECTED CEILING PLAN LEGEND

- G-1: GYPSUM BOARD CEILING
- WOOD SLAT CEILING
- ACT-1: 2' X 4' HIGH FINISH ACOUSTIC CEILING TILE

KEYNOTE

NO.	KEYNOTE TEXT
0809	BASE: ALUM BASED GLASS PARTITION ALT: OVERHEAD SUPPORTED ALUM. BI-FOLDING DOORS
0829	ALUM FRAMED INSULATED GLAZING SYSTEM
0904B	ACOUSTICAL CEILING
0920	GYPSUM BD CEILING
0931	WOOD SLAT CEILING
1026	CANOPY
1126	ROLL-DOWN GATE
1127	EXTERIOR SUNSHADES
2602	LIGHT FIXTURE, S.E.D.



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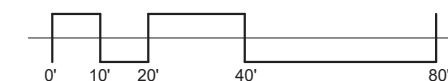
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SHEET TITLE AND NO.
 REFLECTED
 CEILING PLAN-
 FIRST FLOOR (ALT)

OPTION C:
 HOUSING AND
 PARKING ABOVE

A6.0-1



Room Finish Schedule Option C						
Number	Name	Floor Finish	Base Finish	Wall Finish	Ceiling Finish	Area
100	STORYTIME	CARPET TILE	PTD 1X4 WOOD	LVL 4 PTD GWB	ACOUSTIC CLG TILE	770 SF
101	STAFF	CARPET TILE	RUBBER	LVL 4 PTD GWB	ACOUSTIC CLG TILE	2630 SF
101A	SUPPORT	RESILIENT	N/A	LVL 3 PTD GWB	ACOUSTIC CLG TILE	260 SF
101B	ELECTRICAL	CONC SLAB	N/A	LVL 3 PTD GWB	OPEN TO STRUCTURE	170 SF
101C	IT	CONC SLAB	N/A	LVL 3 PTD GWB	OPEN TO STRUCTURE	60 SF
101D	RR	TILE	TILE	LVL 4 PTD GWB	LVL 4 PTD GWB	220 SF
101E	OFFICE	CARPET TILE	RUBBER	LVL 4 PTD GWB	ACOUSTIC CLG TILE	140 SF
101F	OFFICE	CARPET TILE	RUBBER	LVL 4 PTD GWB	ACOUSTIC CLG TILE	150 SF
102	CHILDREN'S AREA	CARPET TILE	PTD 1X4 WOOD	LVL 5 PTD GWB	ACOUSTIC CLG TILE	5890 SF
103	RR	TILE	TILE	LVL 4 PTD GWB	LVL 4 PTD GWB	200 SF
104	RR	TILE	TILE	LVL 4 PTD GWB	LVL 4 PTD GWB	230 SF
105	RR	TILE	TILE	LVL 4 PTD GWB	LVL 4 PTD GWB	280 SF
106	COMMUNITY ROOM	CARPET TILE	PTD 1X4 WOOD	LVL 5 PTD GWB	ACOUSTIC CLG TILE	1440 SF
106A	STORAGE	RESILIENT	N/A	LVL 3 PTD GWB	LVL 4 PTD GWB	170 SF
106B	KITCHEN	TILE	TILE	LVL 3 PTD GWB	LVL 4 PTD GWB	90 SF
109	RESTROOM	TILE	TILE	LVL 4 PTD GWB	LVL 4 PTD GWB	260 SF
110	RESTROOM	TILE	TILE	LVL 4 PTD GWB	LVL 4 PTD GWB	280 SF
111	SORT	CARPET TILE	RUBBER	LVL 5 PTD GWB	ACOUSTIC CLG TILE	610 SF
112	MEETING ROOM	CARPET TILE	PTD 1X4 WOOD	LVL 5 PTD GWB	ACOUSTIC CLG TILE	710 SF
113	YOUTH SERVICES	CARPET TILE	PTD 1X4 WOOD	LVL 5 PTD GWB	ACOUSTIC CLG TILE	2270 SF
114	MARKETPLACE	CARPET TILE	PTD 1X4 WOOD	LVL 5 PTD GWB	BASE:ACOUSTIC CLG TILE, ALT:WOOD SLAT, SEE RCP	2990 SF
115	ADULT SERVICES	CARPET TILE	PTD 1X4 WOOD	LVL 5 PTD GWB	ACOUSTIC CLG TILE	10740 SF
116	GENEALOGY	CARPET TILE	PTD 1X4 WOOD	LVL 5 PTD GWB	ACOUSTIC CLG TILE	1380 SF
117	ADULT LIFE SKILLS	CARPET TILE	PTD 1X4 WOOD	LVL 5 PTD GWB	ACOUSTIC CLG TILE	940 SF
118	MEETING ROOM	CARPET TILE	PTD 1X4 WOOD	LVL 5 PTD GWB	ACOUSTIC CLG TILE	460 SF
119	MEETING ROOM	CARPET TILE	PTD 1X4 WOOD	LVL 5 PTD GWB	ACOUSTIC CLG TILE	480 SF
120	MEETING ROOM	CARPET TILE	PTD 1X4 WOOD	LVL 5 PTD GWB	ACOUSTIC CLG TILE	240 SF
121	MEETING ROOM	CARPET TILE	PTD 1X4 WOOD	LVL 5 PTD GWB	ACOUSTIC CLG TILE	230 SF
123	MEETING ROOM	CARPET TILE	TILE	LVL 5 PTD GWB	ACOUSTIC CLG TILE	490 SF



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SHEET TITLE AND NO.
**ROOM FINISH
 SCHEDULE**

OPTION C:
 HOUSING &
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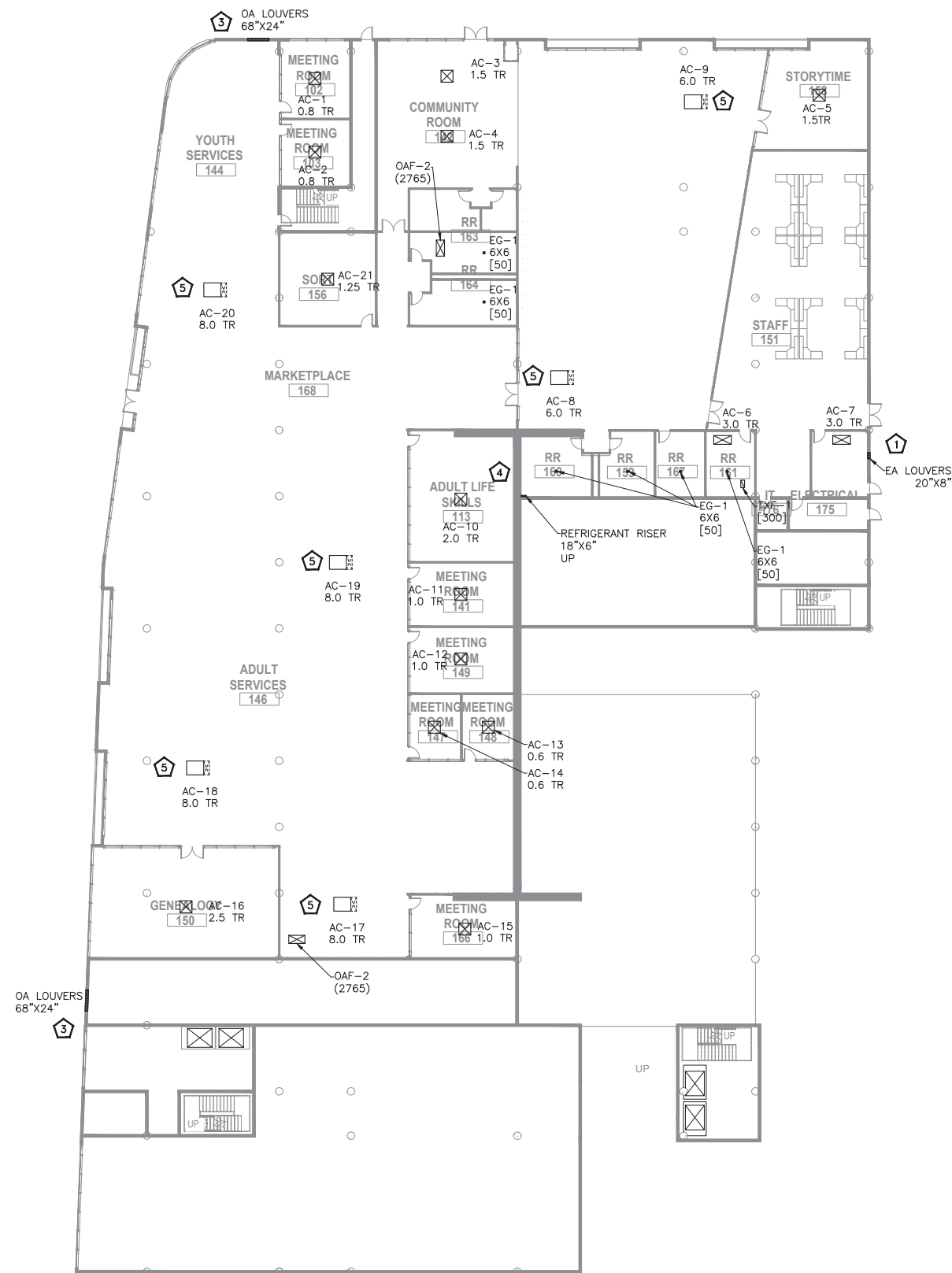
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SHEET TITLE AND NO.
FIRST FLOOR
MECHANICAL PLAN
(OPTION C)

M-1.2



- KEY NOTES:
- 1 EXHAUST FAN TERMINATIONS SHALL BE LOCATED MINIMUM 3 FEET FROM LOT LINE/OA INTAKE.
 - 2 PROVIDE 2" INSULATION FOR OUTSIDE AIR DUCT.
 - 3 OUTSIDE AIR DUCT INTAKE SHALL BE 10' AWAY FROM ANY EXHAUST OUTLET.
 - 4 PROVIDE FIRE WRAP/SLEEVE AT FLOOR PENETRATION OF REFRIGERANT PIPES.
 - 5 AC UNIT WITH MIXING BOX FOR ECONOMIZER CONTROL.

1 MECHANICAL FLOOR PLAN
SCALE: 1" = 20'-0"





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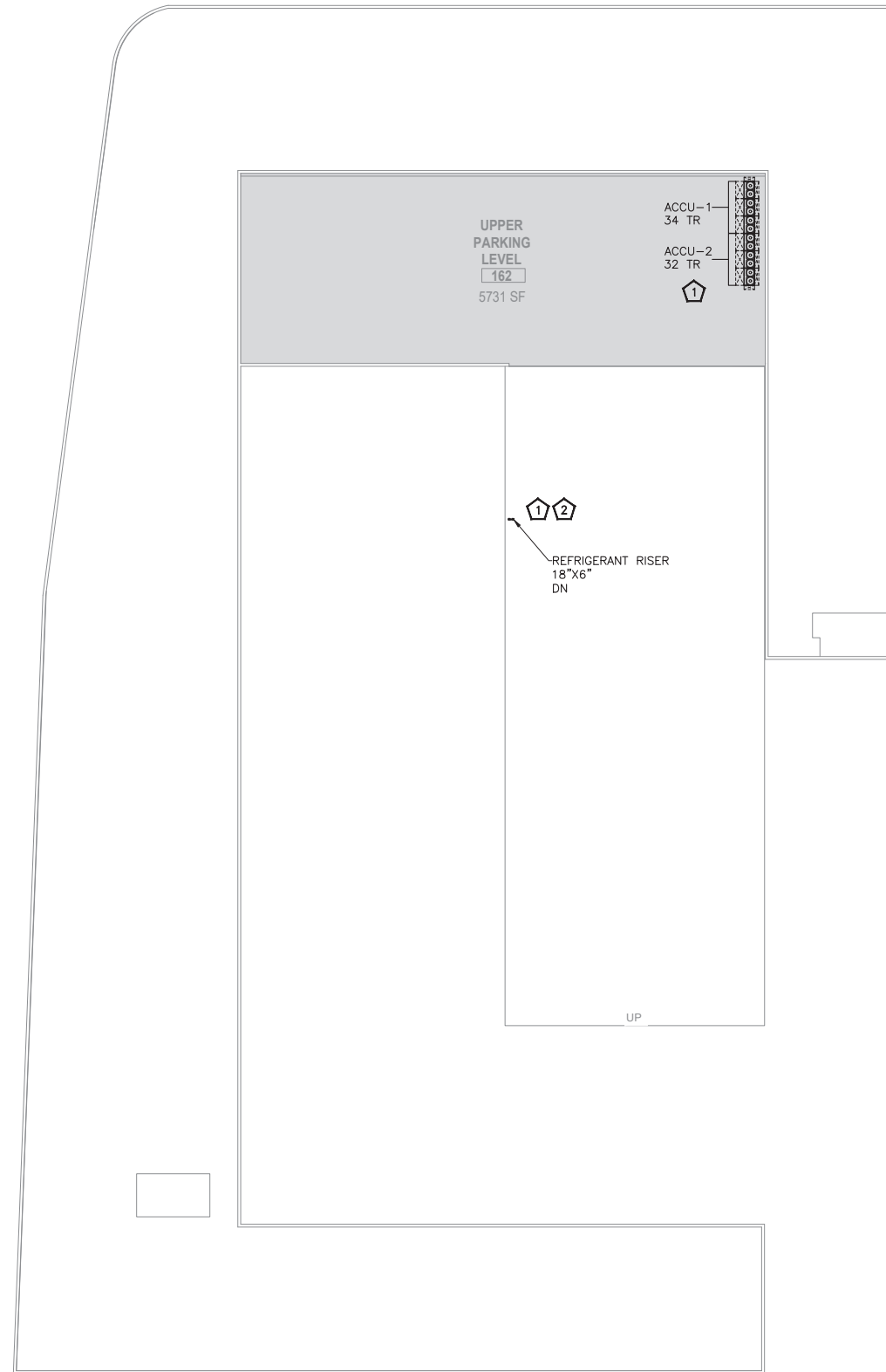
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SHEET TITLE AND NO.
ROOF MECHANICAL PLAN
(OPTION C)

M-1.3



KEY NOTES:

- 1 PROVIDE WEATHER PROOF COATING FOR ALL EXTERIOR PIPING INSULATION.
- 2 AIR CONDITIONER UNIT SHALL NOT PRODUCE NOISE LEVELS IN EXCESS OF 42 DECIBELS FOR A SINGLE AIR CIRCULATING DEVICE AND 45 DECIBELS FOR THE CUMULATIVE NOISE LEVEL OF MULTIPLE AIR CIRCULATING DEVICES AS MEASURED 3 FEET FROM THE NOISE SOURCE AT AN OPEN DOOR OR WINDOW OF A NEARBY RESIDENCE.

1 MECHANICAL ROOF PLAN
SCALE: 1" = 20'-0"





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ACC		OUTDOOR HEAT PUMP CONDENSING UNITS										BASIS OF DESIGN: DAIKIN					
UNIT TAG	NO OF MODULES	LOCATION	TON	CAPACITIES (MBH)		COMPRESSOR TYPE	UNIT DIMENSIONS (EACH MODULE) WXHXD (IN)	WEIGHT (LBS)	REFRIGERANT PIPE SIZE (#IN)		ELECTRICAL (3,208/230V,60)		DUCTED			SOUND LEVEL EA MOD. (dBA)	MODEL
				COOLING :	HEATING :				LIQUID	GAS	MCA (A)	MCB (A)	EER	IEER	COP		
ACCU-1	3	ROOF	34	380	436	INVERTER-DRIVEN SCROLL HERMETIC	148X66X31	525, 695, 695.	7/8	1 3/8	55	60 (MOP)	9.5	20.9	3.2	83	RXYQ408TTJU
ACCU-2	3	ROOF	32	365	411	INVERTER-DRIVEN SCROLL HERMETIC	148X66X31	525, 525, 695.	7/8	1 3/8	55	60 (MOP)	9.5	20.9	3.2	83	RXYQ384TTJU

AC		AIR CONDITIONER SCHEDULES (INDOOR VRF)										BASIS OF DESIGN: DAIKIN						
UNIT TAG	LOCATION	AREA SERVED	TYPE	CAP. (TON)	COOLING MBH	HEATING MBH	TOTAL CFM (MAX.)	MAX. ESP (IN. WG)	MAX. SOUND PRESS. (DBA)	ELECTRICAL DATA			DIMENSIONS (HXWXD) (IN.)	PIPE SIZE			WEIGHT (LBS.)	MODEL NO.
										PH/VOLT/HZ	MCA (A)	MOCP (A)		LIQ. (IN.)	SUCTION (IN.)	DRAIN (OD) (IN.)		
AC-1	SEE PLAN	SEE PLAN	CASSETTE	0.75	9.5	10.5	441	0.6	29	1/208-230/60	0.3	15	10X33X33	3/8	5/8	1	42	FXFQ09TVJU
AC-2	SEE PLAN	SEE PLAN	CASSETTE	0.75	9.5	10.5	441	0.6	29	1/208-230/60	0.3	15	10X33X33	3/8	5/8	1	42	FXFQ09TVJU
AC-3	SEE PLAN	SEE PLAN	CASSETTE	1.5	18	20	742	0.6	32	1/208-230/60	0.5	15	10X33X33	3/8	5/8	1	42	FXFQ18TVJU
AC-4	SEE PLAN	SEE PLAN	CASSETTE	1.5	18	20	742	0.6	32	1/208-230/60	0.5	15	10X33X33	3/8	5/8	1	42	FXFQ18TVJU
AC-5	SEE PLAN	SEE PLAN	CASSETTE	1.5	18	20	742	0.6	32	1/208-230/60	0.5	15	10X33X33	3/8	5/8	1	42	FXFQ18TVJU
AC-6	SEE PLAN	SEE PLAN	CEILING MOUNTED	3.0	36	40	1130	0.6	41	1/208-230/60	2.9	15	12X55X28	3/8	5/8	1	102	FXMQ36PBVJU
AC-7	SEE PLAN	SEE PLAN	CEILING MOUNTED	3.0	36	40	1130	0.6	41	1/208-230/60	2.9	15	12X55X28	3/8	5/8	1	102	FXMQ36PBVJU
AC-8	SEE PLAN	SEE PLAN	CEILING MOUNTED	6.0	72	81	2041	0.95	49	1/208-230/60	9.5	15	19X55X44	3/8	3/4	1	302	FXMQ72MVJU
AC-9	SEE PLAN	SEE PLAN	CEILING MOUNTED	6.0	72	81	2041	0.95	49	1/208-230/60	9.5	15	19X55X44	3/8	3/4	1	302	FXMQ72MVJU
AC-10	SEE PLAN	SEE PLAN	CASSETTE	2.0	23	27	777	0.6	32	1/208-230/60	0.7	15	10X33X33	3/8	5/8	1	51	FXFQ24TVJU
AC-11	SEE PLAN	SEE PLAN	CASSETTE	1.0	12	13.5	441	0.6	29	1/208-230/60	0.3	15	10X33X33	3/8	5/8	1	42	FXFQ12TVJU
AC-12	SEE PLAN	SEE PLAN	CASSETTE	1.0	12	13.5	441	0.6	29	1/208-230/60	0.3	15	10X33X33	3/8	5/8	1	42	FXFQ12TVJU
AC-13	SEE PLAN	SEE PLAN	CASSETTE	0.6	7.2	8.5	420	0.6	29	1/208-230/60	0.3	15	10X33X33	3/8	5/8	1	42	FXFQ07TVJU
AC-14	SEE PLAN	SEE PLAN	CASSETTE	0.6	7.2	8.5	420	0.6	29	1/208-230/60	0.3	15	10X33X33	3/8	5/8	1	42	FXFQ07TVJU
AC-15	SEE PLAN	SEE PLAN	CASSETTE	1.0	12	13.5	441	0.6	29	1/208-230/60	0.3	15	10X33X33	3/8	5/8	1	42	FXFQ12TVJU
AC-16	SEE PLAN	SEE PLAN	CASSETTE	2.5	22.3	34	1129	0.6	38	1/208-230/60	1.3	15	10X33X33	3/8	5/8	1	58	FXFQ30TVJU
AC-17	SEE PLAN	SEE PLAN	CEILING MOUNTED	8.0	96	108	2541	1.1	49	1/208-230/60	10.7	15	19X55X44	3/8	7/8	1	302	FXMQ96MVJU
AC-18	SEE PLAN	SEE PLAN	CEILING MOUNTED	8.0	96	108	2541	1.1	49	1/208-230/60	10.7	15	19X55X44	3/8	7/8	1	302	FXMQ96MVJU
AC-19	SEE PLAN	SEE PLAN	CEILING MOUNTED	8.0	96	108	2541	1.1	49	1/208-230/60	10.7	15	19X55X44	3/8	7/8	1	302	FXMQ96MVJU
AC-20	SEE PLAN	SEE PLAN	CEILING MOUNTED	8.0	96	108	2541	1.1	49	1/208-230/60	10.7	15	19X55X44	3/8	7/8	1	302	FXMQ96MVJU

EXHAUST FAN SCHEDULE						
UNIT TAG	SERVICE	CFM	S.P.	RPM/HP	ELECT.	MANUF. & MODEL NO.
TXF-1	SEE PLAN	300	0.5	1350/39W	115/1Ø	GREENHECK CSP-A390-VG

OAF FAN SCHEDULE						
UNIT TAG	SERVICE	CFM	S.P.	RPM/HP	ELECT.	MANUF. & MODEL NO.
OAF-2	SEE PLAN	2850	1.0	1570/1.03 BHP	208/1Ø	GREENHECK SQ-160-VG
OAF-1	SEE PLAN	2765	1.0	1570/1.03 BHP	208/1Ø	GREENHECK SQ-160-VG

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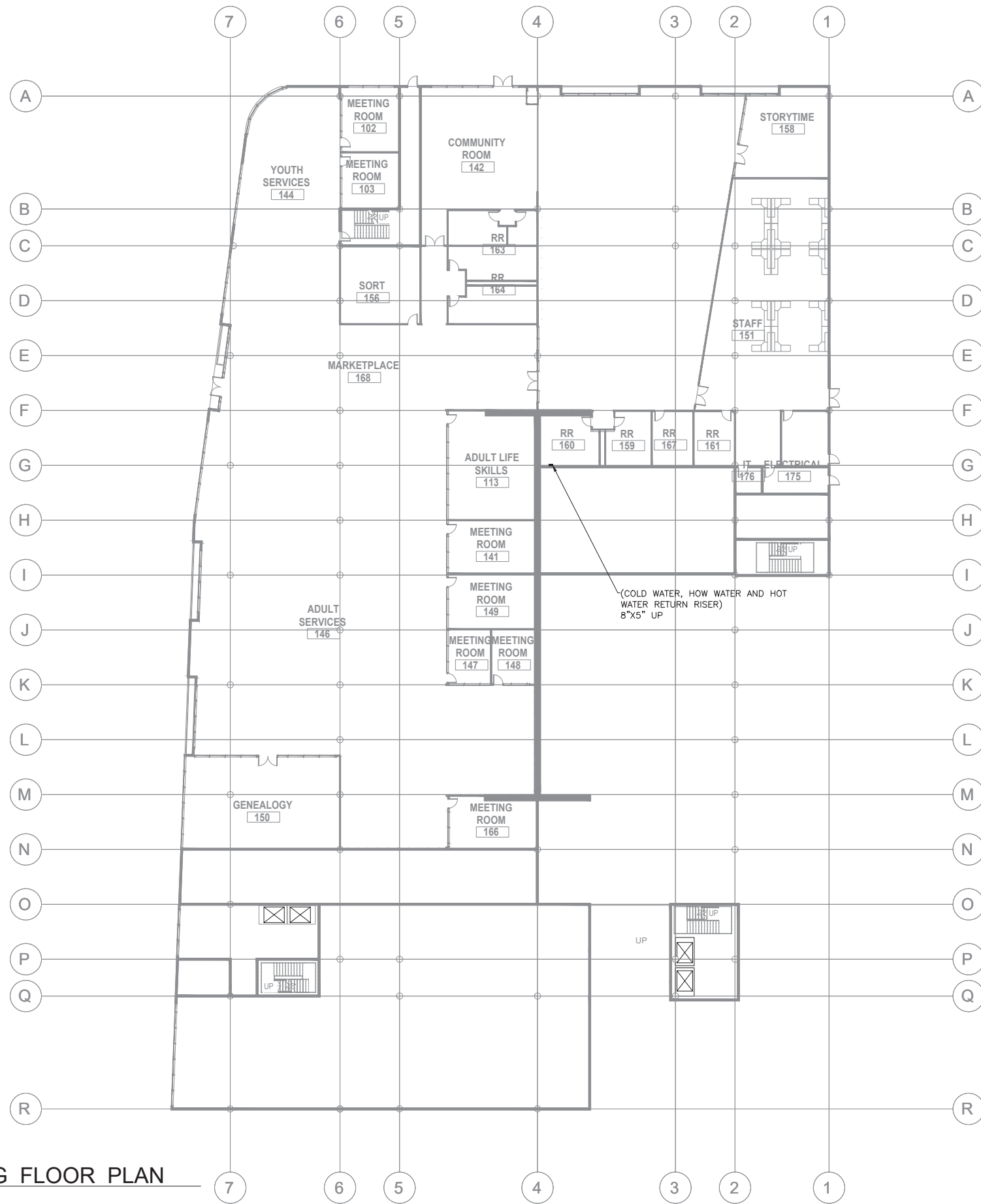
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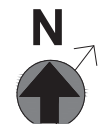
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SHEET TITLE AND NO.
FIRST FLOOR PLUMBING
PLAN
(OPTION C)

