

December 8, 2023  
223384



Department of Sustainable Planning  
and Community Development  
City of Victoria  
1 Centennial Square  
Victoria BC V8W 1P6

Attention: Ms. Kristal Stevenot  
Senior Heritage Planner

**Re: 1050-1058 PANDORA AVENUE HERITAGE BUILDING  
TAX INCENTIVE PROGRAM THIRD-PARTY STRUCTURAL ASSESSMENT**

Dear Ms. Stevenot,

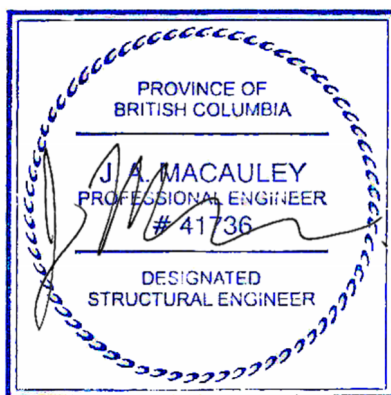
Glotman Simpson Consulting Engineers are pleased to provide the following Tax Incentive Program third-party structural assessment for the existing 1050-1058 Pandora Avenue heritage structure retention. The building is located at the corner of Pandora Avenue and Cook Street in downtown Victoria.

This report focuses on the assessment of the proposed seismic design strategy of the heritage structure and commentary on the construction costs associated with seismic restraint of the retained heritage components.

We trust this report meets your needs at the moment. If you require any additional information or clarification on items presented in this report, our team would be pleased to provide additional detail.

Yours truly,

**GLOTMAN•SIMPSON CONSULTING ENGINEERS**



Per: James Macauley P.Eng, Struct.Eng  
Associate Engineer



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## 1. TAX INCENTIVE PROGRAM

As allowed for in the British Columbia Community Charter Act, local governments have been enabled to provide tax incentives to development applicants for building projects that provide heritage conservation, rehabilitation or adaptive use. To this end, the City of Victoria has established the Tax Incentive Program (TIP) which provides financial credit for construction costs directly related to seismic upgrades to designated heritage structures as part of a singular upgrade or as part of a larger development application.

The City of Victoria Council of the Whole, in an effort to streamline TIP applications, has allowed third-party structural engineer consultants working on behalf of the City to be retained to review applications, specifically in regards to:

- Seismic design