P-1.2



1 PLUMBING FLOOR PLAN
SCALE: 1" = 20'-0"





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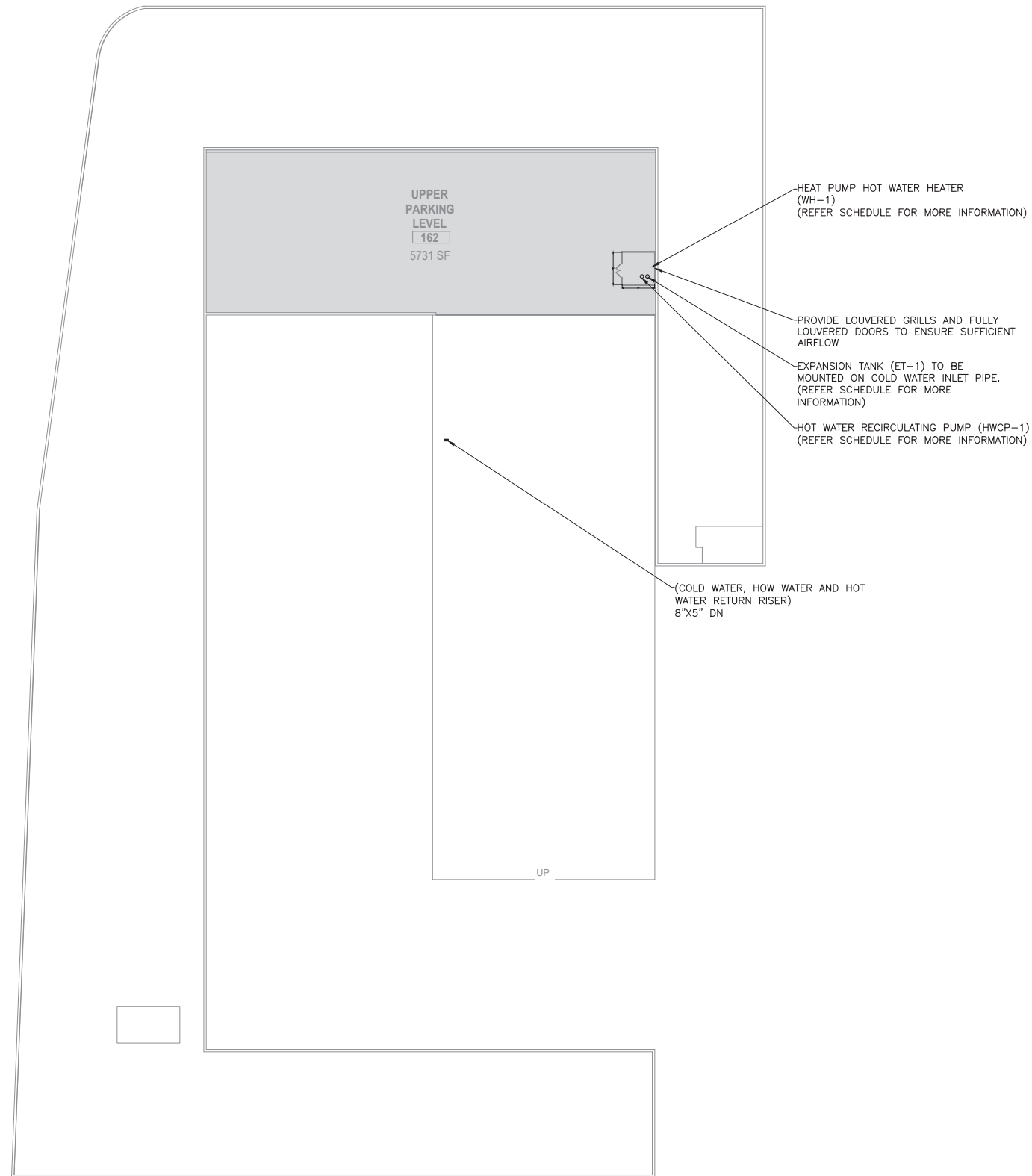
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-	MO/DA/YEAR

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ROOF PLUMBING PLAN
(OPTION C)

P-1.3



1 PLUMBING ROOF PLAN
SCALE: 1" = 20'-0"





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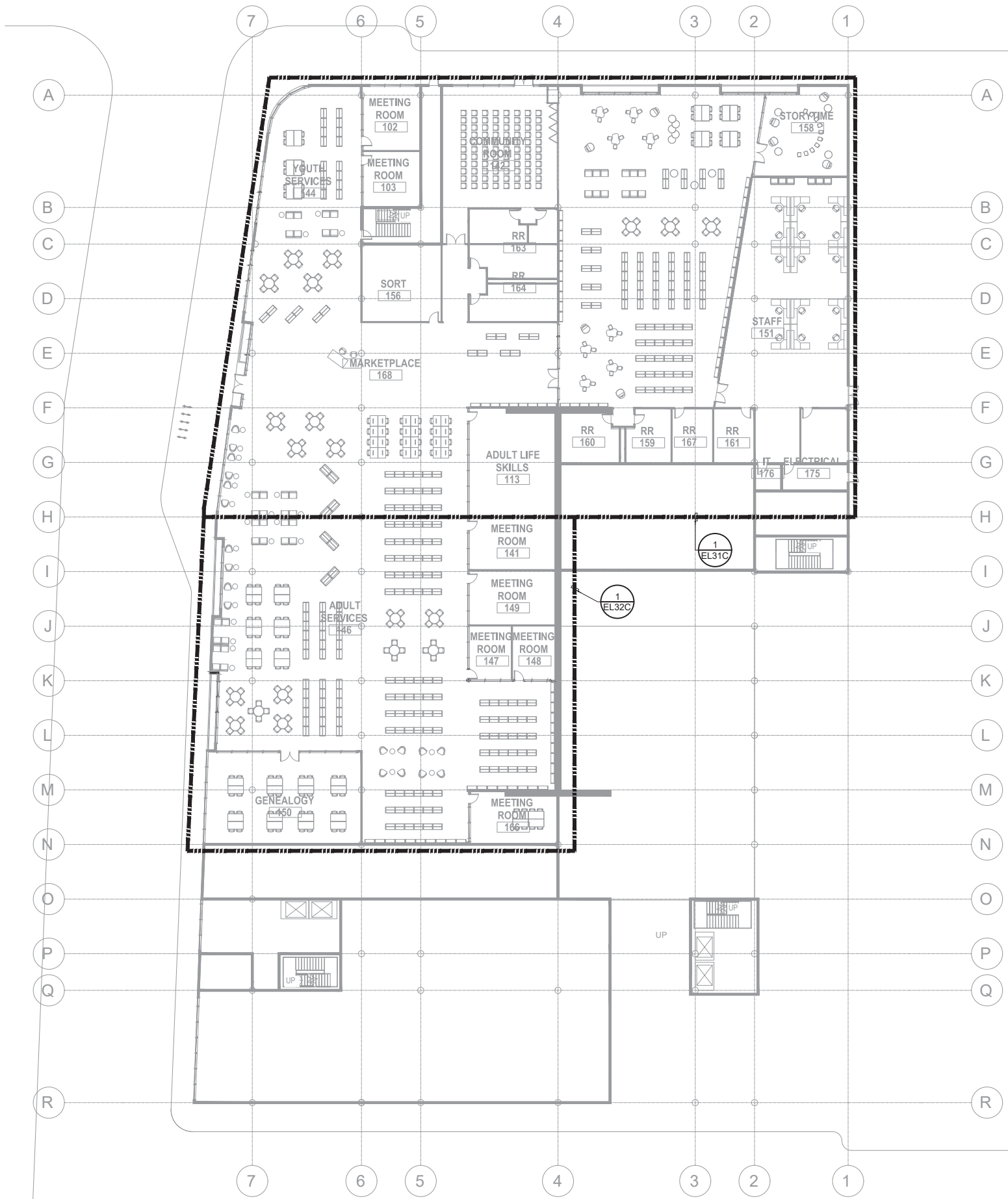
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-	MO/DA/YEAR

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1 OVERALL LIGHTING PLAN
1" = 20'-0"



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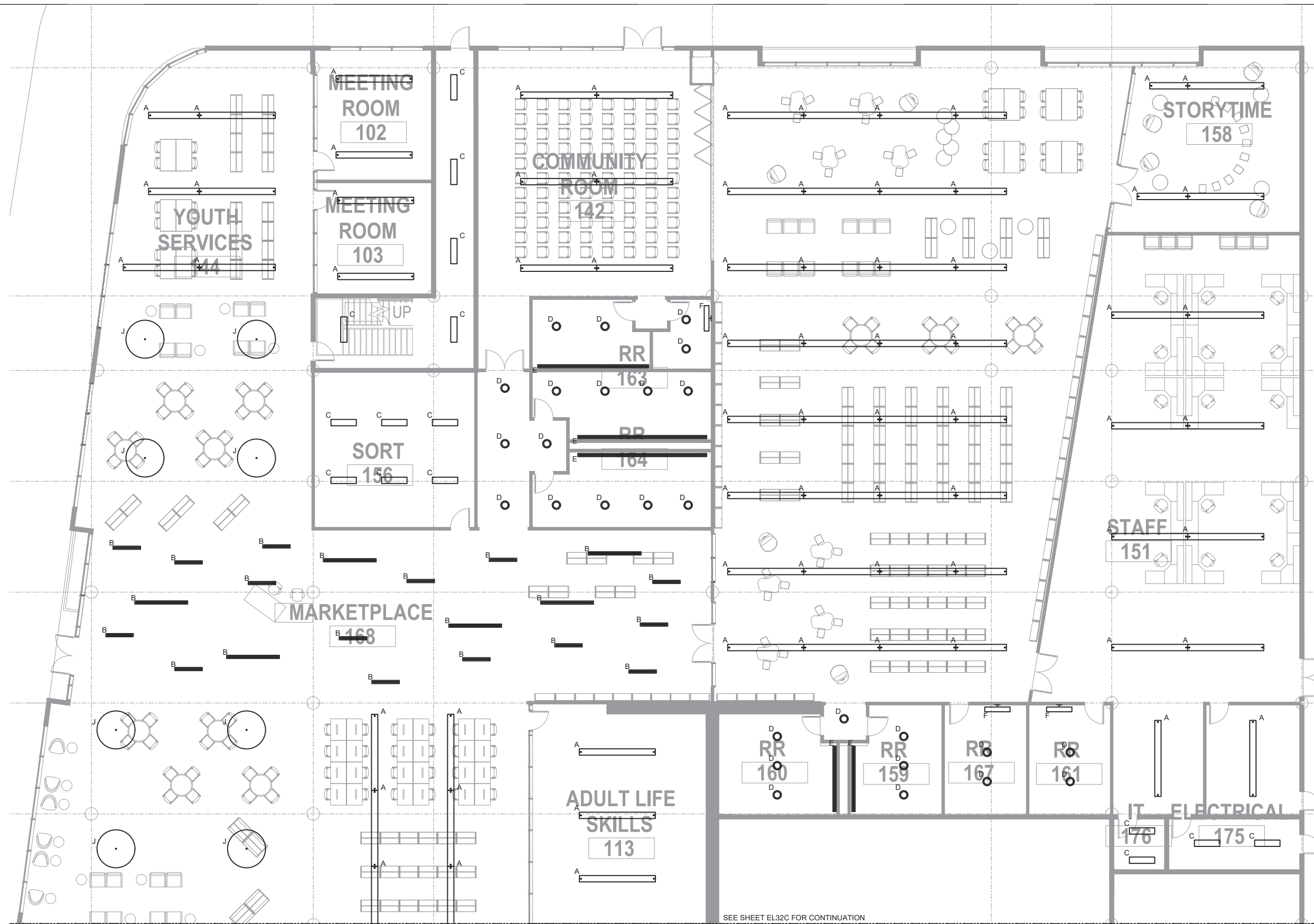
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SHEET TITLE AND NO.

EL31C



SEE SHEET EL32C FOR CONTINUATION

GENERAL NOTES

- A. REFER TO NARRATIVE FOR ADD-ALTERNATE ITEMS.
- B. REFER TO NARRATIVE FOR CONTROLS REQUIREMENTS.

1 ENLARGED LIGHTING PLAN - NORTH SIDE
1/8" = 1'-0"



FILE LOCATION: D:\01_Projects\Group4_02\2002.01 - Santa Cruz Downtown Library Assessment\05_Drawing\01_Elec\2002.01 - EL300 - LIGHTING PLAN.dwg
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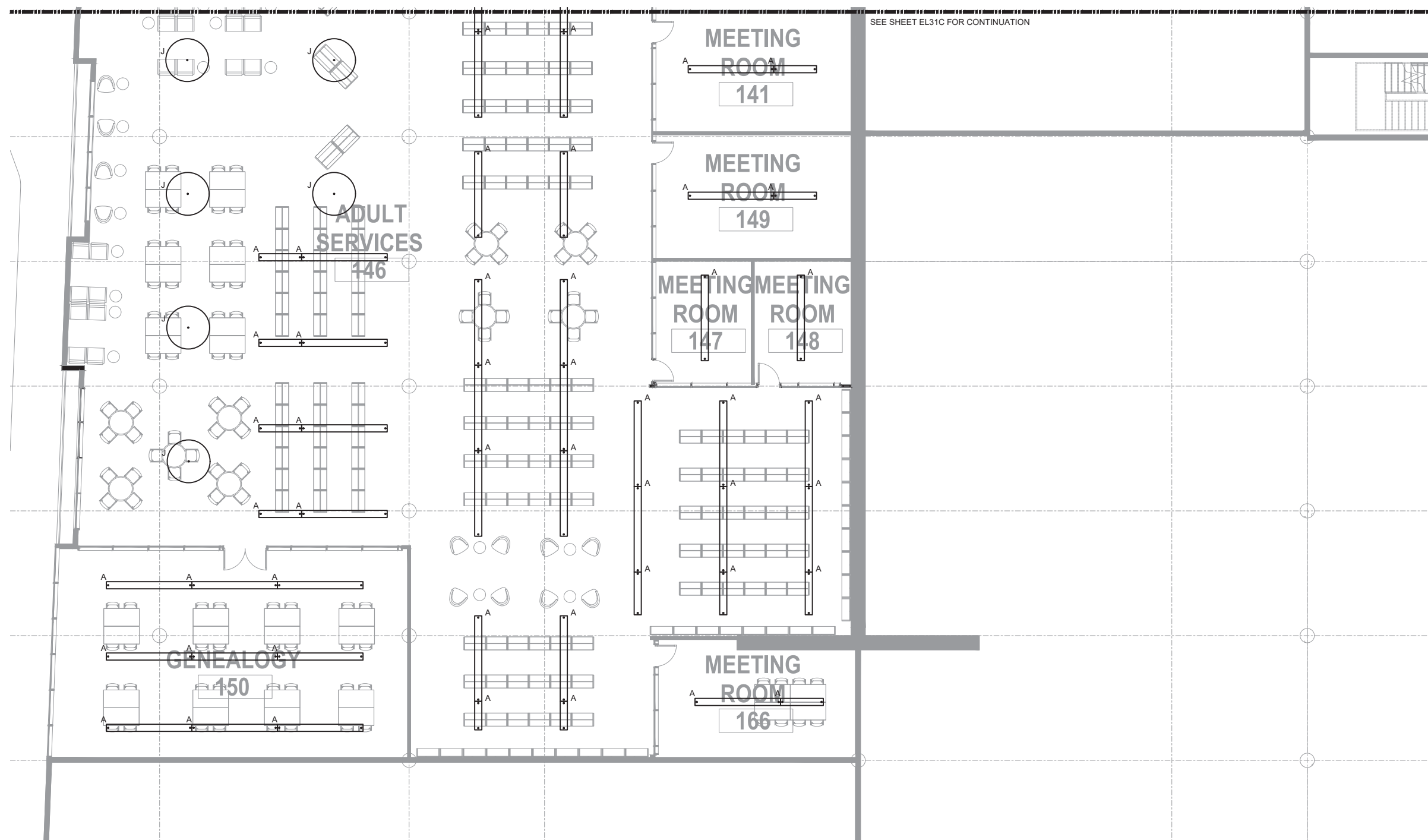
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EL32C 113

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GENERAL NOTES

- A. REFER TO NARRATIVE FOR ADD-ALTERNATE ITEMS.
- B. REFER TO NARRATIVE FOR CONTROLS REQUIREMENTS.

1 ENLARGED LIGHTING PLAN - SOUTH SIDE
1/8" = 1'-0"





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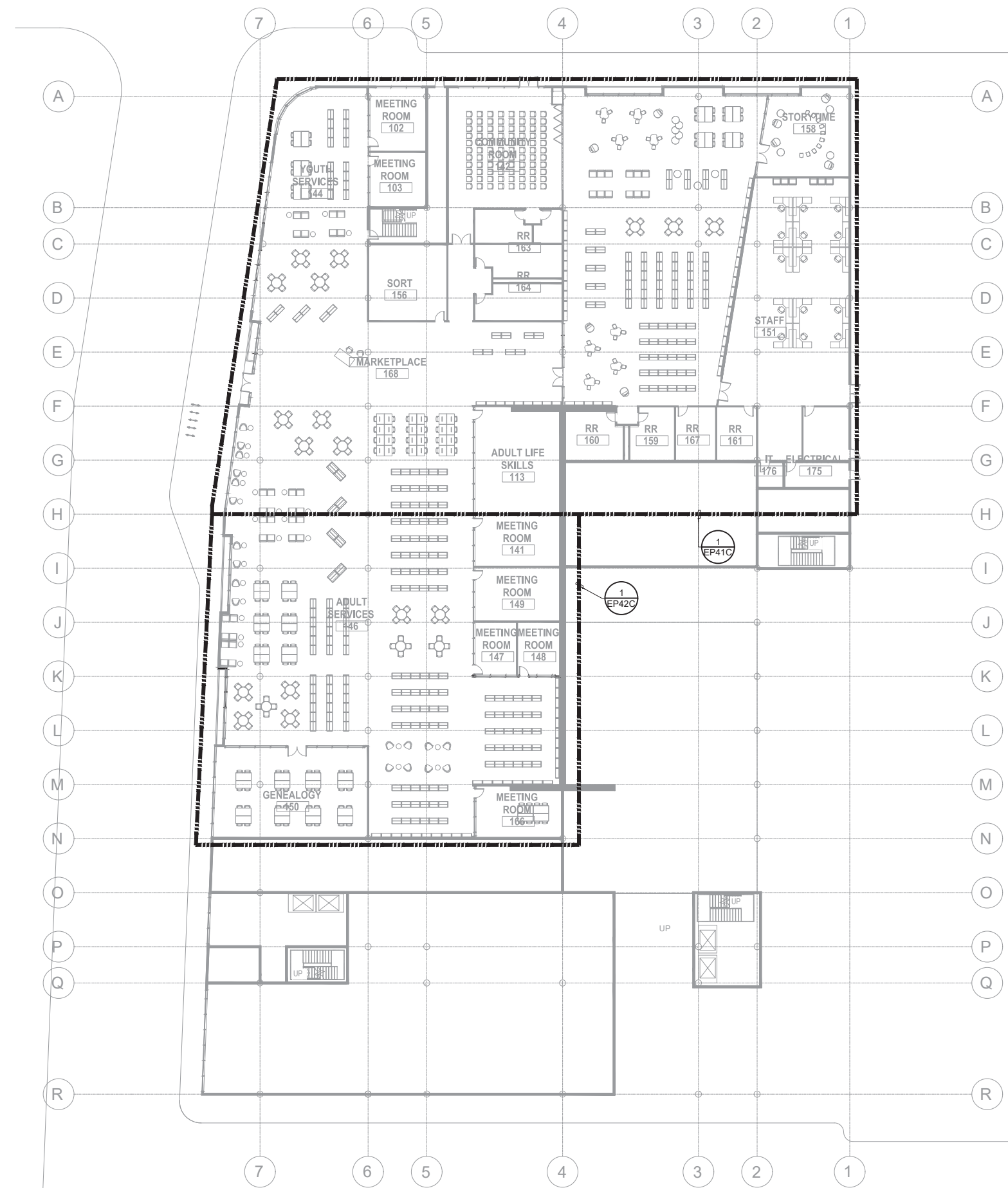
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EP40C



1 OVERALL POWER PLAN
1" = 20'-0"



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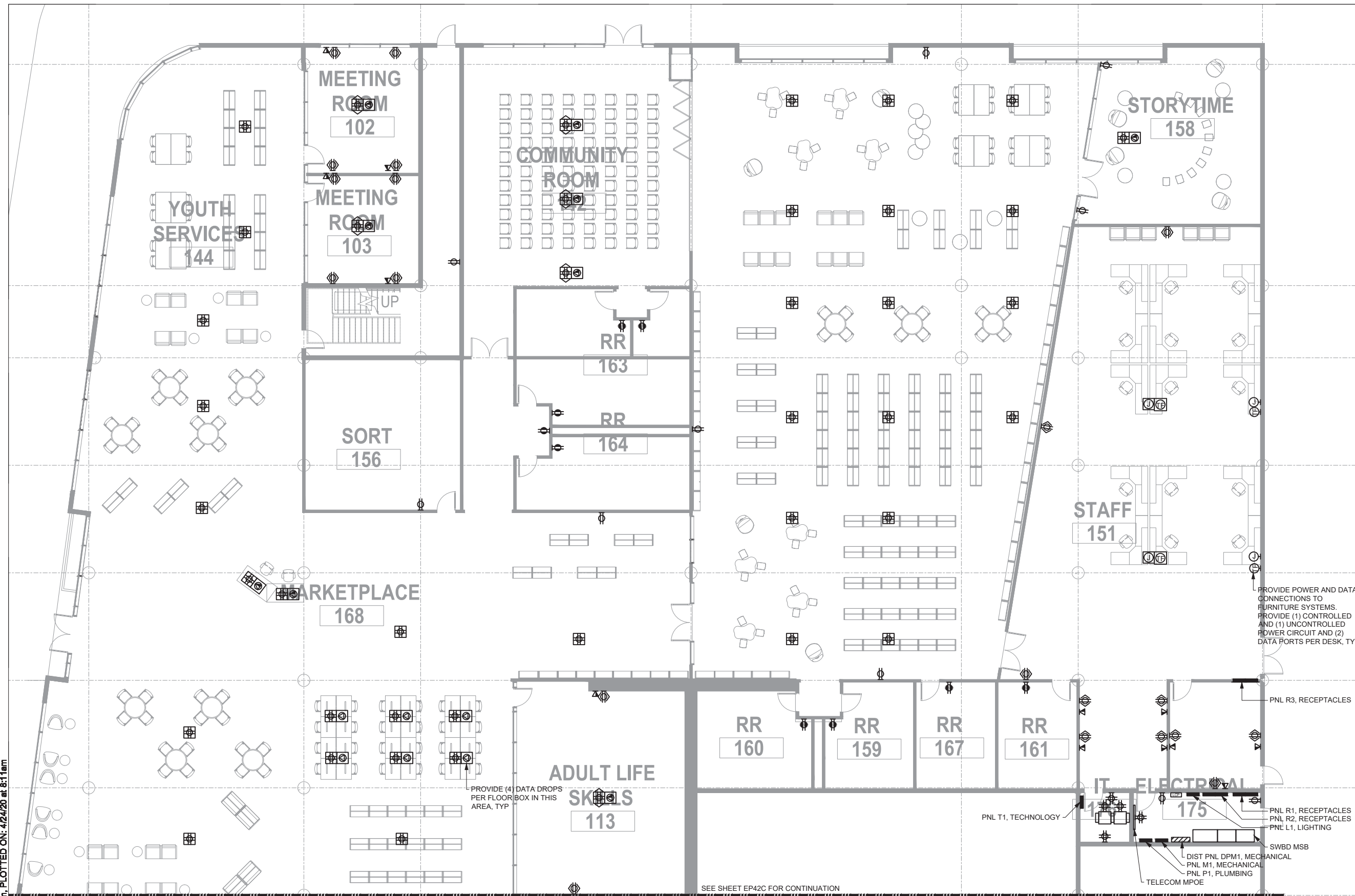
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SHEET TITLE AND NO.

EP41C 115

FILE LOCATION: D:\01_Projects\Group4_02\2002.01 - Santa Cruz Downtown Library Assessment\05_Drawing\01_Elec\2002.01 - EP400 - POWER PLAN.dwg
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PROVIDE POWER AND DATA CONNECTIONS TO FURNITURE SYSTEMS. PROVIDE (1) CONTROLLED AND (1) UNCONTROLLED POWER CIRCUIT AND (2) DATA PORTS PER DESK, TYP

PROVIDE (4) DATA DROPS PER FLOOR BOX IN THIS AREA, TYP

PNL T1, TECHNOLOGY

PNL R1, RECEPTACLES
PNL R2, RECEPTACLES
PNL L1, LIGHTING

SWBD MSB
DIST PNL DPM1, MECHANICAL
PNL M1, MECHANICAL
PNL P1, PLUMBING
TELECOM MPOE

SEE SHEET EP42C FOR CONTINUATION

GENERAL NOTES

- A. REFER TO NARRATIVE FOR ADD ALTERNATES.
- B. REFER TO ARCHITECTURAL, MECHANICAL, AND PLUMBING NARRATIVES FOR ADDITIONAL EQUIPMENT CONNECTIONS REQUIRED.

1 ENLARGED POWER PLAN - NORTH SIDE
1/8" = 1'-0"





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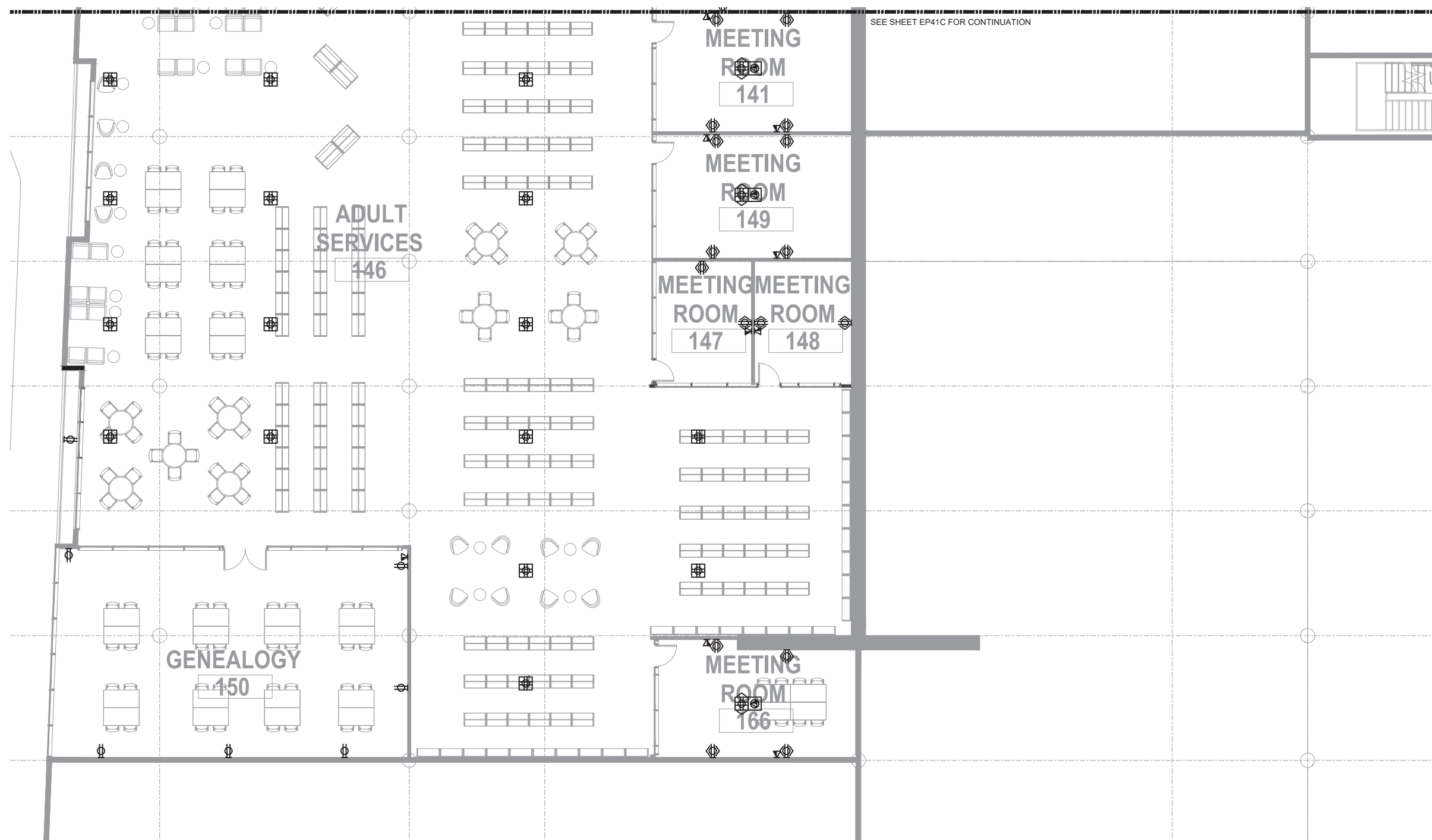
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EP42C



GENERAL NOTES

- A. REFER TO NARRATIVE FOR ADD ALTERNATES.
- B. REFER TO ARCHITECTURAL, MECHANICAL, AND PLUMBING NARRATIVES FOR ADDITIONAL EQUIPMENT CONNECTIONS REQUIRED.

1 ENLARGED POWER PLAN - SOUTH SIDE
1/8" = 1'-0"

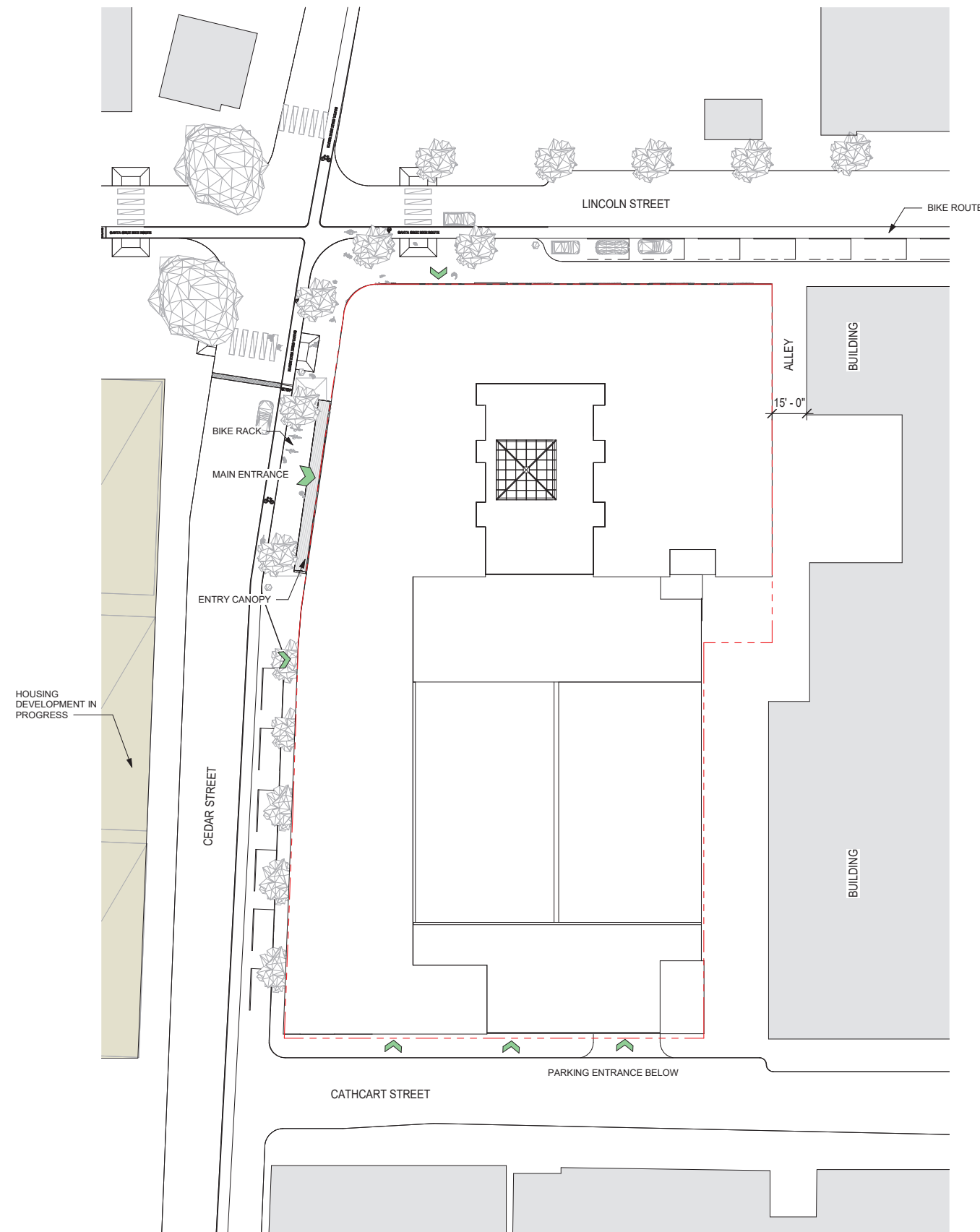


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OPTION D

LIBRARY WITH ONLY HOUSING ABOVE AND PARKING ADJACENT



LEGEND

--- PROPERTY LINE

① SP- SITE PLAN OPTION D
1" = 30'-0"



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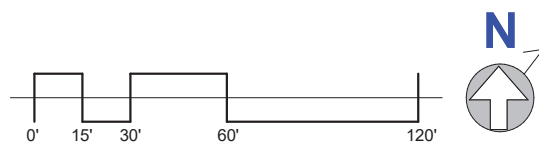
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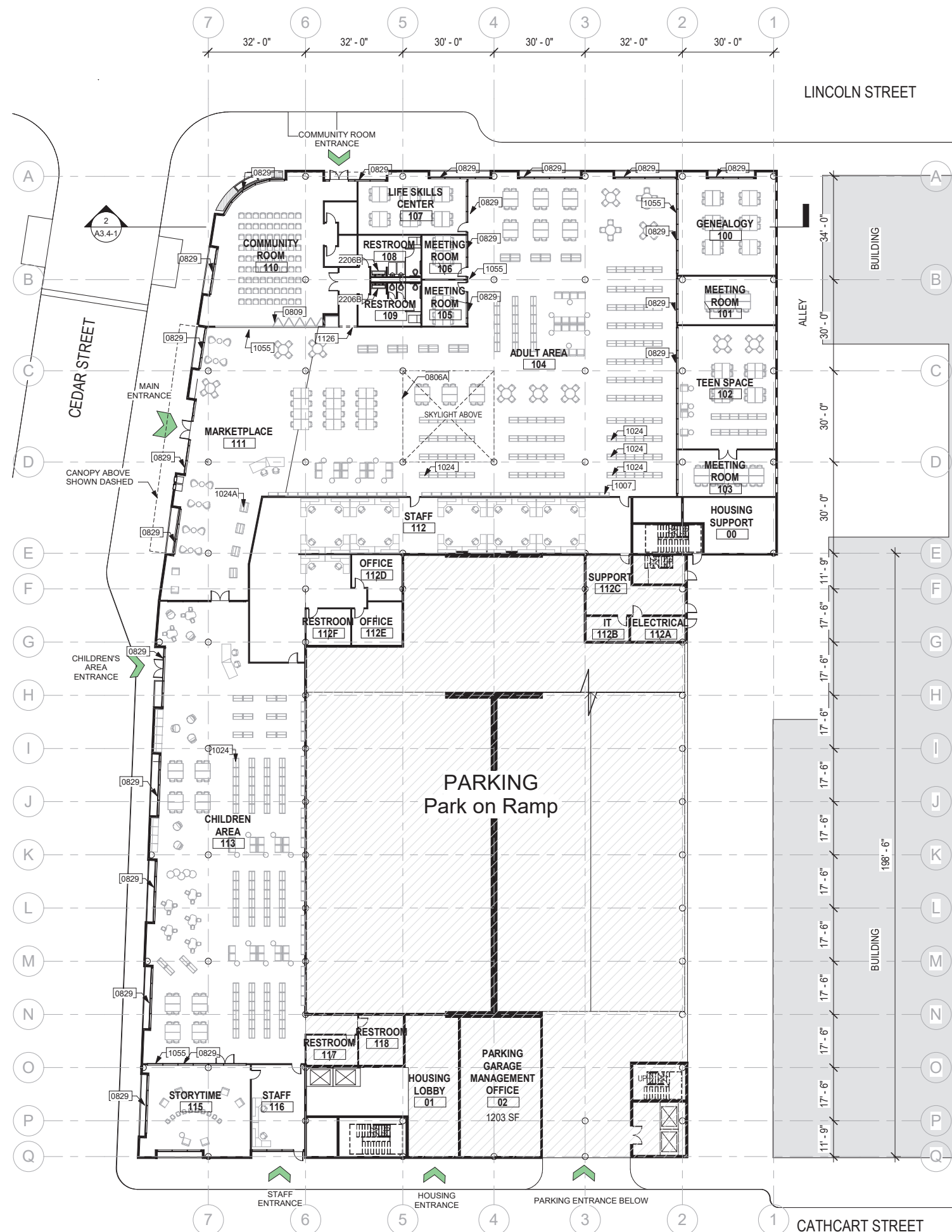
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SHEET TITLE AND NO.
SITE PLAN

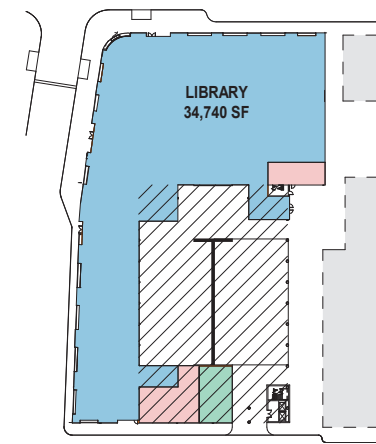
OPTION D:
HOUSING
ABOVE

A1.1-1





SHEET NOTES



AREA PLAN LEGEND

- LIBRARY 34,740 SF
- HOUSING
- COMMERCIAL

KEYNOTE

NO.	KEYNOTE TEXT
0806A	SKYLIGHT, ALIGN APERTURE WITH CEILING GRID
0809	BASE: ALUM BASED GLASS PARTITION ALT: OVERHEAD SUPPORTED ALUM. BI-FOLDING DOORS
0829	ALUM FRAMED INSULATED GLAZING SYSTEM
1007	METAL CANTILEVERED SHELVING SFS 66"
1024	METAL CANTILEVERED SHELVING DFS 66"
1024A	VINYL WALL GRAPHIC
1055	ROLL-DOWN GATE
1126	ROLL-DOWN GATE
2206B	LAVATORY, RAMP SINK, S.P.D.

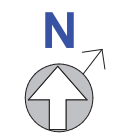
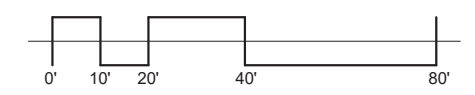
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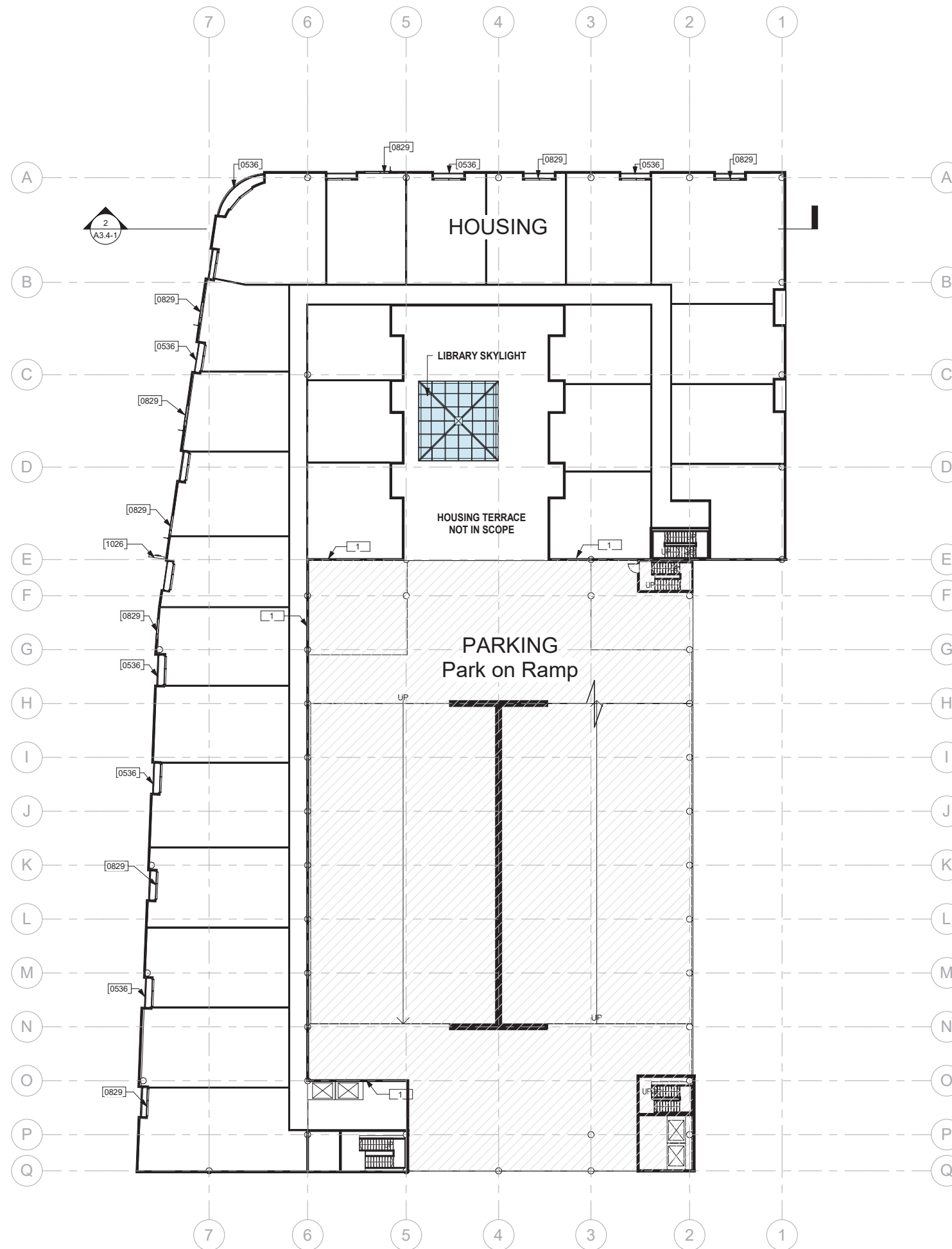
SHEET TITLE AND NO.
**FLOOR PLAN-
FIRST FLOOR**

OPTION D:
HOUSING
ABOVE

A2.4-1 119

1 FP01- FIRST FLOOR FURNITURE PLAN OPTION D
1" = 20'-0"





SHEET NOTES

1. ALL HOUSING UNIT QUANTITIES AND SIZES ARE DIAGRAMMATIC AND FOR REFERENCE ONLY. INDIVIDUAL HOUSING UNIT SIZES AND DESIGN WOULD BE DEVELOPED IN FUTURE PHASES WITH COUNCIL AND COMMUNITY INPUT.
2. NUMBER OF ADDITIONAL LEVELS (HOUSING AND PARKING) TO BE DETERMINED AS PART OF MIXED-USE HOUSING AND PARKING DESIGN

KEYNOTE

NO.	KEYNOTE TEXT
1	SPRAYED FIRE-RESISTIVE MATERIAL (2-HR RATED WALL)
0536	MTL. GUARDRAIL
0829	ALUM FRAMED INSULATED GLAZING SYSTEM
1026	CANOPY



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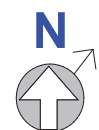
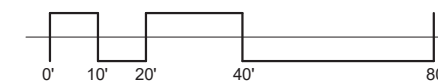
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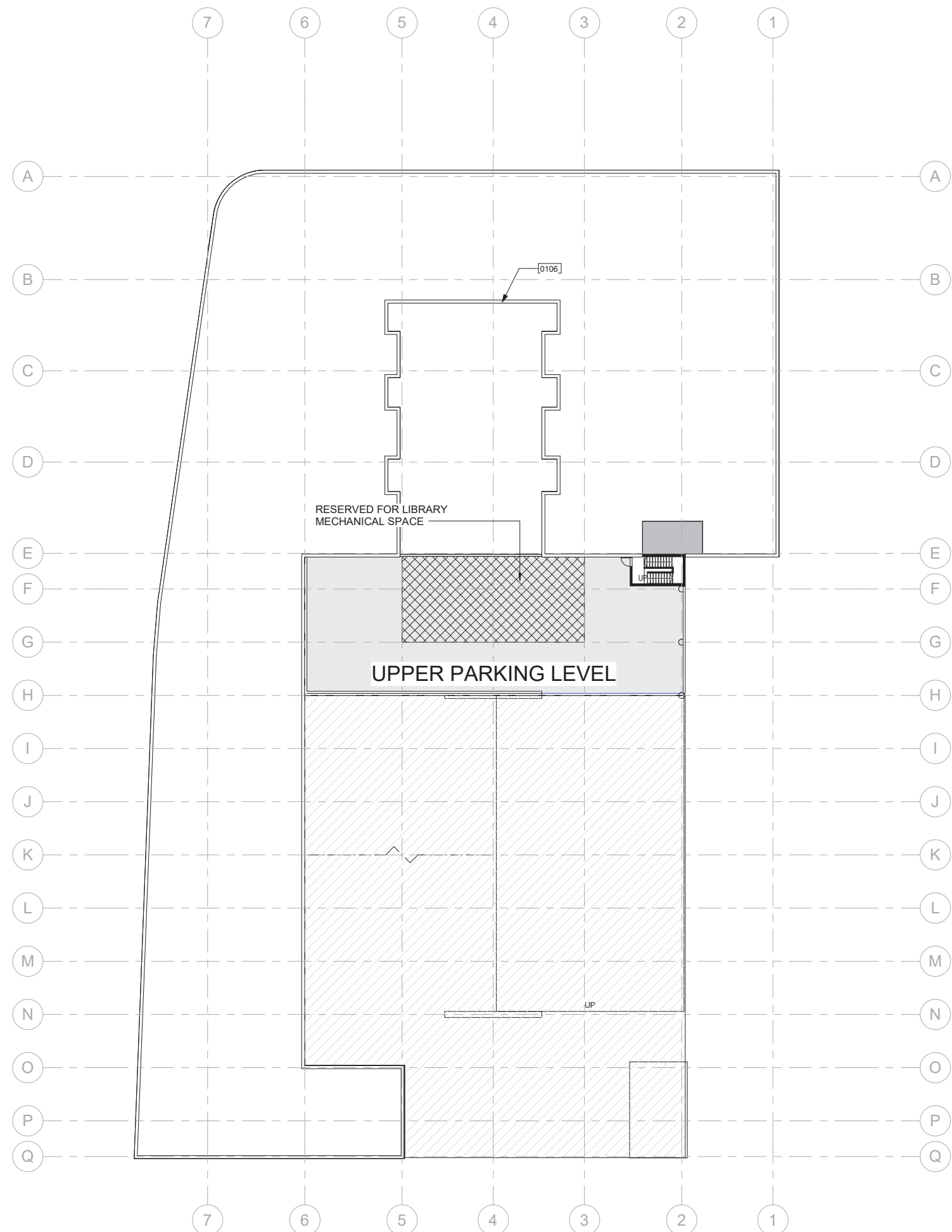
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SHEET TITLE AND NO.
FLOOR PLAN-TYPICAL UPPER LEVEL

OPTION D:
 HOUSING
 ABOVE

A2.4-2





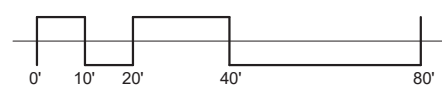
SHEET NOTES

1. ALL HOUSING UNIT SIZES ARE DIAGRAMMATIC AND OVERALL FLOOR SQUARE FOOTAGE ONLY. INDIVIDUAL HOUSING UNIT SIZE AND DESIGN WOULD BE DEVELOPED IN FUTURE PHASES WITH COUNCIL AND COMMUNITY INPUT.
2. NUMBER OF ADDITIONAL LEVELS (HOUSING AND PARKING) TO BE DETERMINED AS PART OF MIXED-USE HOUSING AND PARKING DESIGN

KEYNOTE

NO. KEYNOTE TEXT

① RF-ROOF PLAN OPTION D
1" = 20'-0"



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SHEET TITLE AND NO.
ROOF PLAN

OPTION D:
HOUSING
ABOVE

A2.4-3 121

SHEET NOTES

1. NUMBER OF ADDITIONAL LEVELS (HOUSING AND PARKING) TO BE DETERMINED AS PART OF MIXED-USE HOUSING AND PARKING DESIGN



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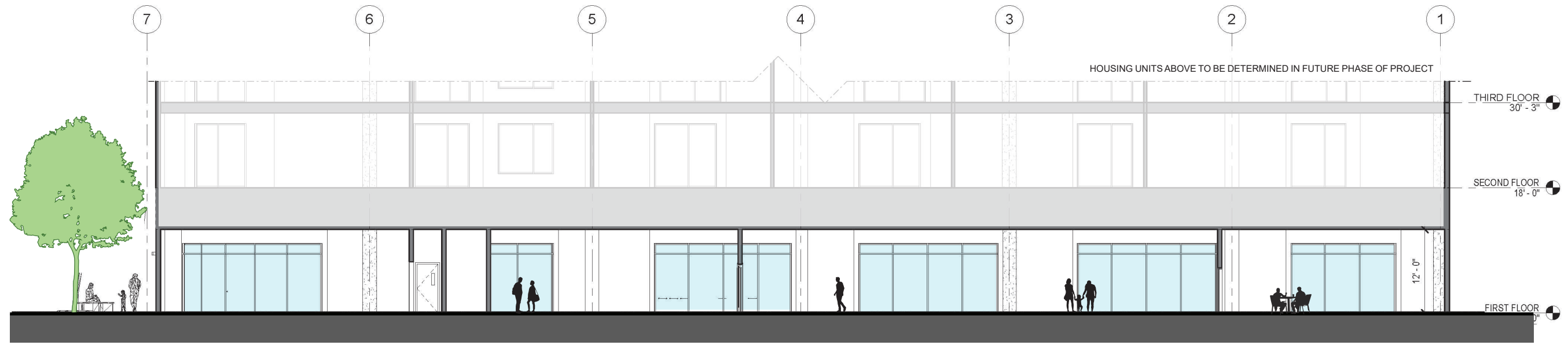
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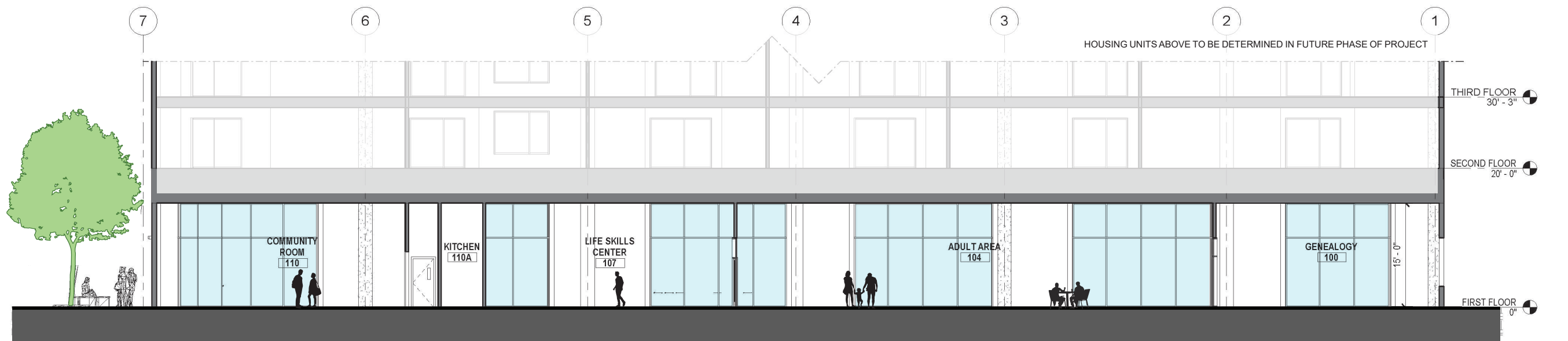
SHEET TITLE AND NO.
 BUILDING
 SECTIONS

OPTION D:
 HOUSING
 ABOVE

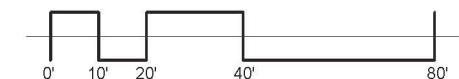
A3.4-1

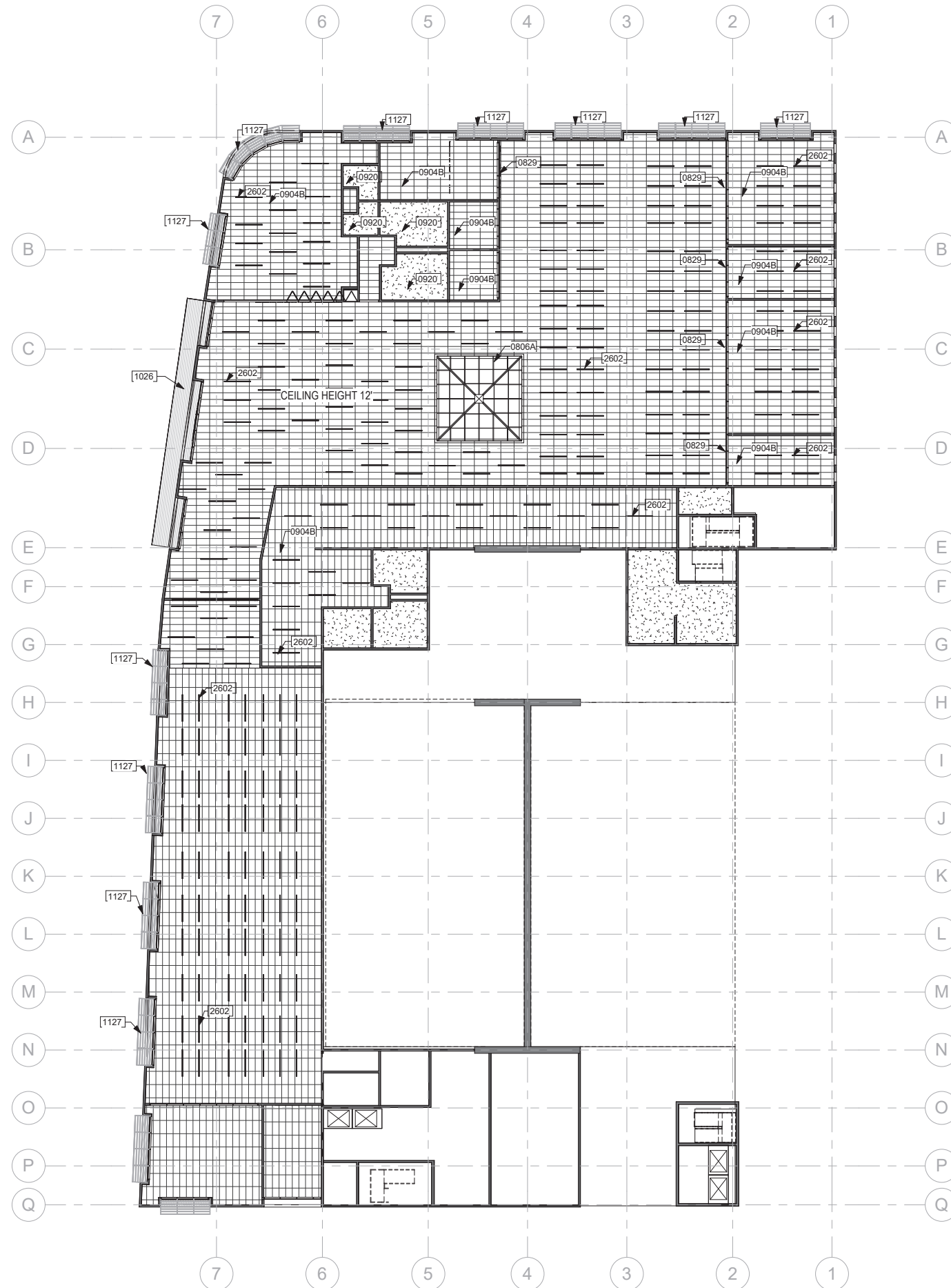


1 WEST-EAST SECTION OPTION D (BASE)
 1/8" = 1'-0"





2 WEST-EAST SECTION OPTION D (ALTERNATE)
 1/8" = 1'-0"





REFLECTED CEILING PLAN LEGEND

-  G-1:
GYPSUM BOARD CEILING
-  ACT-1:
2' X 4' HIGH FINISH
ACOUSTIC CEILING TILE

KEYNOTE

NO.	KEYNOTE TEXT
0806A	SKYLIGHT, ALIGN APERTURE WITH CEILING GRID
0829	ALUM FRAMED INSULATED GLAZING SYSTEM
0904B	ACOUSTICAL CEILING
0920	GYPSUM BD CEILING
1026	CANOPY
1127	EXTERIOR SUNSHADES
2602	LIGHT FIXTURE, S.E.D.



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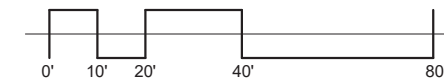
SHEET TITLE AND NO.

REFLECTED
 CEILING PLAN-
 FIRST FLOOR

OPTION D:
 HOUSING
 ABOVE

A6.0-1 123

① RCP01-REFLECTED CEILING PLAN- FIRST FLOOR OPTION D (BASE)
 1" = 20'-0"





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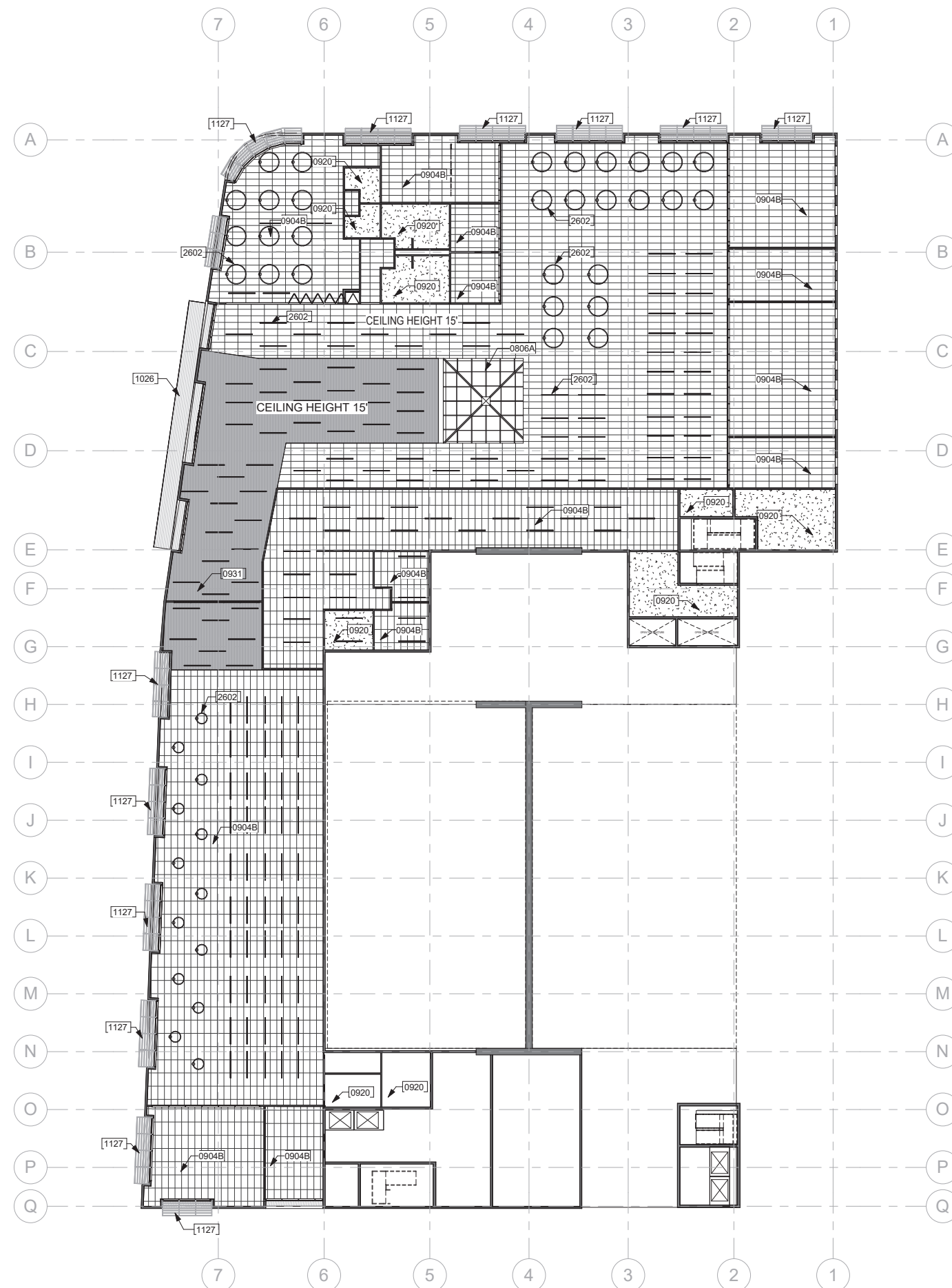
SHEET NOTES

REFLECTED CEILING PLAN LEGEND

- G-1: GYPSUM BOARD CEILING
- WOOD SLAT CEILING
- ACT-1: 2' X 4' HIGH FINISH ACOUSTIC CEILING TILE

KEYNOTE

NO.	KEYNOTE TEXT
0806A	SKYLIGHT, ALIGN APERTURE WITH CEILING GRID
0904B	ACOUSTICAL CEILING
0920	GYPSUM BD CEILING
0931	WOOD SLAT CEILING
1026	CANOPY
1127	EXTERIOR SUNSHADES
2602	LIGHT FIXTURE, S.E.D.



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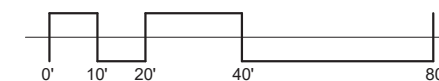
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SHEET TITLE AND NO.
 REFLECTED
 CEILING PLAN-
 FIRST FLOOR (ALT)

OPTION D:
 HOUSING
 ABOVE

A6.0-1

① RCP01-REFLECTED CEILING PLAN- FIRST FLOOR OPTION D (ALTERNATE)
 1" = 20'-0"



Room Finish Schedule Option D							
Number	Name	Floor Finish	Base Finish	Wall Finish	Ceiling Finish	Comments	Area
100	GENEALOGY	CARPET TILE	PTD 1X4 WOOD	LVL 5 PTD GWB	ACOUSTIC CLG TILE		1040 SF
101	MEETING ROOM	CARPET TILE	PTD 1X4 WOOD	LVL 4 PTD GWB	ACOUSTIC CLG TILE		500 SF
102	TEEN SPACE	CARPET TILE	PTD 1X4 WOOD	LVL 4 PTD GWB	ACOUSTIC CLG TILE		1300 SF
103	MEETING ROOM	CARPET TILE	PTD 1X4 WOOD	LVL 4 PTD GWB	ACOUSTIC CLG TILE		480 SF
104	ADULT AREA	CARPET TILE	PTD 1X4 WOOD	LVL 5 PTD GWB	BASE:ACOUSTIC CLG TILE, ALT:WOOD SLATS, SEE RCP		10780 SF
105	MEETING ROOM	CARPET TILE	RUBBER	LVL 4 PTD GWB	ACOUSTIC CLG TILE		220 SF
106	MEETING ROOM	CARPET TILE	PTD 1X4 WOOD	LVL 4 PTD GWB	ACOUSTIC CLG TILE		210 SF
107	LIFE SKILLS CENTER	CARPET TILE	PTD 1X4 WOOD	LVL 4 PTD GWB	ACOUSTIC CLG TILE		670 SF
108	RESTROOM	TILE	TILE	LVL 4 PTD GWB	LVL 4 PTD GWB		260 SF
109	RESTROOM	TILE	TILE	LVL 4 PTD GWB	LVL 4 PTD GWB		270 SF
110	COMMUNITY ROOM	CARPET TILE	PTD 1X4 WOOD	LVL 4 PTD GWB	ACOUSTIC CLG TILE		1880 SF
110A	KITCHEN	TILE	TILE	LVL 4 PTD GWB	LVL 4 PTD GWB		90 SF
110B	STORAGE	TILE	TILE	LVL 4 PTD GWB	LVL 4 PTD GWB		90 SF
111	MARKETPLACE	CARPET TILE	PTD 1X4 WOOD	LVL 4 PTD GWB	BASE:ACOUSTIC CLG TILE, ALT:WOOD SLATS, SEE RCP		2500 SF
112	STAFF	CARPET TILE	RUBBER	LVL 4 PTD GWB	ACOUSTIC CLG TILE		3160 SF
112A	ELECTRICAL	CONC SLAB	CONC SLAB	LVL 4 PTD GWB	OPEN TO STRUCTURE		140 SF
112B	IT	CONC SLAB	CONC SLAB	LVL 4 PTD GWB	OPEN TO STRUCTURE		110 SF
112C	SUPPORT	RESILIENT	CONC SLAB	LVL 4 PTD GWB	LVL 4 PTD GWB		450 SF
112D	OFFICE	CARPET TILE	RUBBER	LVL 4 PTD GWB	ACOUSTIC CLG TILE		220 SF
112E	OFFICE	CARPET TILE	RUBBER	LVL 4 PTD GWB	ACOUSTIC CLG TILE		220 SF
112F	RESTROOM	TILE	TILE	LVL 4 PTD GWB	LVL 4 PTD GWB		170 SF
113	CHILDREN AREA	CARPET TILE	PTD 1X4 WOOD	LVL 4 PTD GWB	ACOUSTIC CLG TILE		7180 SF
115	STORYTIME	CARPET TILE	PTD 1X4 WOOD	LVL 4 PTD GWB	ACOUSTIC CLG TILE		990 SF
116	STAFF	CARPET TILE	RUBBER	LVL 4 PTD GWB	ACOUSTIC CLG TILE		490 SF
117	RESTROOM	TILE	TILE	LVL 4 PTD GWB	LVL 4 PTD GWB		170 SF
118	RESTROOM	TILE	TILE	LVL 4 PTD GWB	LVL 4 PTD GWB		240 SF



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SHEET TITLE AND NO.
**ROOM FINISH
 SCHEDULE**

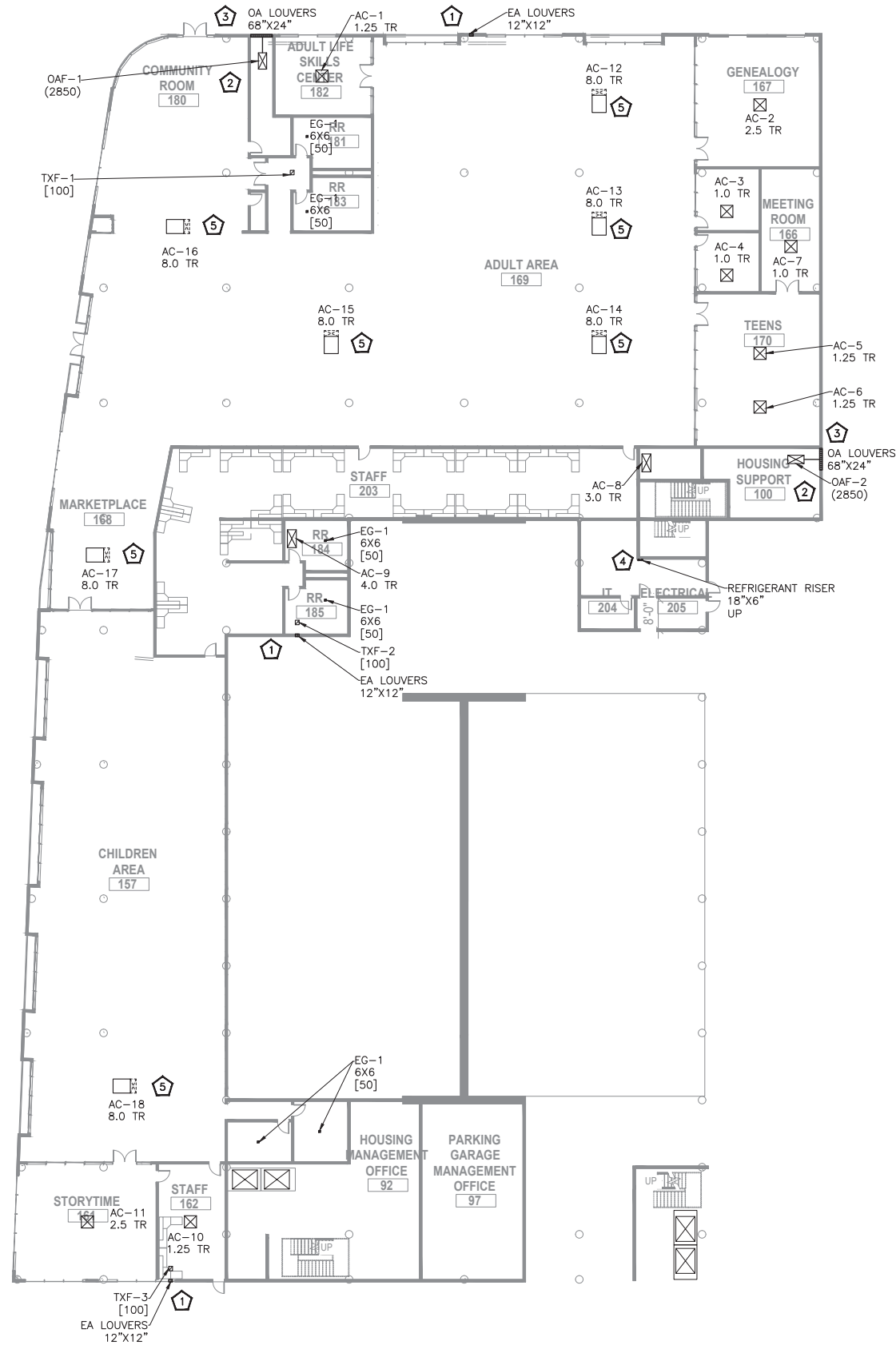
OPTION D:
 HOUSING
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A9.0



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- KEY NOTES:
- 1 EXHAUST FAN TERMINATIONS SHALL BE LOCATED MINIMUM 3 FEET FROM LOT LINE/OA INTAKE.
 - 2 PROVIDE 2" INSULATION FOR OUTSIDE AIR DUCT.
 - 3 OUTSIDE AIR DUCT INTAKE SHALL BE 10' AWAY FROM ANY EXHAUST OUTLET.
 - 4 PROVIDE FIRE WRAP/SLEEVE AT FLOOR PENETRATION OF REFRIGERANT PIPES.
 - 5 AC UNIT WITH MIXING BOX FOR ECONOMIZER CONTROL.

1 MECHANICAL FLOOR PLAN
SCALE: 1" = 20'-0"



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SHEET TITLE AND NO.
FIRST FLOOR
MECHANICAL PLAN
(OPTION D)

M-1.0



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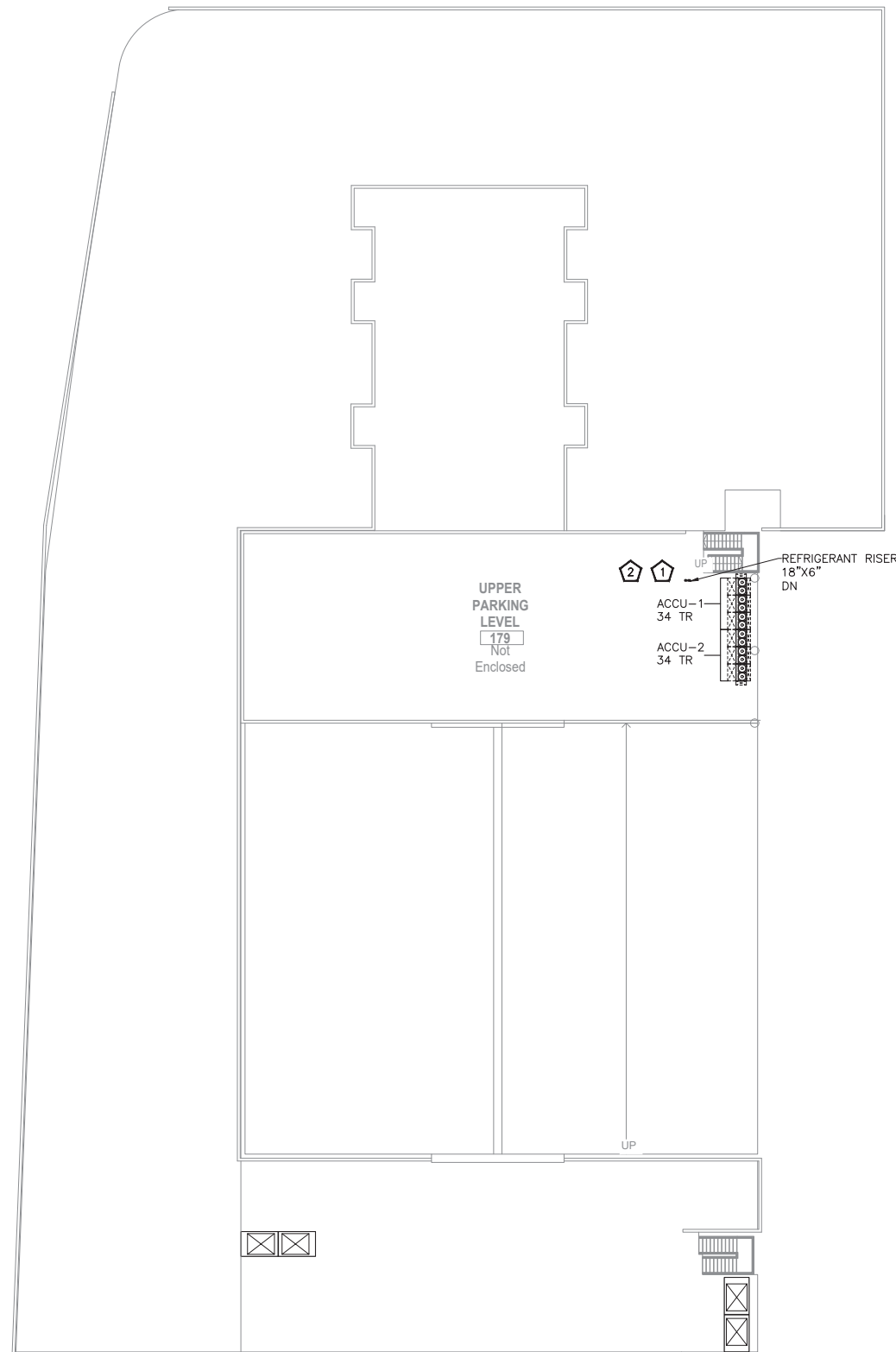
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SHEET TITLE AND NO.
ROOF MECHANICAL PLAN
(OPTION D)

M-1.1



KEY NOTES:

- 1 PROVIDE WEATHER PROOF COATING FOR ALL EXTERIOR PIPING INSULATION.
- 2 AIR CONDITIONER UNIT SHALL NOT PRODUCE NOISE LEVELS IN EXCESS OF 42 DECIBELS FOR A SINGLE AIR CIRCULATING DEVICE AND 45 DECIBELS FOR THE CUMULATIVE NOISE LEVEL OF MULTIPLE AIR CIRCULATING DEVICES AS MEASURED 3 FEET FROM THE NOISE SOURCE AT AN OPEN DOOR OR WINDOW OF A NEARBY RESIDENCE.

1 MECHANICAL ROOF PLAN
SCALE: 1" = 20'-0"



ACC		OUTDOOR HEAT PUMP CONDENSING UNITS												BASIS OF DESIGN: DAIKIN			
UNIT TAG	NO OF MODULES	LOCATION	TON	CAPACITIES (MBH)		COMPRESSOR TYPE	UNIT DIMENSIONS (EACH MODULE) W X H X D (IN)	WEIGHT (LBS)	REFRIGERANT PIPE SIZE (ØIN)		ELECTRICAL (3,208/230V,60)		DUCTED			SOUND LEVEL EA MOD. (dBA)	MODEL
				COOLING :	HEATING :				LIQUID	GAS	MCA (A)	MOCP (A)	EER	IEER	COP		
ACCU-1	3	ROOF	34	380	436	INVERTER-DRIVEN SCROLL HERMETIC	148X66X31	525, 695, 695.	7/8	1 3/8	55	60 (MOP)	9.5	20.9	3.2	83	RXYQ408TTJU
ACCU-2	3	ROOF	34	380	436	INVERTER-DRIVEN SCROLL HERMETIC	148X66X31	525, 695, 695.	7/8	1 3/8	55	60 (MOP)	9.5	20.9	3.2	83	RXYQ408TTJU

AC		AIR CONDITIONER SCHEDULES (INDOOR VRF)												BASIS OF DESIGN: DAIKIN				
UNIT TAG	LOCATION	AREA SERVED	TYPE	CAP. (TON)	COOLING MBH	HEATING MBH	TOTAL CFM (MAX.)	MAX. ESP (IN. WG)	MAX. SOUND PRESS. (DBA)	ELECTRICAL DATA			DIMENSIONS (HXWxD) (IN.)	PIPE SIZE			WEIGHT (LBS.)	MODEL NO.
										PH/VOLT/HZ	MCA (A)	MOCP (A)		LIQ. (IN.)	SUCTION (IN.)	DRAIN (OD) (IN.)		
AC-1	SEE PLAN	SEE PLAN	CASSETTE	1.2	14.4	17	512	0.6	29	1/208-230/60	0.4	15	10X33X33	3/8	5/8	1	42	FXFQ15TVJU
AC-2	SEE PLAN	SEE PLAN	CASSETTE	2.5	22.3	34	1129	0.6	38	1/208-230/60	1.3	15	10X33X33	3/8	5/8	1	58	FXFQ30TVJU
AC-3	SEE PLAN	SEE PLAN	CASSETTE	1.0	12	13.5	441	0.6	29	1/208-230/60	0.3	15	10X33X33	3/8	5/8	1	42	FXFQ12TVJU
AC-4	SEE PLAN	SEE PLAN	CASSETTE	1.0	12	13.5	441	0.6	29	1/208-230/60	0.3	15	10X33X33	3/8	5/8	1	42	FXFQ12TVJU
AC-5	SEE PLAN	SEE PLAN	CASSETTE	1.2	14.4	17	512	0.6	29	1/208-230/60	0.4	15	10X33X33	3/8	5/8	1	42	FXFQ15TVJU
AC-6	SEE PLAN	SEE PLAN	CASSETTE	1.2	14.4	17	512	0.6	29	1/208-230/60	0.4	15	10X33X33	3/8	5/8	1	42	FXFQ15TVJU
AC-7	SEE PLAN	SEE PLAN	CASSETTE	1.0	12	13.5	441	0.6	29	1/208-230/60	0.3	15	10X33X33	3/8	5/8	1	42	FXFQ12TVJU
AC-8	SEE PLAN	SEE PLAN	CEILING MOUNTED	3.0	36	40	1130	0.6	41	1/208-230/60	2.9	15	12X55X28	3/8	5/8	1	102	FXMQ36PBVJU
AC-9	SEE PLAN	SEE PLAN	CEILING MOUNTED	4.0	48	54	1371	0.6	42	1/208-230/60	3.4	15	12X55X28	3/8	5/8	1	42	FXMQ48PBVJU
AC-10	SEE PLAN	SEE PLAN	CASSETTE	1.5	18	20	742	0.6	32	1/208-230/60	0.5	15	10X33X33	3/8	5/8	1	42	FXFQ18TVJU
AC-11	SEE PLAN	SEE PLAN	CASSETTE	2.5	22.3	34	1129	0.6	38	1/208-230/60	1.3	15	10X33X33	3/8	5/8	1	58	FXFQ30TVJU
AC-12	SEE PLAN	SEE PLAN	DUCTABLE	8.0	96	108	2541	1.1	49	1/208-230/60	10.7	15	18X54X43	3/8	7/8	1	302	FXMQ96MVJU
AC-13	SEE PLAN	SEE PLAN	DUCTABLE	8.0	96	108	2541	1.1	49	1/208-230/60	10.7	15	18X54X43	3/8	7/8	1	302	FXMQ96MVJU
AC-14	SEE PLAN	SEE PLAN	DUCTABLE	8.0	96	108	2541	1.1	49	1/208-230/60	10.7	15	18X54X43	3/8	7/8	1	302	FXMQ96MVJU
AC-15	SEE PLAN	SEE PLAN	DUCTABLE	8.0	96	108	2541	1.1	49	1/208-230/60	10.7	15	18X54X43	3/8	7/8	1	302	FXMQ96MVJU
AC-16	SEE PLAN	SEE PLAN	DUCTABLE	8.0	96	108	2541	1.1	49	1/208-230/60	10.7	15	18X54X43	3/8	7/8	1	302	FXMQ96MVJU
AC-17	SEE PLAN	SEE PLAN	DUCTABLE	8.0	96	108	2541	1.1	49	1/208-230/60	10.7	15	18X54X43	3/8	7/8	1	302	FXMQ96MVJU
AC-18	SEE PLAN	SEE PLAN	DUCTABLE	8.0	96	108	2541	1.1	49	1/208-230/60	10.7	15	18X54X43	3/8	7/8	1	302	FXMQ96MVJU

EXHAUST FAN SCHEDULE						
UNIT TAG	SERVICE	CFM	S.P.	RPM/HP	ELECT.	MANUF. & MODEL NO.
TXF-1	SEE PLAN	100	0.5	1350/39W	115/1Ø	GREENHECK CSP-A390-VG
TXF-2	SEE PLAN	100	0.5	1350/39W	115/1Ø	GREENHECK CSP-A390-VG
TXF-3	SEE PLAN	100	0.5	1350/39W	115/1Ø	GREENHECK CSP-A390-VG

OAF FAN SCHEDULE						
UNIT TAG	SERVICE	CFM	S.P.	RPM/HP	ELECT.	MANUF. & MODEL NO.
OAF-2	SEE PLAN	2850	1.0	1570/1.03 BHP	208/1Ø	GREENHECK SQ-160-VG
OAF-1	SEE PLAN	2765	1.0	1570/1.03 BHP	208/1Ø	GREENHECK SQ-160-VG



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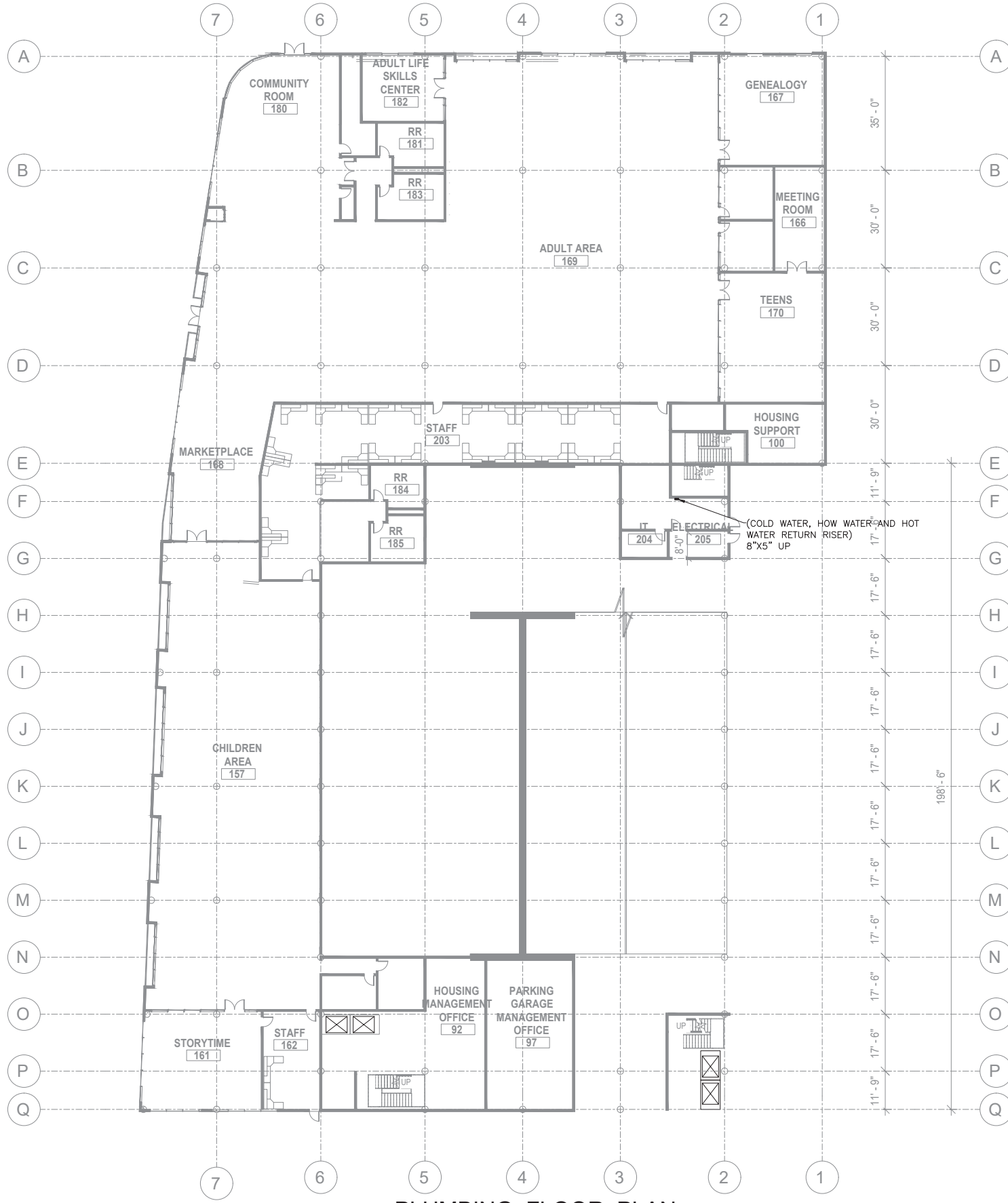
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MECHANICAL SCHEDULE
(OPTION D)



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1 PLUMBING FLOOR PLAN
SCALE: 1" = 20'-0"

HEAT PUMP HOT WATER HEATER										
TAG No.	TOTAL NO. OF HEATERS	TYPE	LOCATION	MAX INPUT (KW)	STORAGE CAP GALLONS	RECOVERY CAP. (GPH) @ 100' RISE AT HYBRID MODE	NO. OF ELEMENTS	ELECTRICAL CHARACTERISTICS CONTROLS	MANUFACTURER & MODEL NO.	REMARKS
HPWH-1	1	HEAT PUMP ELECTRIC WATER HEATER	ROOF	12	119	90	2	208V/1Ø/60Hz	A O SMITH CHP 120	- PROVIDE EXPANSION TANK ET-1 - PROVIDE DRAIN PAN

EXPANSION TANK SCHEDULE					
ITEM	LOCATION	SERVICE	CAPACITY (GALLONS)	MAKE & MODEL	REMARKS
EXPANSION TANK (ET-1)	ROOF	HOT WATER	4.4	THERM-X-TROL ST-12	DIMENSIONS-15"(H)x11"(DIA.)

PUMP SCHEDULE											
TAG	SERVICE	LOCATION	QTY.	PERFORMANCE DATA			MOTOR DATA			MFR MODEL	REMARKS
				GPM	TDH (FT)	WATER TEMP. (F)	MHP	STARTER TYPE	V/PH/Hz		
HWCP-1	HWHT	ROOF	1	2	12	120	52 WATTS	AQUA STAT	115/1/60	2800	BELL & GOSSETT NBF 10S/LW INLINE ON HW RETURN LINE AT WATER HEATER NEMA 1 RATED MOTOR

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FIRST FLOOR PLUMBING PLAN
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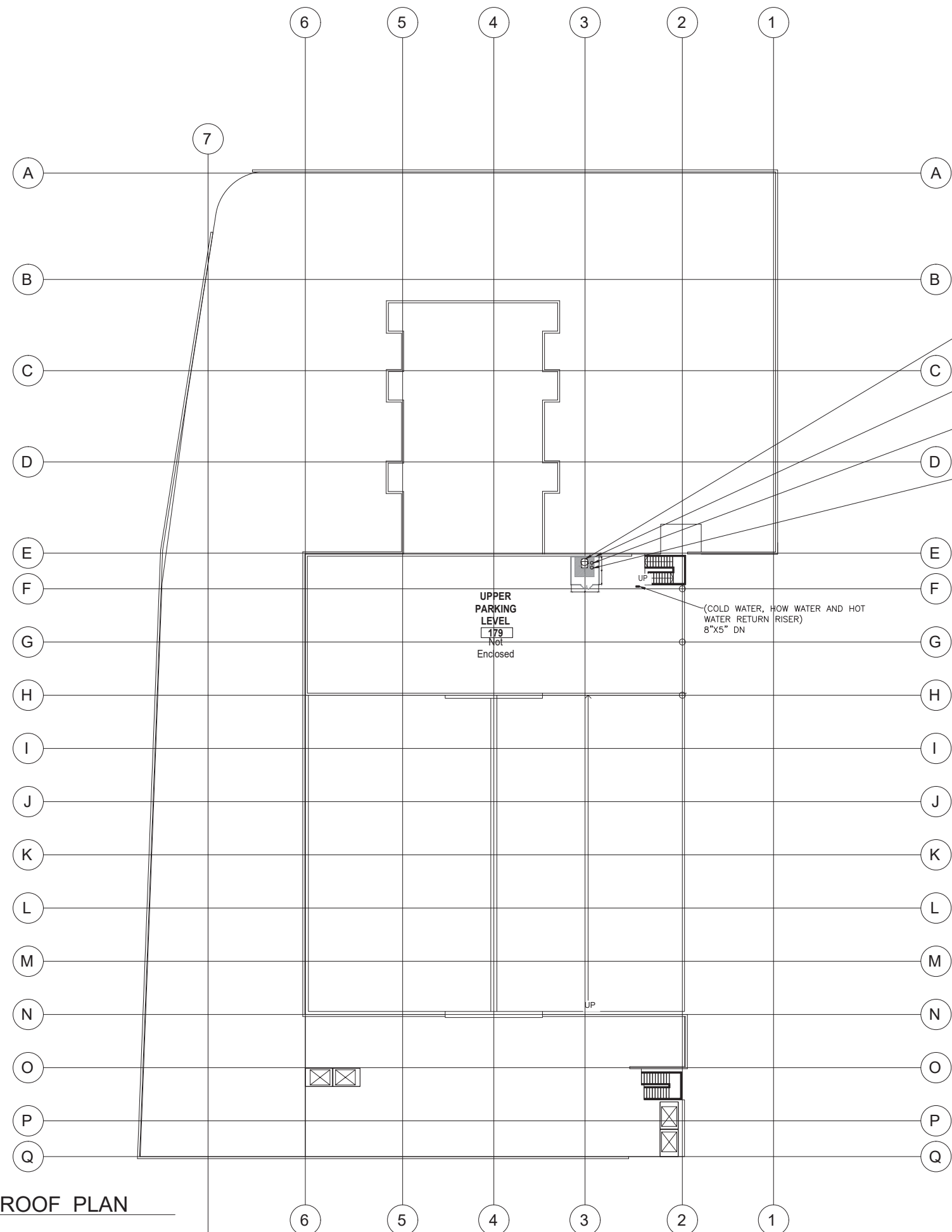
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ROOF PLUMBING PLAN
(OPTION D)

P-1.1



1 PLUMBING ROOF PLAN
SCALE: 1" = 20'-0"





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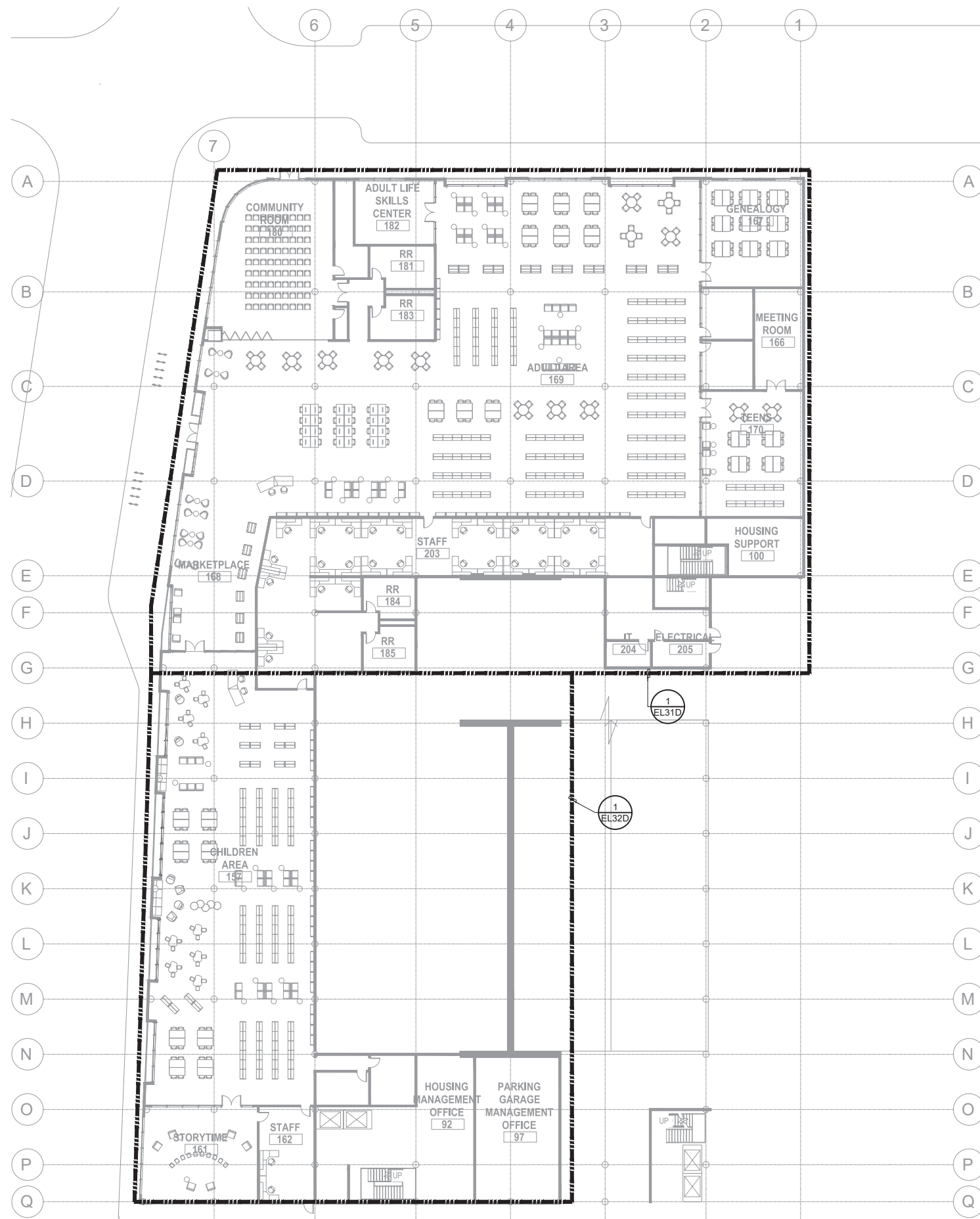
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EL30D 131



1 OVERALL LIGHTING PLAN
1" = 20'-0"



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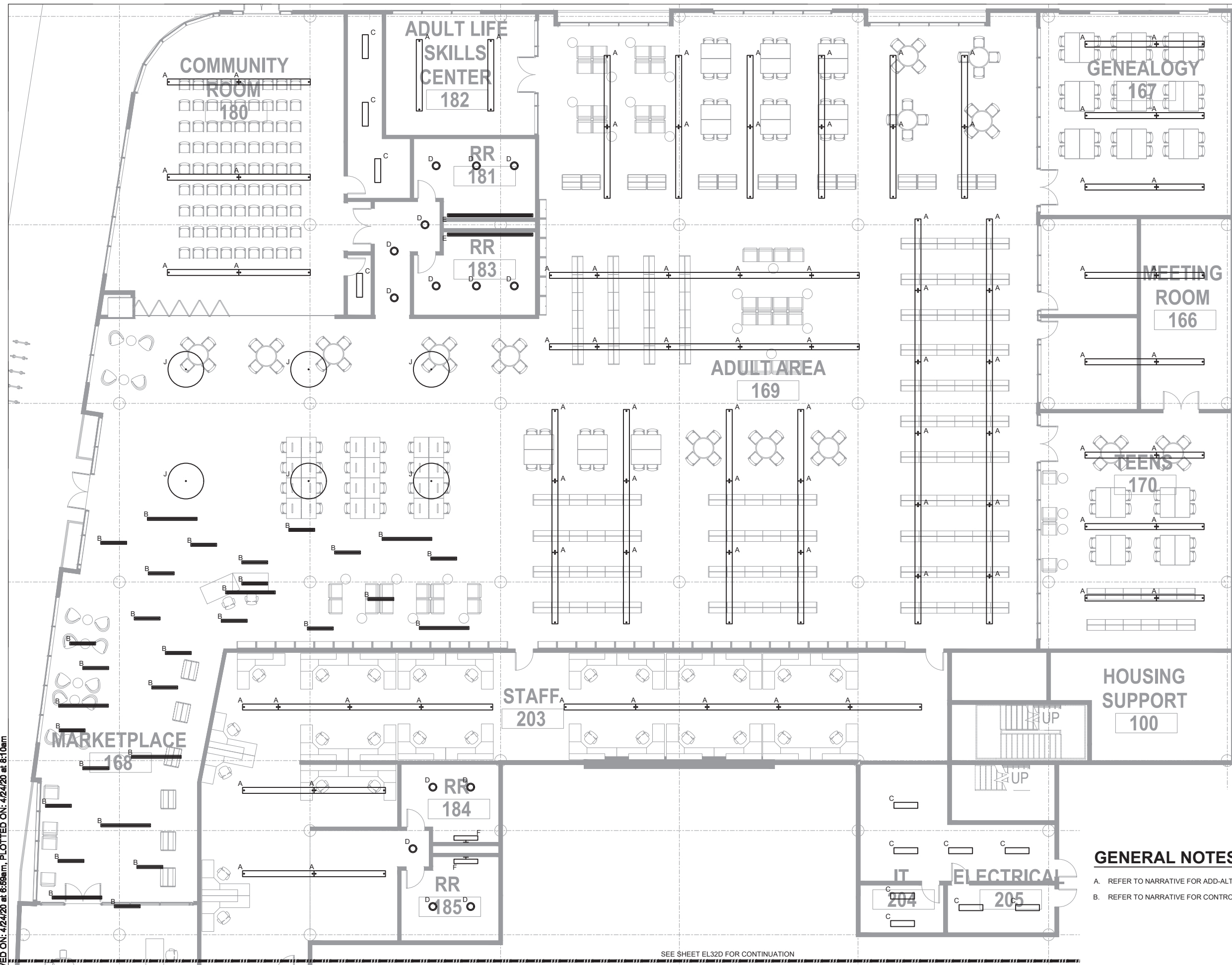
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EL31D

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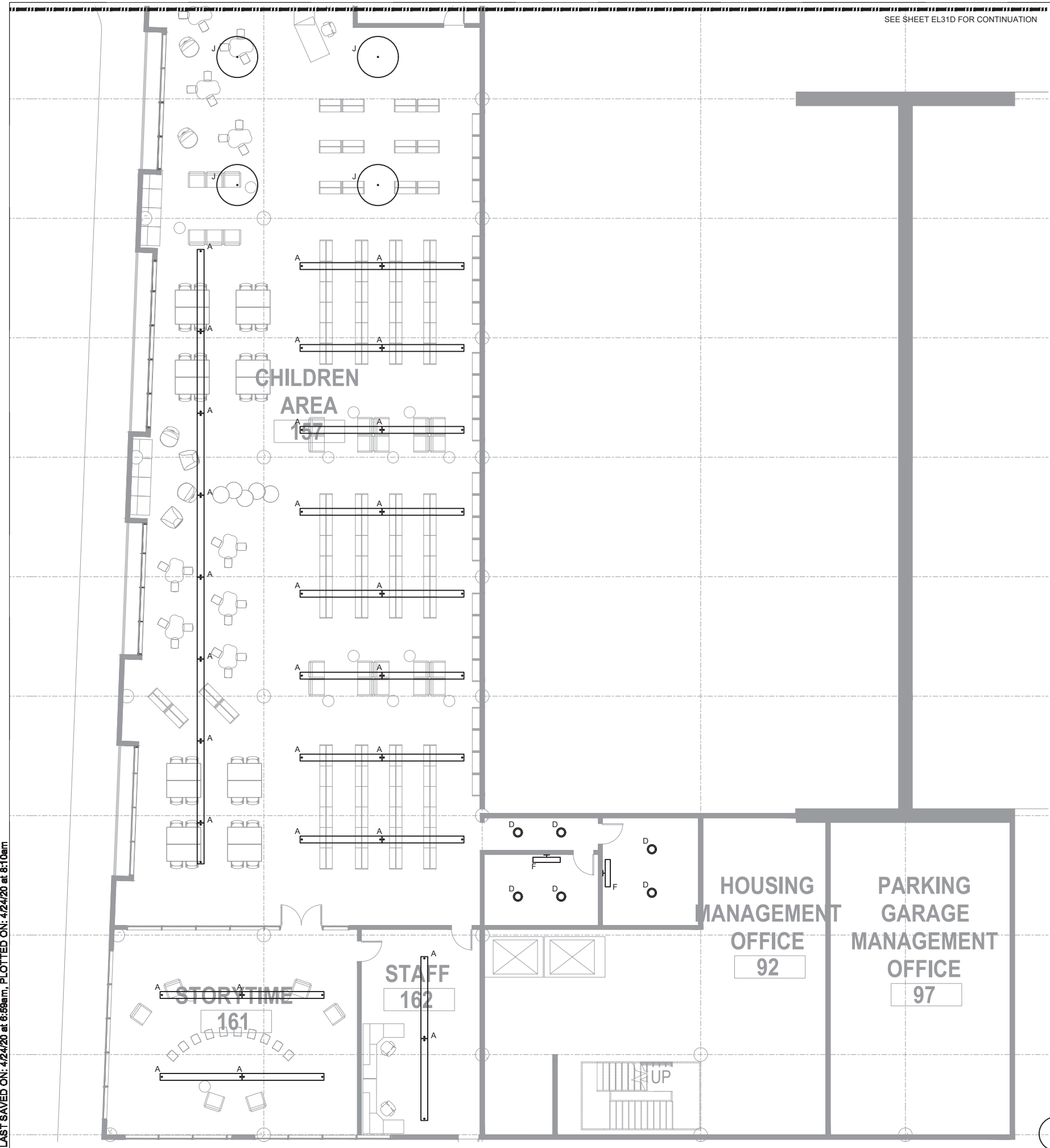


SEE SHEET EL32D FOR CONTINUATION

1 ENLARGED LIGHTING PLAN - NORTH SIDE
1/8" = 1'-0"

SEE SHEET EL31D FOR CONTINUATION

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GENERAL NOTES

- A. REFER TO NARRATIVE FOR ADD-ALTERNATE ITEMS.
- B. REFER TO NARRATIVE FOR CONTROLS REQUIREMENTS.

**ENLARGED LIGHTING PLAN
SOUTH SIDE**

1/8" = 1'-0"



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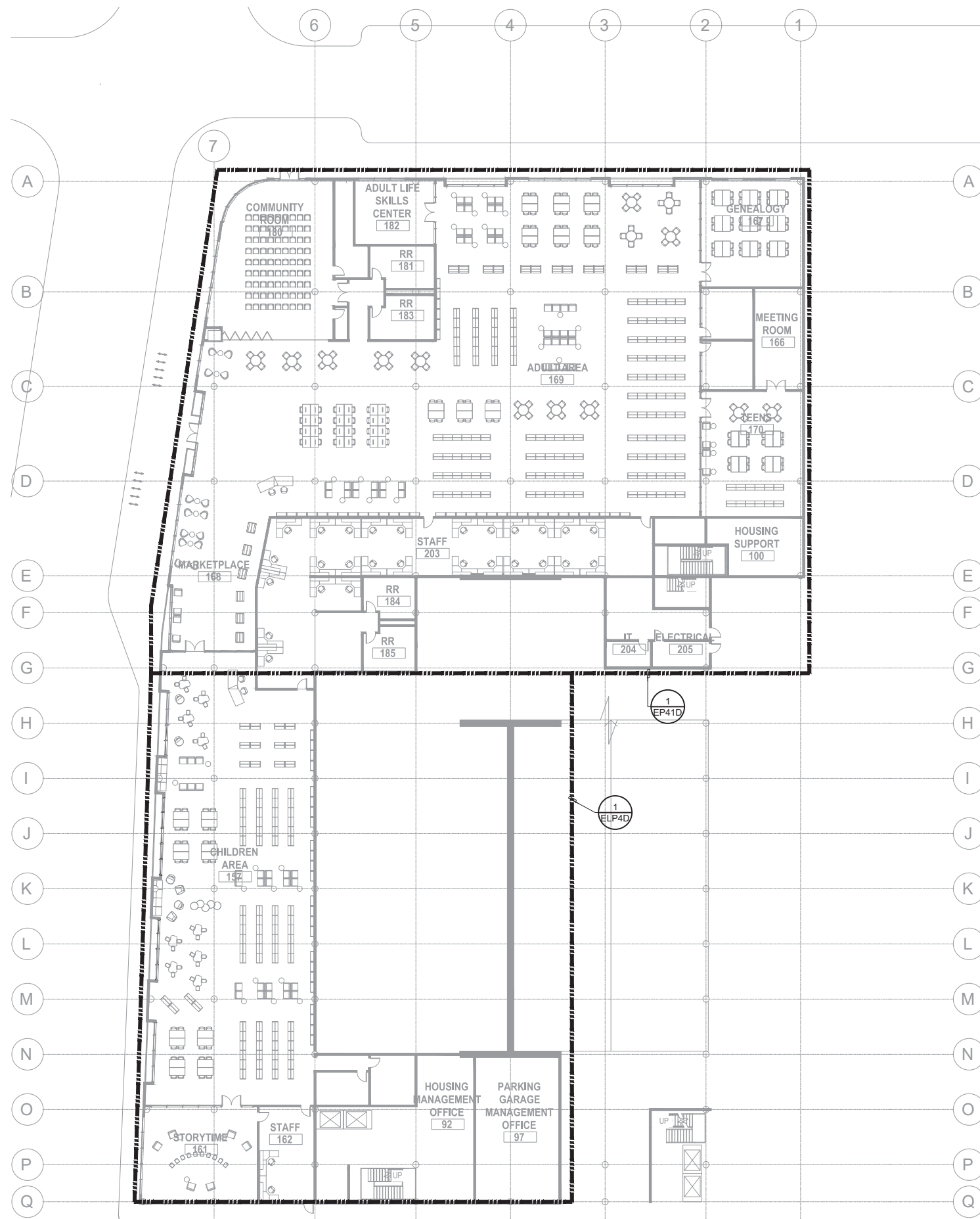
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EP40D



1 OVERALL POWER PLAN
1" = 20'-0"



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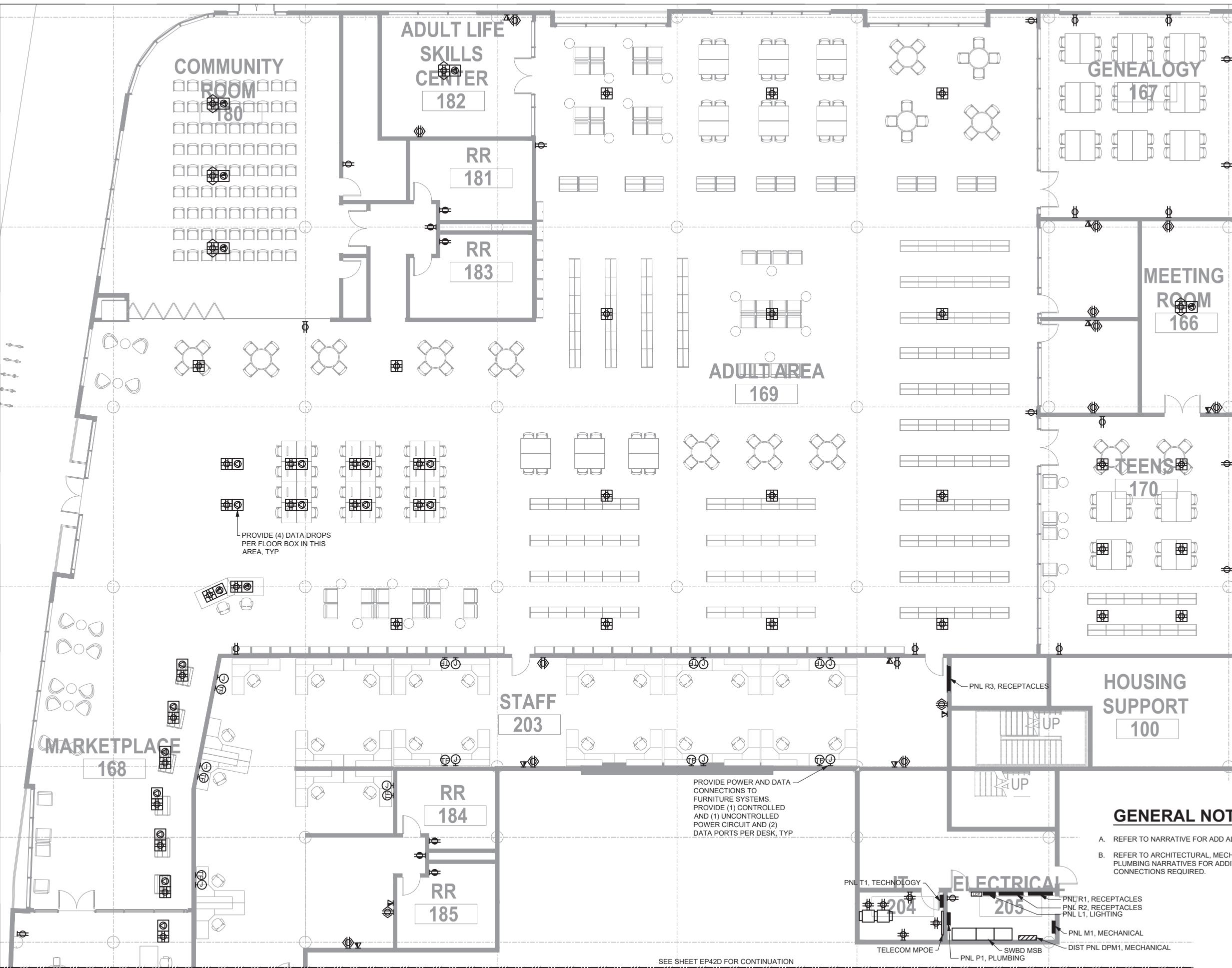
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SHEET TITLE AND NO.

EP41D 135

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1 ENLARGED POWER PLAN - NORTH SIDE
1/8" = 1'-0"

SEE SHEET EP42D FOR CONTINUATION



GENERAL NOTES

A. REFER TO NARRATIVE FOR ADD ALTERNATES.

B. REFER TO ARCHITECTURAL, MECHANICAL, AND PLUMBING NARRATIVES FOR ADDITIONAL EQUIPMENT CONNECTIONS REQUIRED.

SEE SHEET EP41D FOR CONTINUATION



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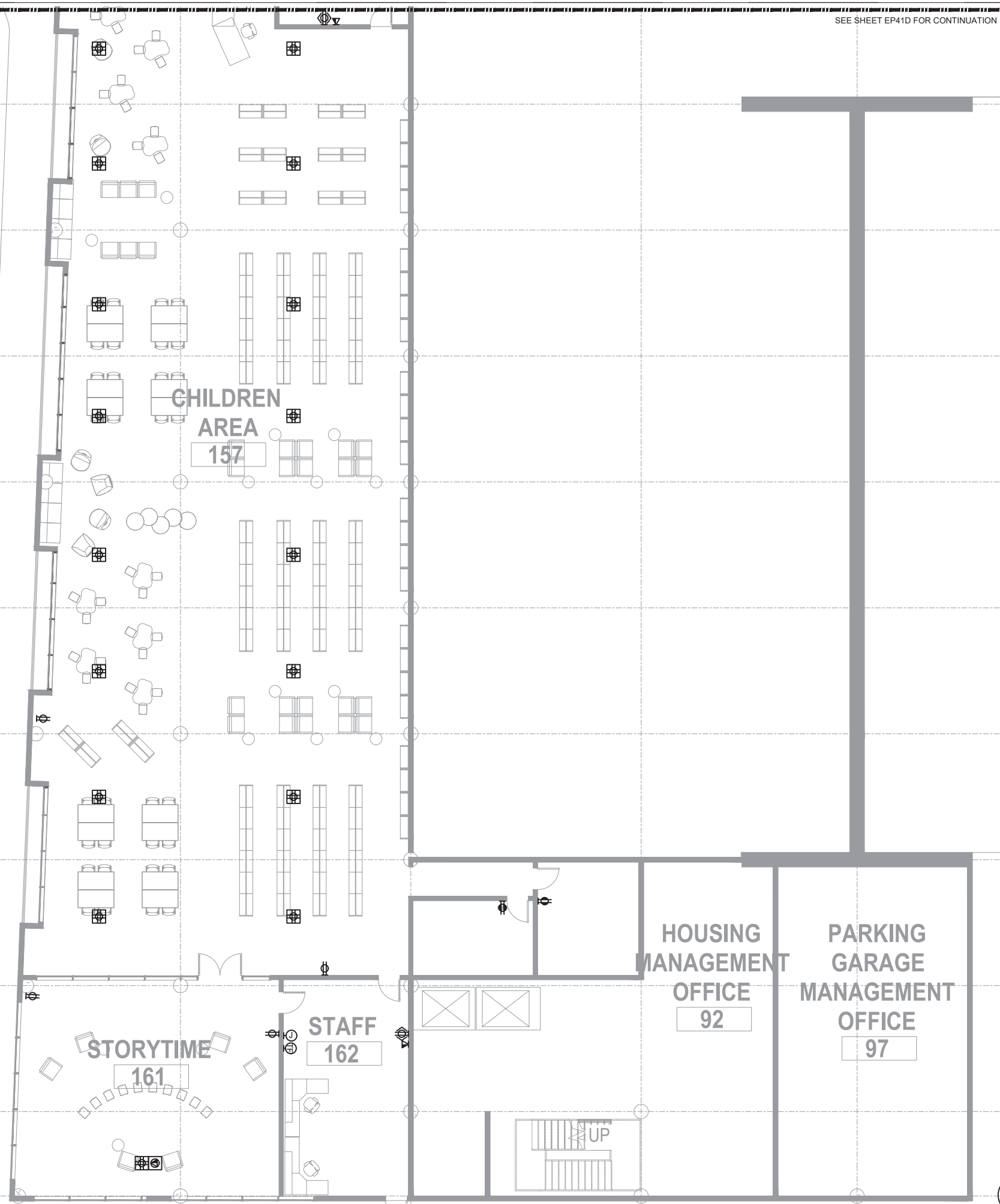
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EP42D

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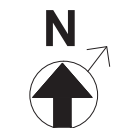


GENERAL NOTES

- A. REFER TO NARRATIVE FOR ADD ALTERNATES.
- B. REFER TO ARCHITECTURAL, MECHANICAL, AND PLUMBING NARRATIVES FOR ADDITIONAL EQUIPMENT CONNECTIONS REQUIRED.

**ENLARGED POWER PLAN
SOUTH SIDE**

1/8" = 1'-0"





BUDGET IV.





V. BUDGET

Summary

Cost planning consultants Mack5 prepared the cost model and construction cost estimates for the mixed-use options. The project cost model, working backwards from a \$27 million project budget, established an \$18 million target for construction costs once soft costs such as design, engineering, management, permit, fees, furniture, contingencies, and other costs were taken into consideration.

The design team prepared a series of narratives and drawings establishing the scope and quality of the proposed options, matching comparable components to the 2019 renovation assessment study. Base scope and quality were calibrated to the available budget and represent minimum code compliance and functionality and an overall low level of quality with additive alternates that add layers of qualitative improvements to the Library. Fair share cost sharing strategies discussed earlier are incorporated into the estimate.

The cost estimates establish a cost per square foot for both options C and D. These costs per square foot are then used to establish the possible Library area within the \$18 million construction budget target.

These costs per square foot are also used in order to identify potential square footage should \$3 million dollars in air rights fees be applied to the Library. These air rights fees could be significantly higher depending upon the scope of the housing component of the mixed-use project, and they could be applied to an increase in square footage and/or the qualitative alternates indicated below. Note that the cost estimate documents in Section V of this Report, as well as the detailed estimates, utilize a base Library size that includes the air rights fees alternate.

For the qualitative additive alternates, the following options were estimated in order to enhance the Library:

- Increased ceiling heights and taller windows
- Enhanced electrical power distribution
- Enhanced lighting
- Enhanced communication and audio-visual infrastructure
- Operable glazed partition at community room
- Additional shelving and furniture for increased alternate areas
- Stack end panels and canopy tops

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Option D: New Library With Only Housing Above.....	37 - 50
Alternates.....	51 - 56

Conceptual Cost Estimate
for
Santa Cruz Downtown Library Mixed-Use

May 5, 2020



Commentary	Job #19646
	May 5, 2020

Conceptual Cost Estimate

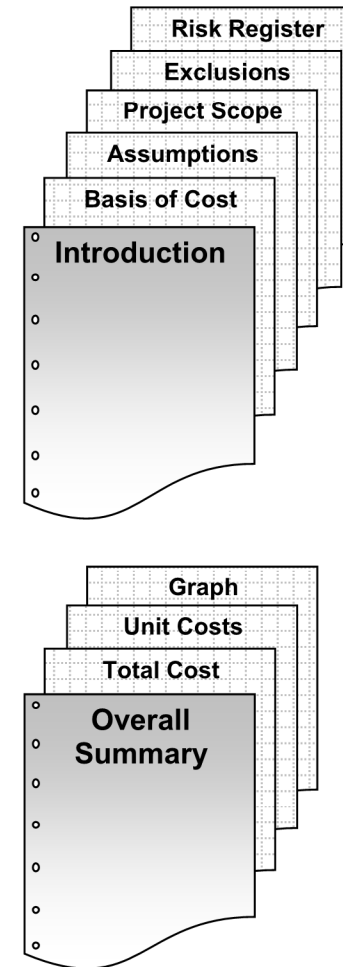
Commentary

Santa Cruz Downtown Library Mixed-Use

Introduction
 Basis of Cost
 Assumptions
 Exclusions

May 5, 2020

introduction



mack5 was requested to carry out a Conceptual Design Cost Estimate for the proposed new Santa Cruz Downtown Library Mixed-Used, located at Cedar and Cathcart St., Santa Cruz, CA 95060.

The first part of the Report contains the basis of the report, the assumptions made, description of the project scope, and the exclusions to the costs which contain items that have potential to impact cost at some point in the future.

The Overall Summary section contains a Summary of Gross Floor Areas, an Overall Project Summary, and Component and Trade Cost Summaries with Graphs.

Each section contains Control Quantities, a Cost Summary and Graph, and a Detailed Breakdown of Costs.

project introduction

The overall project will consist of construction of a new multi-story mixed use building in downtown Santa Cruz. The primary focus of this Cost Estimate is the new library only as part of the mixed-use building.

items used for cost estimate

- architectural Architectural drawings prepared by group4, undated
Option C: 3D View, A2.3-1, A2.4-1, A2.4-2, A2.4-3, A3.4-1, A5.0-1, A6.01-1
Option D: 3D View, A2.3-1, A2.4-1, A2.4-2, A2.4-3, A3.4-1, A5.0-1, A6.01-2
- structural Structural narrative prepared by BASE Design, dated 4/23/2020
- mechanical HVAC/Plumbing narrative & drawings prepared by Blue Forest Engineering, dated 4/21/2020 (18-pages)
- electrical Electrical narrative/drawings prepared by atium Engineering, dated 04/24/2020 (93-pages)

assumptions

- (a) Construction will start in June, 2022
- (b) A construction period of 24 months
- (c) The general contract will be competitively bid by a minimum of five (5) qualified contractors
- (d) The general contractor will have full access to the site during normal business hours
- (e) There are no phasing requirements
- (f) The contractor will be required to pay prevailing wages

exclusions

- (a) Cost escalation beyond the midpoint of June, 2023
- (b) Loose furniture and equipment except as specifically
- (c) Compression of schedule, premium or shift work, and restrictions on the contractor's working hours
- (d) Soft Cost such as testing and inspection fees, architectural design and construction management fees, assessments, taxes, finance, legal and development charges (included in Comparison Summary)
- (e) Scope change and post contract contingencies
- (f) Site preparation/improvement & site utilities/connection

Conceptual Cost Estimate

Comparison Summary

Santa Cruz Downtown Library Mixed-Use

Comparison Summary
Variance Analysis

May 5, 2020

COMPARISON SUMMARY

	Renovate Existing (ref. Abe Jayson Design)			Option C: Library w/ Housing & Parking Above			Option D: Library w/ Only Housing Above		
	%	\$/SF	,\$,000	%	\$/SF	,\$,000	%	\$/SF	,\$,000
Foundations	2%	\$13.52	\$411	7%	\$38.00	\$1,402	6%	\$38.00	\$1,345
Superstructure	3%	\$17.65	\$536	8%	\$45.65	\$1,685	8%	\$46.02	\$1,629
Enclosure	5%	\$31.54	\$957	8%	\$48.83	\$1,802	10%	\$59.23	\$2,097
Roofing & Waterproofing	2%	\$10.56	\$321	2%	\$12.53	\$463	1%	\$8.47	\$300
Interior Construction	15%	\$85.82	\$2,606	12%	\$67.17	\$2,479	11%	\$65.54	\$2,320
Stairs	1%	\$3.46	\$105	0%	\$0.00	\$0	0%	\$0.00	\$0
Interior Finishes	3%	\$18.97	\$576	3%	\$19.01	\$701	3%	\$18.88	\$668
Conveying	1%	\$5.43	\$165	0%	\$0.00	\$0	0%	\$0.00	\$0
Plumbing	2%	\$12.66	\$384	2%	\$12.35	\$456	2%	\$12.62	\$447
Heating, Ventilation, & Air Conditioning	11%	\$60.65	\$1,841	7%	\$40.24	\$1,485	7%	\$40.48	\$1,433
Fire Protection	2%	\$9.68	\$294	1%	\$8.50	\$314	1%	\$8.50	\$301
Electrical	11%	\$62.72	\$1,904	12%	\$68.50	\$2,528	12%	\$71.39	\$2,527
Equipment	0%	\$0.66	\$20	0%	\$0.54	\$20	0%	\$0.56	\$20
Furnishings	1%	\$3.08	\$94	0%	\$2.44	\$90	0%	\$2.09	\$74
Selective Building Demolition	5%	\$27.28	\$828	0%	\$0.00	\$0	0%	\$0.00	\$0
Subtotal - Building Construction	63%	\$363.69	\$11,042	63%	\$363.76	\$13,423	63%	\$371.79	\$13,161
Site Preparation			Excluded			Excluded			Excluded
Site Improvement			Excluded			Excluded			Excluded
Site Mechanical Utilities			Excluded			Excluded			Excluded
Site Electrical Utilities			Excluded			Excluded			Excluded
Subtotal - Sitework	0%	\$0.00	\$0	0%	\$0.00	\$0	0%	\$0.00	\$0
Total - Building and Sitework Construction	63%	\$363.69	\$11,042	63%	\$363.76	\$13,423	63%	\$371.79	\$13,161
Bonds & Insurance	2%	\$9.09	\$276	2%	\$9.09	\$336	2%	\$9.29	\$329
General Conditions	6%	\$37.28	\$1,132	6%	\$37.29	\$1,376	6%	\$38.11	\$1,349
Contractor's Overhead & Profit	4%	\$20.50	\$622	4%	\$20.51	\$757	4%	\$20.96	\$742
Contingency for Design Development	11%	\$64.58	\$1,961	11%	\$64.60	\$2,384	11%	\$66.02	\$2,337
Cost Escalation (to midpoint of const.)	14%	\$81.82	\$2,484	14%	\$81.84	\$3,020	14%	\$83.64	\$2,961
TOTAL CONSTRUCTION BUDGET	100%	\$576.97	\$17,517	100%	\$577.08	\$21,294	100%	\$589.82	\$20,879
Soft Cost: Including testing & inspection fees, city/permits/utility fees, architectural design & construction management fees, Furnishing, Fixtures & Equipments (FF&E), Audio Visual Equipments - allow 35%		\$201.94	\$6,131		\$201.98	\$7,453		\$206.44	\$7,308
TOTAL PROJECT BUDGET	135%	\$778.91	\$23,648		\$779.06	\$28,747	132%	\$796.25	\$28,187
GROSS FLOOR AREA			30,360 SF			36,900 SF			35,400 SF
ALTERNATE:					\$/SF	,\$,000		\$/SF	,\$,000
ADD Alternate: Electrical Option C (Included In Base Cost)					Included In Base	-		Included In Base	-
ADD Alternate: Electrical Option D (Included In Base Cost)					-			Included In Base	
ADD: Movable Partition (Option C & D)					\$81			\$81	
ADD: Wood Slat Ceiling (Option C & D)					\$357			\$357	
ADD: Library Shelving (Option C)					\$160			-	
DEDUCT: Library Shelving (Option D)					-			(\$94)	



AREA PLAN LEGEND
 LIBRARY_36,900 GDF
 HOUSING
 COMMERCIAL_5,200GDF



Conceptual Cost Estimate

Option C: New Library With Housing & Parking Above Santa Cruz Downtown Library Mixed-Use

Control Quantities
 Summary
 Detailed Cost Breakdown

May 5, 2020

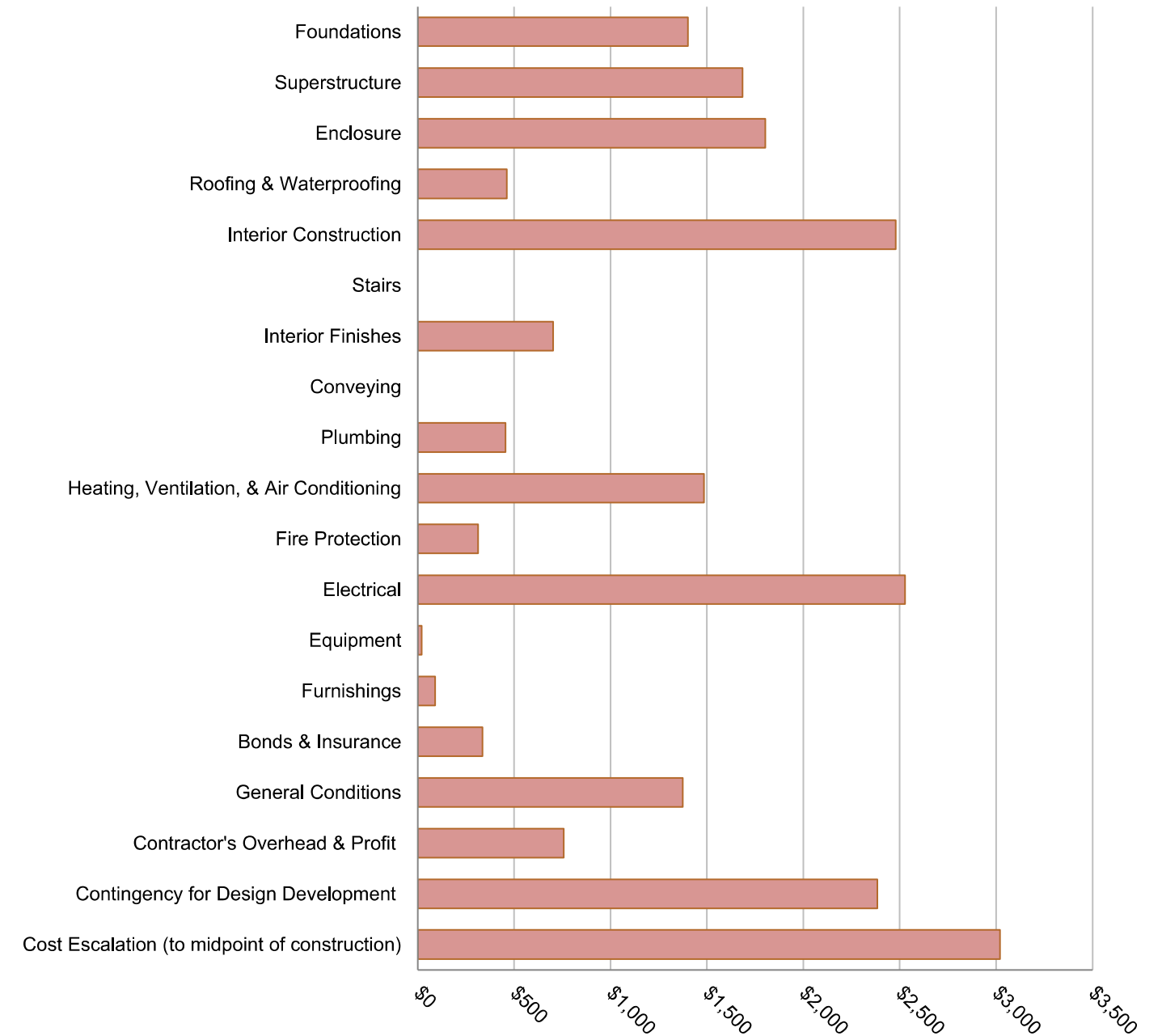
Enclosed Areas		Height
Ground floor	36,900	20.00
Subtotal of Enclosed Area	36,900	

CONTROL QUANTITIES

			Ratio to Gross Area
Number of stories (x1,000)	1	EA	0.027
Gross Area	36,900	SF	1.000
Enclosed Area	36,900	SF	1.000
Covered Area	688	SF	0.019
Footprint Area	36,900	SF	1.000
Volume	738,000	CF	20.000
Gross Wall Area	18,060	SF	0.489
Finished Wall Area	76% 13,660	SF	0.370
Windows or Glazing Area	24% 4,400	SF	0.119
Roof Area - Flat	36,900	SF	1.000
Roof Area - Sloping	0	SF	0.000
Roof Area - Total	36,900	SF	1.000
Roof Glazing Area	0	SF	0.000
Interior Partition Length	1,230	LF	0.033
Elevators (x10,000)	0	EA	0.000
Plumbing Fixtures (x1,000)	31	EA	0.840

CSI UniFormat Summary	36,900 SF	%	\$/SF	,\$000
Foundations		7%	\$38.00	\$1,402
Superstructure		8%	\$45.65	\$1,685
Enclosure		8%	\$48.83	\$1,802
Roofing & Waterproofing		2%	\$12.53	\$463
Interior Construction		12%	\$67.17	\$2,479
Stairs		0%	\$0.00	\$0
Interior Finishes		3%	\$19.01	\$701
Conveying		0%	\$0.00	\$0
Plumbing		2%	\$12.35	\$456
Heating, Ventilation, & Air Conditioning		7%	\$40.24	\$1,485
Fire Protection		1%	\$8.50	\$314
Electrical		12%	\$68.50	\$2,528
Equipment		0%	\$0.54	\$20
Furnishings		0%	\$2.44	\$90
Subtotal - Building Construction		63%	\$363.76	\$13,423
Site Preparation				Excluded
Site Improvement				Excluded
Site Mechanical Utilities				Excluded
Site Electrical Utilities				Excluded
Subtotal - Sitework		0%	\$0.00	\$0
Total - Building and Sitework Construction		63%	\$363.76	\$13,423
Bonds & Insurance	2.50%	2%	\$9.09	\$336
General Conditions	10.00%	6%	\$37.29	\$1,376
Contractor's Overhead & Profit	5.00%	4%	\$20.51	\$757
Subtotal		75%	\$430.65	\$15,891
Contingency for Design Development	15.00%	11%	\$64.60	\$2,384
Cost Escalation (to midpoint of construction)	16.53%	14%	\$81.84	\$3,020
TOTAL CONSTRUCTION BUDGET		100%	\$577.08	\$21,294

CSI UniFormat Summary



NOTE: Inclusions and Exclusions listed in the Commentary Section.

ADD Alternates	,\$000
1. ADD Alternate: Electrical Option C (Included In Base Cost)	\$751

Option C: New Library With Housing & Parking Above Detail	Job #19646
	May 5, 2020

FOUNDATIONS	Quantity	Unit	Rate	Total (\$)
Standard Foundations				
Reinforced concrete shallow foundation; including spread footings and grade beam/continuous wall footings	36,900	SF	\$20.00	\$738,000
Slab On Grade				
Reinforced concrete slab on grade; including gravel bedding, vapor retarder and subgrade - allow 5" thick	36,900	SF	\$18.00	\$664,200
Elevator Pit				<i>NIC, Excluded</i>
Subtotal For Foundations:				\$1,402,200

SUPERSTRUCTURE	Quantity	Unit	Rate	Total (\$)
Vertical Structure				
Reinforced Concrete Shearwall, allow 12"	3,990	SF	\$80.00	\$319,200
Reinforce concrete column at 30ft x 30ft grid	36,900	GSF	\$5.00	\$184,500
Suspended Floor				
Reinforced concrete podium slab over parking	36,900	SF	\$60.00	\$2,214,000
Credit 1/2 to Housing & Parking above	(36,900)	SF	\$30.00	(\$1,107,000)
Miscellaneous				
Miscellaneous metal and support framing	36,900	GSF	\$1.00	\$36,900
Rough carpentry	36,900	GSF	\$1.00	\$36,900
Subtotal For Superstructure:				\$1,684,500

ENCLOSURE	Quantity	Unit	Rate	Total (\$)
Wall Framing, Furring & Insulation 2-Hour Rated Wall adjacent to GF commercial/parking	6,600	SF	\$45.00	\$297,000

Option C: New Library With Housing & Parking Above Detail	Job #19646
	May 5, 2020

ENCLOSURE	Quantity	Unit	Rate	Total (\$)
Applied Exterior Finishes / Glazing				
Architectural cement plaster; including metal stud framing, vapor barrier, sheathing and insulation	7,126	SF	\$75.00	\$534,420
Aluminum framed storefront/curtainwall system, allow 16'high	4,334	SF	\$175.00	\$758,520
Interior Finish To Exterior Walls				
Gypsum board walls, painted	7,126	SF	\$10.00	\$71,256
Exterior doors, frames, and hardware				
Main entry door, double leaf	3	PR	\$10,000.00	\$30,000
Stair door, single leaf	1	EA	\$3,500.00	\$3,500
Fascias, bands, screens and trim				
Architectural bands, moldings and trim	572	LF	\$35.00	\$20,020
Horizontal sunshade/canopy, 24"wide	224	LF	\$300.00	\$67,200
Exterior/Building signage	1	LS	\$20,000.00	\$20,000
Subtotal For Enclosure:				\$1,801,916

ROOFING & WATERPROOFING	Quantity	Unit	Rate	Total (\$)
Waterproofing				
Waterproofing over the library (with parking space above only)	18,500	SF	\$15.00	\$277,500
Concrete topping protection	18,500	SF	\$10.00	\$185,000
Subtotal For Roofing & Waterproofing:				\$462,500

INTERIOR CONSTRUCTION	Quantity	Unit	Rate	Total (\$)
Interior Partition				
Standard non-rated partition; metal stud framing, insulation, gypboard on both sides - 12'high	11,734	SF	\$26.00	\$305,084
Demountable Partition				
Operable partition at community room, allow 10'high				<i>See ADD Alternate</i>

Option C: New Library With Housing & Parking Above Detail	Job #19646
	May 5, 2020

INTERIOR CONSTRUCTION	Quantity	Unit	Rate	Total (\$)
Window Walls & Borrowed Lights				
Aluminum framed glass partition, 10'high	2,690	SF	\$125.00	\$336,250
Aluminum framed glass partition, 12'high	336	SF	\$125.00	\$42,000
Interior Doors, Frames & Door Hardware				
Aluminum framed glass door, single leaf	5	EA	\$5,000.00	\$25,000
Aluminum framed glass door, double leaf	4	PR	\$8,000.00	\$32,000
Wood door, single leaf	16	EA	\$3,000.00	\$48,000
Wood door, double leaf	1	PR	\$5,000.00	\$5,000
Allowance for specialty hardware	1	LS	\$15,000.00	\$15,000
Fittings				
Allowance for protective guards, barriers and bumpers	36,900	GSF	\$0.50	\$18,450
Prefabricated Compartments & Accessories				
Toilet partition - allow	8	EA	\$1,500.00	\$12,000
Toilet accessories, single stall	4	RM	\$2,000.00	\$8,000
Toilet accessories, multi stall	2	RM	\$3,000.00	\$6,000
Shelving & Millwork				
Janitor shelf and mop rack - allow	1	EA	\$500.00	\$500
Collection stacks, 66" tall with painted wood end panels and canopies (same w/ renovation option)				
5' 6" H x 3' L	558	EA	\$2,400.00	\$1,339,200
Cabinets & Countertops				
Vanity countertop	24	LF	\$250.00	\$6,000
Miscellaneous casework including circulation and reception desk	36,900	GSF	\$5.00	\$184,500
Chalkboards, insignia and graphics				
Shelving end panel ID - allow	1	LS	\$30,000.00	\$30,000
Door signage	26	EA	\$200.00	\$5,200
Directional and wayfinding signage	36,900	GSF	\$1.50	\$55,350
Chalkboards/tackboards allowance	1	LS	\$5,000.00	\$5,000
Subtotal For Interior Construction:				\$2,478,534

Option C: New Library With Housing & Parking Above Detail	Job #19646
	May 5, 2020

STAIRS	Quantity	Unit	Rate	Total (\$)
<i>No Work Anticipated In This Section - Included In Housing/Parking above</i>				
Subtotal For Stairs:				
INTERIOR FINISHES				
	Quantity	Unit	Rate	Total (\$)
Floor Finishes	36,900	SF	\$10.00	\$369,000
Bases	36,900	SF	\$1.00	\$36,900
Wall Finishes	36,900	SF	\$3.00	\$110,700
Column Furring & Finish	36,900	SF	\$0.50	\$18,450
Ceiling Finishes				
Painted gypsum board ceiling (G-1)	2,060	SF	\$30.00	\$61,800
Wood slat ceiling				<i>NIC, See ADD Alternate</i>
Paint exposed ceiling/ductwork	34,840	SF	\$3.00	\$104,520
Acoustic ceiling tile 2'x4' (ACT-1)				<i>NIC, Excluded</i>
Subtotal For Interior Finishes:				\$701,370
CONVEYING				
	Quantity	Unit	Rate	Total (\$)
<i>No Work Anticipated In This Section - Included In Housing/Parking above</i>				
Subtotal For Conveying:				
PLUMBING				
	Quantity	Unit	Rate	Total (\$)
Plumbing Fixtures				
	31	Fx		
Watercloset, wall, manual flush	8	EA	\$2,400.00	\$19,200
Urinal, wall, manual flush	2	EA	\$2,375.00	\$4,750
Lavatory	6	EA	\$2,000.00	\$12,000
Janitor sink	1	EA	\$2,500.00	\$2,500
Drinking fountain, hi-lo type	3	EA	\$4,500.00	\$13,500
Sink	1	EA	\$1,800.00	\$1,800
Drains (allowance)	10	EA	\$1,000.00	\$10,000
Service Water, Sanitary / Vent Distribution Systems:				
Service water with rough-in for fixture	31	EA	\$3,000.00	\$93,000
Waste & vent with rough-in for fixture	31	EA	\$2,500.00	\$77,500

Option C: New Library With Housing & Parking Above Detail	Job #19646
	May 5, 2020

PLUMBING	Quantity	Unit	Rate	Total (\$)
General Piping;				
Condensate drainage	36,900	GSF	\$3.00	\$110,700
Roof Drainage				NIC, NA
Natural Gas				NIC, NA
Equipment	36,900	GSF	\$1.50	\$55,350
Plumbing Related Items	36,900	GSF	\$1.50	\$55,350
Subtotal For Plumbing:				\$455,650

HEATING, VENTILATION, & AIR-CONDITIONING	Quantity	Unit	Rate	Total (\$)
Equipment				
O/door Heat Pump Condensing Unit, 34 ton	2	EA	\$90,000.00	\$180,000
VRF Indoor Fan Coil	20	EA	\$5,250.00	\$105,000
VRF Branch selector	4	EA	\$12,800.00	\$51,200
Refrigerant line sets	2,500	LF	\$46.00	\$115,000
Exhaust fan	1	EA	\$1,200.00	\$1,200
O/Air fan	2	EA	\$6,000.00	\$12,000
Ceiling fan	1	LS	\$10,000.00	\$10,000
Distribution				
Duct Distribution	28,500	LB	\$15.00	\$427,500
Insulation	16,425	SF	\$5.00	\$82,125
Diffuser, Registers & Grilles	110	EA	\$300.00	\$33,000
Accessories & Specialties	1	LS	\$25,000.00	\$25,000
Controls and Instrumentation				
DDC Building Mgmt	36,900	GSF	\$6.50	\$239,850
Systems Testing and Balancing				
HVAC Related Items	36,900	GSF	\$4.00	\$147,600
Subtotal For Heating, Ventilation, & Air-Conditioning:				\$1,484,825

Option C: New Library With Housing & Parking Above Detail	Job #19646
	May 5, 2020

FIRE PROTECTION	Quantity	Unit	Rate	Total (\$)
Sprinklers				
Automatic sprinkler system	36,900	GSF	\$8.50	\$313,650
Subtotal For Fire Protection:				\$313,650

ELECTRICAL	Quantity	Unit	Rate	Total (\$)
Electrical Service and Distribution				
SWBD MSB' - Main Swd 800A MCB 208/120V	1	EA	\$25,200.00	\$25,200
Dist Panel 'DPM1' - Mechanical 400A MCB 208/120V	1	EA	\$7,920.00	\$7,920
Panel 'L1' - Receptacles 100A MCB 208/120V - Allow	1	EA	\$2,800.00	\$2,800
Panel 'P1' - Receptacles 100A MCB 208/120V - Allow	1	EA	\$2,800.00	\$2,800
Panel 'M1' - Mechanical 225A MCB 208/120V - Allow	1	EA	\$4,660.00	\$4,660
Panel 'R1' - Receptacles 150A MCB 208/120V Double Panel - Allow	1	EA	\$5,940.00	\$5,940
Panel 'R2' - Receptacles 150A MCB 208/120V Double Panel - Allow	1	EA	\$5,940.00	\$5,940
Panel 'R3' - Receptacles 150A MCB 208/120V Double Panel - Allow	1	EA	\$5,940.00	\$5,940
Panel 'T1' - Technology 100A MCB 208/120V - Allow	1	EA	\$2,800.00	\$2,800
100A Feeder	90	LF	\$50.00	\$4,500
150A Feeder	96	LF	\$58.00	\$5,568
225A Feeder	23	LF	\$85.00	\$1,955
400A Feeder	20	LF	\$150.00	\$3,000
Housekeeping Pad	1	LS	\$3,500.00	\$3,500
Future PV Solar - Conduit Infrastructure Only (to the Roof)	1	LS	\$7,500.00	\$7,500
Grounding/Firesealing	1	LS	\$16,500.00	\$16,500
Testing/Fees and Permits	1	LS	\$22,500.00	\$22,500
Machine & Equipment Wiring				
HVAC and Plumbing Equipment Connections	36,900	SF	\$4.00	\$147,600

ELECTRICAL	Quantity	Unit	Rate	Total (\$)
Lighting and Branch Wiring				
A - 6ftx2"W Direct/Indirect LED	3	EA	\$1,935.00	\$5,805
A - 8ftx2"W Direct/Indirect LED	11	EA	\$2,580.00	\$28,380
A - 12ftx2"W Direct/Indirect LED	93	EA	\$3,870.00	\$359,910
B - 4ftx1.75"W Linear LED	19	EA	\$690.00	\$13,110
B - 8.5ftx1.75"W Linear LED	6	EA	\$1,467.00	\$8,802
C - 4ft LED Strip	15	EA	\$255.00	\$3,825
D - 3.3"dia Recessed LED Downlight	27	EA	\$690.00	\$18,630
E - 10ftx4"W Pendant Direct Illumination LED - Restrooms	2	EA	\$2,272.00	\$4,544
E - 18ftx4"W Pendant Direct Illumination LED - Restrooms	1	EA	\$4,100.00	\$4,100
E - 20ftx4"W Pendant Direct Illumination LED - Restrooms	2	EA	\$4,545.00	\$9,090
F - Surface Mtd 4ft Wall Linear LED	3	EA	\$332.00	\$996
J - 1"Wx2.38"H x 6ft dia Pendant LED	14	EA	\$7,275.00	\$101,850
Integral Battery Packs - Allow	45	EA	\$360.00	\$16,200
Exit Lights with Emergency Battery - Allow	50	EA	\$663.00	\$33,150
Lighting Rough In Box	249	EA	\$157.00	\$39,093
Branch Circuit Wiring EMT - 3/4"	4,735	LF	\$18.00	\$85,230
Lighting Switching and Controls				
SPST - 1 Gang switch with Plate, Box and Conn - allow	10	EA	\$10.00	\$100
Ceiling OC Sensor D/T with Plate, Box and Conn - allow	66	EA	\$380.00	\$25,080
Dimmer Switch with Plate, Box and Conn - allow	23	EA	\$268.00	\$6,164
Wall OS D/T Sensor with Plate, Box and Conn - allow	6	EA	\$332.00	\$1,992
Ceiling Photocell Sensor with Plate, Box and Conn - allow	19	EA	\$353.00	\$6,707
Branch Circuit Wiring EMT - 3/4"	2,480	LF	\$18.00	\$44,640
Lighting Control Panel/Timeclock	1	LS	\$6,322.00	\$6,322
Networked Controls/Demand Response Capability including Low Voltage Network Cabling/Programming and Intergration with Building BMS	1	LS	\$72,500.00	\$72,500

ELECTRICAL	Quantity	Unit	Rate	Total (\$)
Power Receptacles				
Duplex Receptacle with Plate, Box & Conn	16	EA	\$160.00	\$2,560
Duplex Receptacle Half-Controlled with Plate, Box & Conn	36	EA	\$190.00	\$6,840
Quadplex Receptacle with Plate, Box & Conn	5	EA	\$160.00	\$800
GFI Receptacle with Plate, Box & Conn	9	EA	\$175.00	\$1,575
FM Box with Quadplex Receptacle - Flush Floor	42	EA	\$1,120.00	\$47,040
Combo FM Box with Quadplex Receptacle/(2) Data - Flush Floor	9	EA	\$1,400.00	\$12,600
Combo FM Box with Quadplex Receptacle Half-Controlled/(2) Data - Flush Floor	9	EA	\$1,420.00	\$12,780
Power - Furniture Wall Feed Conn	2	EA	\$1,760.00	\$3,520
Power - Furniture Floor Feed Conn	2	EA	\$2,182.00	\$4,364
Branch Circuit Wiring EMT - 3/4"	2,650	LF	\$22.00	\$58,300
Branch Circuit Wiring GRS - 1"	1,200	LF	\$32.00	\$38,400
Branch Circuit Wiring 1-1/4" Furniture Feed	150	LF	\$34.00	\$5,100
Communications				
MPOE, including FR Backboard, Conduit Sleeves and Grounding	1	EA	\$7,800.00	\$7,800
Two Post IDF Rack with Wire Manager, Patch Panels, Patch Cables	2	EA	\$4,650.00	\$9,300
Cable Tray/J-Hooks - Allowance	1	LS	\$25,000.00	\$25,000
(2) Data outlet, wall	21	EA	\$100.00	\$2,100
(2) Data outlet, floor	9	EA	\$110.00	\$990
Voice/Data Rough-Ins - 2 Gang with Box, Ring & Conn	21	EA	\$100.00	\$2,100
1" EMT with Pull String	735	LF	\$14.00	\$10,290
1" GRS with Pull String	450	LF	\$18.00	\$8,100
U/G 1-1/4" GRS - Furniture Feed with Pull Wire	60	LF	\$30.00	\$1,800
1-1/4" EMT with Pull String	195	LF	\$17.00	\$3,315
Category 6, PVC Jacketed Cable - 4 Pair	18,860	LF	\$1.60	\$30,242
CAT6 RJ-45 Patch Panel Termination	90	EA	\$38.00	\$3,420
CAT6 Link Test	90	EA	\$100.00	\$9,000
CAT6 Labeling	90	EA	\$40.00	\$3,600
Telecom - Furniture Wall Feed Conn	2	EA	\$1,640.00	\$3,280
Telecom - Furniture Floor Feed Conn	2	EA	\$1,642.00	\$3,284

Option C: New Library With Housing & Parking Above Detail	Job #19646
	May 5, 2020

ELECTRICAL	Quantity	Unit	Rate	Total (\$)
Fire Alarm System - Fully Automatic/Addressable with Voice Evacuation capabilities	36,900	SF	\$6.00	\$221,400
Miscellaneous Allowance To Match The Renovation Option				
Intercom/Paging System	36,900	GSF	\$1.50	\$55,350
Book Detection System - Conduit Rough-Ins - allowance	36,900	GSF	\$0.25	\$9,225
Security - Card Access System			<i>NIC, See ADD Alternate</i>	
CCTV System			<i>NIC, See ADD Alternate</i>	
AV System - Conduit Rough-ins/Power			<i>NIC, See ADD Alternate</i>	
ADD Alternate (Moved to Base Cost - For Apple/Apple Comparison)	1	LS	\$751,310.69	\$751,311
Subtotal For Electrical:				\$2,527,629

EQUIPMENT	Quantity	Unit	Rate	Total (\$)
Library Equipment				
Book returns drop	2	EA	\$10,000.00	\$20,000
Special Use Equipments				
Staff lounge equipments; including microwave, refrigerator, coffee maker, garbage disposal			<i>NIC, Included in FF&E</i>	
Kitchen equipments; including microwave, refrigerator, coffee maker, garbage disposal			<i>NIC, Included in FF&E</i>	
Screen, projector, AV, speakers (at community and meeting rooms)			<i>NIC, Included in FF&E</i>	
Subtotal For Equipment:				\$20,000

Option C: New Library With Housing & Parking Above Detail	Job #19646
	May 5, 2020

FURNISHINGS	Quantity	Unit	Rate	Total (\$)
Light Control & Vision Equipment				
Window shades to exterior windows, manual	4,334	SF	\$15.00	\$65,016
Amenities & Convenience Items				
Fire extinguisher cabinets, allowance	1	LS	\$5,000.00	\$5,000
Entrance mats and frames, allowance	1	LS	\$5,000.00	\$5,000
Allowance for bike racks/storage	1	LS	\$5,000.00	\$5,000
Staff lockers	1	LS	\$10,000.00	\$10,000
Moveable Furnishings				
Conference/meeting tables and chairs				<i>NIC, OFOI</i>
Office tables and chairs				<i>NIC, OFOI</i>
Lounge chairs				<i>NIC, OFOI</i>
Subtotal For Furnishings:				\$90,016



AREA PLAN LEGEND
 LIBRARY 35,400SF
 HOUSING
 COMMERCIAL



Conceptual Cost Estimate

Option D: New Library With Only Housing Above Santa Cruz Downtown Library Mixed-Use

Control Quantities
 Summary
 Detailed Cost Breakdown

May 5, 2020

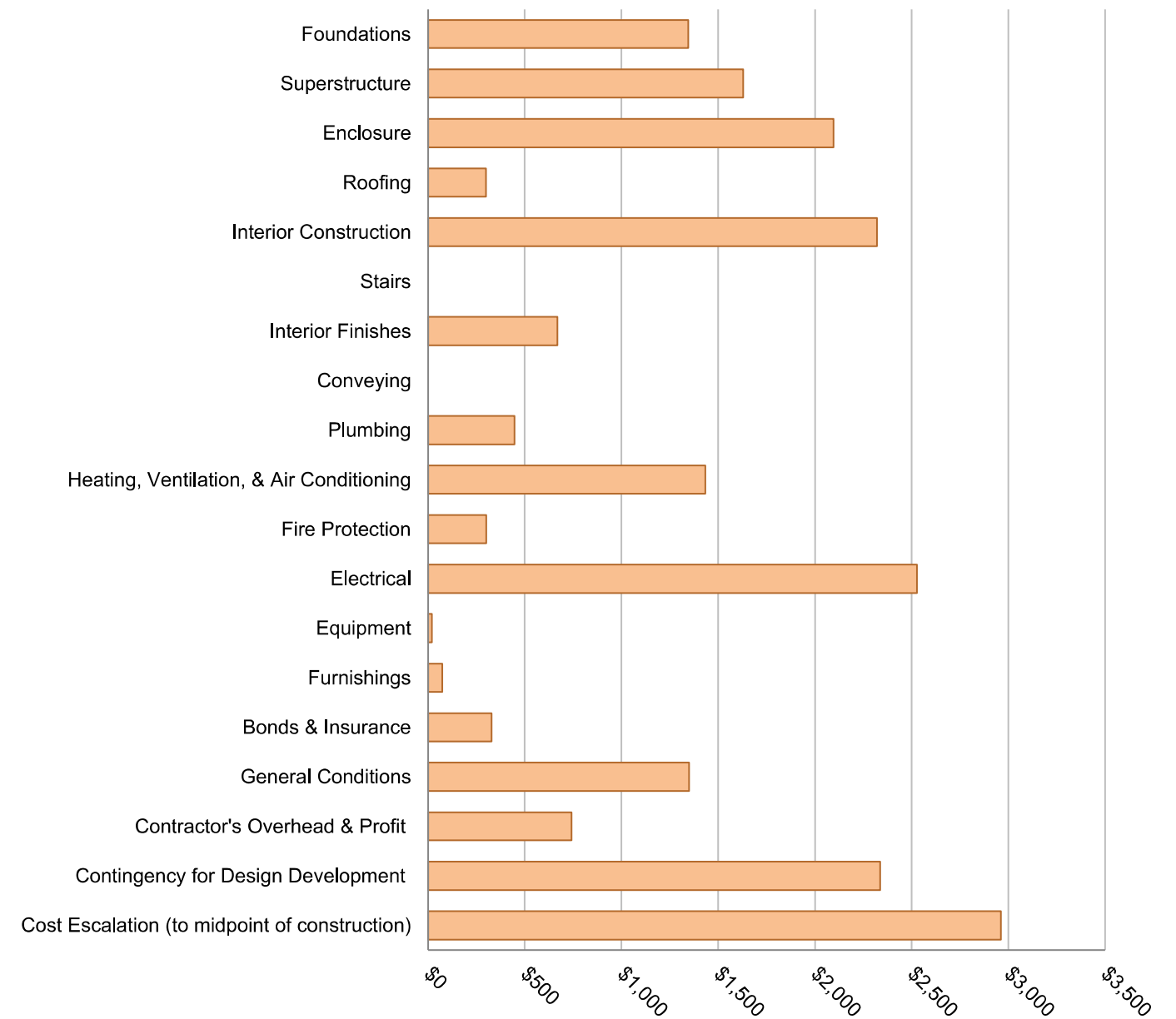
Enclosed Areas		Height
Ground floor	35,400	20.00
Subtotal of Enclosed Area	35,400	

CONTROL QUANTITIES

			Ratio to Gross Area
Number of stories (x1,000)	1	EA	0.028
Gross Area	35,400	SF	1.000
Enclosed Area	35,400	SF	1.000
Covered Area	0	SF	0.000
Footprint Area	35,400	SF	1.000
Volume	708,000	CF	20.000
Gross Wall Area	23,480	SF	0.663
Finished Wall Area	86% 20,216	SF	0.571
Windows or Glazing Area	14% 3,264	SF	0.092
Roof Area - Flat	35,400	SF	1.000
Roof Area - Sloping	0	SF	0.000
Roof Area - Total	35,400	SF	1.000
Roof Glazing Area	0	SF	0.000
Interior Partition Length	1,054	LF	0.030
Elevators (x10,000)	0	EA	0.000
Plumbing Fixtures (x1,000)	31	EA	0.876

CSI UniFormat Summary	35,400 SF	%	\$/SF	,\$000
Foundations		6%	\$38.00	\$1,345
Superstructure		8%	\$46.02	\$1,629
Enclosure		10%	\$59.23	\$2,097
Roofing		1%	\$8.47	\$300
Interior Construction		11%	\$65.54	\$2,320
Stairs		0%	\$0.00	\$0
Interior Finishes		3%	\$18.88	\$668
Conveying		0%	\$0.00	\$0
Plumbing		2%	\$12.62	\$447
Heating, Ventilation, & Air Conditioning		7%	\$40.48	\$1,433
Fire Protection		1%	\$8.50	\$301
Electrical		12%	\$71.39	\$2,527
Equipment		0%	\$0.56	\$20
Furnishings		0%	\$2.09	\$74
Subtotal - Building Construction		63%	\$371.79	\$13,161
Site Preparation				<i>Excluded</i>
Site Improvement				<i>Excluded</i>
Site Mechanical Utilities				<i>Excluded</i>
Site Electrical Utilities				<i>Excluded</i>
Subtotal - Sitework		0%	\$0.00	\$0
Bonds & Insurance	2.50%	2%	\$9.29	\$329
General Conditions	10.00%	6%	\$38.11	\$1,349
Contractor's Overhead & Profit	5.00%	4%	\$20.96	\$742
Subtotal		75%	\$440.15	\$15,581
Contingency for Design Development	15.00%	11%	\$66.02	\$2,337
Cost Escalation (to midpoint of construction)	16.53%	14%	\$83.64	\$2,961
TOTAL CONSTRUCTION BUDGET		100%	\$589.82	\$20,879

CSI UniFormat Summary



NOTE: Inclusions and Exclusions listed in the Commentary Section.

ADD Alternates	,\$000
1 ADD Alternate: Electrical Option D (Included In Base Cost)	\$783

Option D: New Library With Only Housing	Job #19646
Above Detail	May 5, 2020



FOUNDATIONS	Quantity	Unit	Rate	Total (\$)
Standard Foundations				
Reinforced concrete shallow foundation; including spread footings and grade beam/continuous wall footings	35,400	SF	\$20.00	\$708,000
Slab On Grade				
Reinforced concrete slab on grade; including gravel bedding, vapor retarder and subgrade - allow 5" thick	35,400	SF	\$18.00	\$637,200
Elevator Pit <i>NIC, Excluded</i>				
Subtotal For Foundations:				\$1,345,200

SUPERSTRUCTURE	Quantity	Unit	Rate	Total (\$)
Vertical Structure				
Reinforced Concrete Shearwall, allow 12"	3,990	SF	\$80.00	\$319,200
Reinforce concrete column at 30ft x 30ft grid	35,400	GSF	\$5.00	\$177,000
Suspended Floor				
Reinforced concrete podium slab over parking	35,400	SF	\$60.00	\$2,124,000
Credit 1/2 to Housing & Parking above	(35,400)	SF	\$30.00	(\$1,062,000)
Miscellaneous				
Miscellaneous metal and support framing	35,400	GSF	\$1.00	\$35,400
Rough carpentry	35,400	GSF	\$1.00	\$35,400
Subtotal For Superstructure:				\$1,629,000

ENCLOSURE	Quantity	Unit	Rate	Total (\$)
Wall Framing, Furring & Insulation				
2-Hour Rated Wall adjacent to GF commercial/parking, 36%	7,040	SF	\$45.00	\$316,800

Option D: New Library With Only Housing	Job #19646
Above Detail	May 5, 2020



ENCLOSURE	Quantity	Unit	Rate	Total (\$)
Applied Exterior Finishes / Glazing				
Architectural cement plaster; including metal stud framing, vapor barrier, sheathing and insulation - allow 40%	13,176	SF	\$75.00	\$988,200
Aluminum framed storefront/curtainwall system, allow 16'high - allow 24%	3,264	SF	\$175.00	\$571,200
Interior Finish To Exterior Walls				
Gypsum board walls, painted	13,176	SF	\$10.00	\$131,760
Exterior doors, frames, and hardware				
Main entry door, double leaf	2	PR	\$10,000.00	\$20,000
Entry door, single leaf	4	EA	\$5,000.00	\$20,000
Fascias, bands, screens and trim				
Architectural bands, moldings and trim	822	LF	\$35.00	\$28,770
Horizontal sunshade/canopy, 24"wide				<i>NIC, Not Required</i>
Exterior/Building signage	1	LS	\$20,000.00	\$20,000
Subtotal For Enclosure:				\$2,096,730

ROOFING & Waterproofing	Quantity	Unit	Rate	Total (\$)
Waterproofing				
Waterproofing over the library (with Housing Courtyard above only)	4,200	GSF	\$15.00	\$63,000
Concrete topping protection	4,200	GSF	\$10.00	\$42,000
Roof Lights				
Skylight including roof curb	650	SF	\$300.00	\$195,000
Subtotal For Roofing & Waterproofing:				\$300,000

INTERIOR CONSTRUCTION	Quantity	Unit	Rate	Total (\$)
Interior Partition				
Standard non-rated partition; metal stud framing, insulation, gypboard on both sides - 12'high	10,496	SF	\$26.00	\$272,896
Demountable Partition				
Operable partition at community room, allow 10'high				<i>See ADD Alternate</i>

Option D: New Library With Only Housing	Job #19646
Above Detail	May 5, 2020



Option D: New Library With Only Housing	Job #19646
Above Detail	May 5, 2020



INTERIOR CONSTRUCTION	Quantity	Unit	Rate	Total (\$)
Window Walls & Borrowed Lights				
Aluminum framed glass partition, 10'high	1,840	SF	\$125.00	\$230,000
Aluminum framed glass partition, 12'high	312	SF	\$125.00	\$39,000
Interior Doors, Frames & Door Hardware				
Aluminum framed glass door, single leaf	4	EA	\$5,000.00	\$20,000
Aluminum framed glass door, double leaf	4	PR	\$8,000.00	\$32,000
Wood door, single leaf	14	EA	\$3,000.00	\$42,000
Wood door, double leaf	2	PR	\$5,000.00	\$10,000
Allowance for specialty hardware	1	LS	\$15,000.00	\$15,000
Fittings				
Allowance for protective guards, barriers and bumpers	35,400	GSF	\$0.50	\$17,700
Prefabricated Compartments & Accessories				
Toilet partition - allow	8	EA	\$1,500.00	\$12,000
Toilet accessories, single stall	4	RM	\$2,000.00	\$8,000
Toilet accessories, multi stall	2	RM	\$3,000.00	\$6,000
Shelving & Millwork				
Janitor shelf and mop rack - allow	1	EA	\$500.00	\$500
Collection stacks, 66" tall with painted wood end panels and canopies (same w/ renovation option)				
5' 6" H x 3' L	558	EA	\$2,400.00	\$1,339,200
Cabinets & Countertops				
Vanity countertop	24	LF	\$250.00	\$6,000
Miscellaneous casework including circulation and reception desk	35,400	GSF	\$5.00	\$177,000
Chalkboards, insignia and graphics				
Shelving end panel ID - allow	1	LS	\$30,000.00	\$30,000
Door signage	24	EA	\$200.00	\$4,800
Directional and wayfinding signage	35,400	GSF	\$1.50	\$53,100
Chalkboards/tackboards allowance	1	LS	\$5,000.00	\$5,000
Subtotal For Interior Construction:				\$2,320,196

STAIRS	Quantity	Unit	Rate	Total (\$)
<i>No Work Anticipated In This Section - Included In Housing/Parking above</i>				
Subtotal For Stairs:				
INTERIOR FINISHES				
	Quantity	Unit	Rate	Total (\$)
Floor Finishes	35,400	GSF	\$10.00	\$354,000
Bases	35,400	GSF	\$1.00	\$35,400
Wall Finishes	35,400	GSF	\$3.00	\$106,200
Column Furring & Finish	35,400	GSF	\$0.50	\$17,700
Ceiling Finishes				
Painted gypsum board ceiling (G-1)	1,880	SF	\$30.00	\$56,400
Wood slat ceiling				<i>NIC, See ADD Alternate Included with Roofing Section</i>
Skylight including roof curb				
Paint exposed ceiling/ductwork	32,870	SF	\$3.00	\$98,610
Acoustic ceiling tile 2'x4' (ACT-1)				<i>NIC, Excluded</i>
Subtotal For Interior Finishes:				\$668,310
CONVEYING				
	Quantity	Unit	Rate	Total (\$)
<i>No Work Anticipated In This Section - Included In Housing/Parking above</i>				
Subtotal For Conveying:				
PLUMBING				
	Quantity	Unit	Rate	Total (\$)
Plumbing Fixtures				
	31	Fx		
Watercloset, wall, manual flush	8	EA	\$2,400.00	\$19,200
Urinal, wall, manual flush	2	EA	\$2,375.00	\$4,750
Lavatory	6	EA	\$2,000.00	\$12,000
Janitor sink	1	EA	\$2,500.00	\$2,500
Drinking fountain, hi-lo type	3	EA	\$4,500.00	\$13,500
Sink	1	EA	\$1,800.00	\$1,800
Drains (allowance)	10	EA	\$1,000.00	\$10,000
Service Water, Sanitary / Vent Distribution Systems:				
Service water with rough-in for fixture	31	EA	\$3,000.00	\$93,000
Waste & vent with rough-in for fixture	31	EA	\$2,500.00	\$77,500

PLUMBING	Quantity	Unit	Rate	Total (\$)
General Piping:				
Condensate drainage	35,400	GSF	\$3.00	\$106,200
Roof Drainage				NIC, NA
Natural Gas				NIC, NA
Equipment	35,400	GSF	\$1.50	\$53,100
Plumbing Related Items	35,400	GSF	\$1.50	\$53,100
Subtotal For Plumbing:				\$446,650

HEATING, VENTILATION, & AIR-CONDITIONING	Quantity	Unit	Rate	Total (\$)
Equipment				
O/door Heat Pump Condensing Unit, 34 ton	2	EA	\$90,000.00	\$180,000
VRF Indoor Fan Coil	18	EA	\$5,250.00	\$94,500
VRF Branch selector	4	EA	\$12,800.00	\$51,200
Refrigerant line sets	2,200	LF	\$46.00	\$101,200
Exhaust fan	3	EA	\$1,200.00	\$3,600
O/Air fan	2	EA	\$6,000.00	\$12,000
Ceiling fan	1	LS	\$10,000.00	\$10,000
Distribution				
Duct Distribution	28,000	LB	\$15.00	\$420,000
Insulation	16,125	SF	\$5.00	\$80,625
Diffuser, Registers & Grilles	100	EA	\$300.00	\$30,000
Accessories & Specialties	1	LS	\$25,000.00	\$25,000
Controls and Instrumentation				
DDC Building Mgmt	35,400	GSF	\$6.50	\$230,100
Systems Testing and Balancing	35,400	GSF	\$1.50	\$53,100
HVAC Related Items	35,400	GSF	\$4.00	\$141,600
Subtotal For Heating, Ventilation, & Air-Conditioning:				\$1,432,925

FIRE PROTECTION	Quantity	Unit	Rate	Total (\$)
Sprinklers				
Automatic sprinkler system	35,400	GSF	\$8.50	\$300,900
Subtotal For Fire Protection:				\$300,900

ELECTRICAL	Quantity	Unit	Rate	Total (\$)
Electrical Service and Distribution				
SWBD MSB' - Main Swd 800A MCB				
208/120V	1	EA	\$25,200.00	\$25,200
Dist Panel 'DPM1' - Mechanical 400A MCB				
208/120V	1	EA	\$7,920.00	\$7,920
Panel 'L1' - Receptacles 100A MCB				
208/120V - Allow	1	EA	\$2,800.00	\$2,800
Panel 'P1' - Receptacles 100A MCB				
208/120V - Allow	1	EA	\$2,800.00	\$2,800
Panel 'M1' - Mechanical 225A MCB				
208/120V - Allow	1	EA	\$4,660.00	\$4,660
Panel 'R1' - Receptacles 150A MCB				
208/120V Double Panel - Allow	1	EA	\$5,940.00	\$5,940
Panel 'R2' - Receptacles 150A MCB				
208/120V Double Panel - Allow	1	EA	\$5,940.00	\$5,940
Panel 'R3' - Receptacles 150A MCB				
208/120V Double Panel - Allow	1	EA	\$5,940.00	\$5,940
Panel 'T1' - Technology 100A MCB				
208/120V - Allow	1	EA	\$2,800.00	\$2,800
100A Feeder	75	LF	\$50.00	\$3,750
150A Feeder	131	LF	\$58.00	\$7,598
225A Feeder	32	LF	\$85.00	\$2,720
400A Feeder	26	LF	\$150.00	\$3,900
Housekeeping Pad	1	LS	\$3,500.00	\$3,500
Future PV Solar - Conduit Infrastructure				
Only (to the Roof)	1	LS	\$7,500.00	\$7,500
Grounding/Firesealing	1	LS	\$16,500.00	\$16,500
Testing/Fees and Permits	1	LS	\$22,500.00	\$22,500
Machine & Equipment Wiring				
HVAC and Plumbing Equipment	35,450	SF	\$4.00	\$141,800

Option D: New Library With Only Housing Above Detail	Job #19646 May 5, 2020
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Option D: New Library With Only Housing Above Detail	Job #19646 May 5, 2020
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ELECTRICAL	Quantity	Unit	Rate	Total (\$)
Lighting and Branch Wiring				
A - 6ftx2"W Direct/Indirect LED	2	EA	\$1,935.00	\$3,870
A - 8ftx2"W Direct/Indirect LED	18	EA	\$2,580.00	\$46,440
A - 12ftx2"W Direct/Indirect LED	97	EA	\$3,870.00	\$375,390
B - 4ftx1.75"W Linear LED	22	EA	\$690.00	\$15,180
B - 8.5ftx1.75"W Linear LED	8	EA	\$1,380.00	\$11,040
C - 4ft LED Strip	12	EA	\$255.00	\$3,060
D - 3.3"dia Recessed LED Downlight	20	EA	\$690.00	\$13,800
E - 14ftx4"W Pendant Direct Illumination LED - Restrooms	2	EA	\$3,182.00	\$6,364
F - Surface Mtd 4ft Wall Linear LED	4	EA	\$332.00	\$1,328
J - 1"Wx2.38"H x 6ft dia Pendant LED	10	EA	\$7,275.00	\$72,750
Integral Battery Packs - Allow	50	EA	\$360.00	\$18,000
Exit Lights with Emergency Battery - Allow	40	EA	\$663.00	\$26,520
Lighting Rough In Box	200	EA	\$157.00	\$31,400
Branch Circuit Wiring EMT - 3/4"	3,600	LF	\$18.00	\$64,800
Lighting Switching and Controls				
SPST - 1 Gang switch with Plate, Box and Conn - allow	10	EA	\$10.00	\$100
Ceiling OC Sensor D/T with Plate, Box and Conn - allow	42	EA	\$380.00	\$15,960
Dimmer Switch with Plate, Box and Conn - allow	22	EA	\$268.00	\$5,896
Wall OS D/T Sensor with Plate, Box and Conn - allow	2	EA	\$332.00	\$664
Ceiling Photocell Sensor with Plate, Box and Conn - allow	17	EA	\$353.00	\$6,001
Branch Circuit Wiring EMT - 3/4"	1,860	LF	\$18.00	\$33,480
Lighting Control Panel/Timeclock	1	LS	\$6,322.00	\$6,322
Networked Controls/Demand Response Capability including Low Voltage Network Cabling/Programming and Intergration with Building BMS	1	LS	\$65,500.00	\$65,500

ELECTRICAL	Quantity	Unit	Rate	Total (\$)
Power Receptacles				
Duplex Receptacle with Plate, Box & Conn	24	EA	\$160.00	\$3,840
Duplex Receptacle Half-Controlled with Plate, Box & Conn	15	EA	\$190.00	\$2,850
Quadplex Receptacle with Plate, Box & Conn	5	EA	\$160.00	\$800
GFI Receptacle with Plate, Box & Conn	8	EA	\$175.00	\$1,400
FM Box with Quadplex Receptacle - Flush Floor	37	EA	\$1,120.00	\$41,440
Combo FM Box with Quadplex Receptacle/(2) Data - Flush Floor	9	EA	\$1,400.00	\$12,600
Combo FM Box with Quadplex Receptacle/(4) Data - Flush Floor	8	EA	\$1,420.00	\$11,360
Combo FM Box with Quadplex Receptacle Half-Controlled/(2) Data - Flush Floor	5	EA	\$1,420.00	\$7,100
Power - Furniture Wall Feed Conn	10	EA	\$1,760.00	\$17,600
Branch Circuit Wiring EMT - 3/4"	1,900	LF	\$22.00	\$41,800
Branch Circuit Wiring GRS - 1"	1,180	LF	\$32.00	\$37,760
Branch Circuit Wiring 1-1/4" Furniture Feed	955	LF	\$34.00	\$32,470
Communications				
MPOE, including FR Backboard, Conduit Sleeves and Grounding	1	EA	\$7,800.00	\$7,800
Two Post IDF Rack with Wire Manager, Patch Panels, Patch Cables	2	EA	\$4,650.00	\$9,300
Cable Tray/J-Hooks - Allowance	1	LS	\$25,000.00	\$25,000
(2) Data outlet, wall	11	EA	\$100.00	\$1,100
(2) Data outlet, floor	14	EA	\$110.00	\$1,540
(4) Data outlet, floor	8	EA	\$190.00	\$1,520
Voice/Data Rough-Ins - 2 Gang with Box, Ring & Conn	11	EA	\$100.00	\$1,100
1" EMT with Pull String	385	LF	\$14.00	\$5,390
1" GRS with Pull String	700	LF	\$18.00	\$12,600
1-1/4" EMT with Pull String	1,140	LF	\$18.00	\$20,520
Category 6, PVC Jacketed Cable - 4 Pair	21,760	LF	\$1.60	\$34,892
CAT6 RJ-45 Patch Panel Termination	136	EA	\$38.00	\$5,168
CAT6 Link Test	136	EA	\$100.00	\$13,600
CAT6 Labeling	136	EA	\$40.00	\$5,440
Telecom - Furniture Wall Feed Conn	10	EA	\$1,640.00	\$16,400

Option D: New Library With Only Housing Above Detail	Job #19646 May 5, 2020
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Option D: New Library With Only Housing Above Detail	Job #19646 May 5, 2020
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ELECTRICAL	Quantity	Unit	Rate	Total (\$)
Fire Alarm System - Fully Automatic/Addressable with Voice Evacuation capabilities	35,450	SF	\$6.00	\$212,700
Miscellaneous Allowance To Match The Renovation Option				
Intercom/Paging System	35,450	GSF	\$1.50	\$53,175
Book Detection System - Conduit Rough-Ins - allowance	35,450	GSF	\$0.25	\$8,863
Security - Card Access System			See ADD Alternate	
CCTV System			See ADD Alternate	
AV System - Conduit Rough-ins/Power			See ADD Alternate	
ADD Alternate (Moved to Base Cost - For Apple/Apple Comparison)	1	LS	\$782,614.27	\$782,614
Subtotal For Electrical:				\$2,527,375

EQUIPMENT	Quantity	Unit	Rate	Total (\$)
Library Equipment				
Book returns drop	2	EA	\$10,000.00	\$20,000
Special Use Equipments				
Staff lounge equipments; including microwave, refrigerator, coffee maker, garbage disposal			NIC, Included in FF&E	
Kitchen equipments; including microwave, refrigerator, coffee maker, garbage disposal			NIC, Included in FF&E	
Screen, projector, AV, speakers (at community and meeting rooms)			NIC, Included in FF&E	
Subtotal For Equipment:				\$20,000

FURNISHINGS	Quantity	Unit	Rate	Total (\$)
Light Control & Vision Equipment				
Window shades to exterior windows, manual	3,264	SF	\$15.00	\$48,960
Amenities & Convenience Items				
Fire extinguisher cabinets, allowance	1	LS	\$5,000.00	\$5,000
Entrance mats and frames, allowance	1	LS	\$5,000.00	\$5,000
Allowance for bike racks/storage	1	LS	\$5,000.00	\$5,000
Staff lockers	1	LS	\$10,000.00	\$10,000
Moveable Furnishings				
Conference/meeting tables and chairs				NIC, OFOI
Office tables and chairs				NIC, OFOI
Lounge chairs				NIC, OFOI
Subtotal For Furnishings:				\$73,960

Alternates	Job #19646
	May 5, 2020

Conceptual Cost Estimate

Alternates

Santa Cruz Downtown Library Mixed-Use

Alternates Cost Breakdown

May 5, 2020

ADD Alternate: Electrical Option C (Included In Base Cost)	Quantity	Unit	Rate	Total (\$)
(DELETE) / ADD:				
Electrical Service and Distribution				
SWBD MSB' - Main Swd 1600A MCB 208/120V	1	EA	\$42,000.00	\$42,000
SWBD MSB' - Main Swd 800A MCB 208/120V	(1)	EA	\$25,200.00	(\$25,200)
Lighting and Branch Wiring				
K - Pendant 6 Multi-Panel LED	6	EA	\$3,330.00	\$19,980
L - 2ftx3"H dia Skydome Pendant LED	14	EA	\$3,060.00	\$42,840
L - 4ftx3.7"H dia Skydome Pendant LED	4	EA	\$4,800.00	\$19,200
M - 12ftx2"W High Performance Aperture Linear LED	6	EA	\$2,900.00	\$17,400
O - 16" dia x 6.25"H LED Round Reflector Semi-Flush with RGBW Controller	11	EA	\$1,810.00	\$19,910
A - 6ftx2"W Direct/Indirect LED	(4)	EA	\$1,935.00	(\$7,740)
A - 8ftx2"W Direct/Indirect LED	(4)	EA	\$2,580.00	(\$10,320)
A - 12ftx2"W Direct/Indirect LED	(34)	EA	\$3,870.00	(\$131,580)
Lighting Rough In Box	34	EA	\$157.00	\$5,338
Lighting Rough In Box	(17)	EA	\$157.00	(\$2,669)
Branch Circuit Wiring EMT - 3/4"	510	LF	\$18.00	\$9,180
Branch Circuit Wiring EMT - 3/4"	(255)	LF	\$18.00	(\$4,590)
Power Receptacles				
Duplex Receptacle with Plate, Box & Conn	32	EA	\$160.00	\$5,120
Duplex/USB Receptacle with Plate, Box & Conn	25	EA	\$200.00	\$5,000
Duplex, Tamper Resistant Receptacle with Plate, Box & Conn	10	EA	\$190.00	\$1,900
FM Box with Quadplex USB Receptacle - Flush Floor	10	EA	\$1,200.00	\$12,000
Branch Circuit Wiring EMT - 3/4"	1,675	LF	\$22.00	\$36,850
Branch Circuit Wiring GRS - 1"	300	LF	\$32.00	\$9,600
Communications				
(2) Data outlet, wall - AV/TV	10	EA	\$96.00	\$960
(2) Data outlet, ceiling - WAP	37	EA	\$110.00	\$4,070
Voice/Data Rough-Ins - 2 Gang with Box, Ring & Conn	47	EA	\$100.00	\$4,700
1" EMT with Pull String	1,645	LF	\$14.00	\$23,030
Category 6, PVC Jacketed Cable - 4 Pair	17,320	LF	\$1.60	\$27,773
CAT6 RJ-45 Patch Panel Termination	94	EA	\$38.00	\$3,572
CAT6 Link Test	94	EA	\$100.00	\$9,400
CAT6 Labeling	94	EA	\$40.00	\$3,760

Alternates	Job #19646
	May 5, 2020



ADD Alternate: Electrical Option C (Included In Base Cost)	Quantity	Unit	Rate	Total (\$)
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(DELETE) / ADD:

Audio Visual System Conduit Rough-ins and Power	36,900	GSF	\$2.00	\$73,800
Security ACAMS/Intrusion Detection System/CCTV System	36,900	GSF	\$7.00	\$258,300
Mark-up's per Overall Summary	58.64%			\$277,727

Subtotal For Add Alternate: Electrical Option C (Included In Base Cost): \$751,311

ADD Alternate: Electrical Option D (Included In Base Cost)	Quantity	Unit	Rate	Total (\$)
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(DELETE) / ADD:

Electrical Service and Distribution				
SWBD MSB' - Main Swd 1600A MCB 208/120V	1	EA	\$42,000.00	\$42,000
SWBD MSB' - Main Swd 800A MCB 208/120V	(1)	EA	\$25,200.00	(\$25,200)
Lighting and Branch Wiring				
K - Pendant 6 Multi-Panel LED	3	EA	\$3,330.00	\$9,990
L - 2ftx3"H dia Skydome Pendant LED	14	EA	\$3,060.00	\$42,840
L - 4ftx3.7"H dia Skydome Pendant LED	4	EA	\$4,800.00	\$19,200
M - 12ftx2"W High Performance Aperture Linear LED	6	EA	\$2,900.00	\$17,400
O - 16" dia x 6.25"H LED Round Reflector Semi-Flush with RGBW Controller	11	EA	\$1,810.00	\$19,910
A - 6ftx2"W Direct/Indirect LED	(1)	EA	\$1,935.00	(\$1,935)
A - 8ftx2"W Direct/Indirect LED	(2)	EA	\$2,580.00	(\$5,160)
A - 12ftx2"W Direct/Indirect LED	(19)	EA	\$3,870.00	(\$73,530)
J - 1"Wx2.38"H x 6ft dia Pendant LED	(3)	EA	\$7,275.00	(\$21,825)
Lighting Rough In Box	35	EA	\$157.00	\$5,495
Lighting Rough In Box	(12)	EA	\$157.00	(\$1,884)
Branch Circuit Wiring EMT - 3/4"	525	LF	\$18.00	\$9,450
Branch Circuit Wiring EMT - 3/4"	(180)	LF	\$18.00	(\$3,240)

Alternates	Job #19646
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ADD Alternate: Electrical Option D (Included In Base Cost)	Quantity	Unit	Rate	Total (\$)
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(DELETE) / ADD:

Power Receptacles				
Duplex Receptacle with Plate, Box & Conn	26	EA	\$160.00	\$4,160
Duplex/USB Receptacle with Plate, Box & Conn	20	EA	\$200.00	\$4,000
Duplex, Tamper Resistant Receptacle with Plate, Box & Conn	12	EA	\$190.00	\$2,280
FM Box with Quadplex USB Receptacle - Flush Floor	10	EA	\$1,200.00	\$12,000
Branch Circuit Wiring EMT - 3/4"	1,450	LF	\$22.00	\$31,900
Branch Circuit Wiring GRS - 1"	300	LF	\$32.00	\$9,600

Communications				
(2) Data outlet, wall - AV/TV	10	EA	\$96.00	\$960
(2) Data outlet, ceiling - WAP	37	EA	\$110.00	\$4,070
Voice/Data Rough-Ins - 2 Gang with Box, Ring & Conn	47	EA	\$100.00	\$4,700
1" EMT with Pull String	1,645	LF	\$14.00	\$23,030
Category 6, PVC Jacketed Cable - 4 Pair	17,320	LF	\$1.60	\$27,773
CAT6 RJ-45 Patch Panel Termination	94	EA	\$38.00	\$3,572
CAT6 Link Test	94	EA	\$100.00	\$9,400
CAT6 Labeling	94	EA	\$40.00	\$3,760

Audio Visual System Conduit Rough-ins and Power	35,400	GSF	\$2.00	\$70,800
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System/CCTV System - Conduit Rough-Ins Only (Devices, head end equipment and wiring by	35,400	GSF	\$7.00	\$247,800
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Mark-up's per Overall Summary	58.64%			\$289,299
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Subtotal For Add Alternate: Electrical Option D (Included In Base Cost): \$782,614

Alternates	Job #19646
	May 5, 2020



ADD: Movable Partition (Option C & D)	Quantity	Unit	Rate	Total (\$)
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ADD:				
Demountable Partition				
Operable partition at community room, allow 10'high	340	SF	\$150.00	\$51,000
Mark-up's per Overall Summary	58.64%			\$29,908
Subtotal For Add: Movable Partition (Option C & D):				\$80,908

ADD: Wood Slat Ceiling (Option C & D)	Quantity	Unit	Rate	Total (\$)
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ADD:				
Wood slat ceiling				
	3,000	SF	\$75.00	\$225,000
Mark-up's per Overall Summary	58.64%			\$131,948
Subtotal For Add: Wood Slat Ceiling (Option C & D):				\$356,948

ADD: Library Shelving (Option C)	Quantity	Unit	Rate	Total (\$)
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(DELETE) :				
Collection stacks, 66" tall with painted wood end panels and canopies (same w/ renovation option)				
5' 6" H x 3' L	(558)	EA	\$2,400.00	(\$1,339,200)
ADD:				
Library shelves/Collection stacks				
	1,800	LF	\$800.00	\$1,440,000
Mark-up's per Overall Summary	58.64%			\$59,113
Subtotal For Add: Library Shelving (Option C):				\$159,913

Alternates	Job #19646
	May 5, 2020



DEDUCT: Library Shelving (Option D)	Quantity	Unit	Rate	Total (\$)
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(DELETE) :				
Collection stacks, 66" tall with painted wood end panels and canopies (same w/ renovation option)				
5' 6" H x 3' L	(558)	EA	\$2,400.00	(\$1,339,200)
ADD:				
Library shelves/Collection stacks				
	1,600	LF	\$800.00	\$1,280,000
Mark-up's per Overall Summary	58.64%			(\$34,717)
Subtotal For Deduct: Library Shelving (Option D):				(\$93,917)



GROUP 4

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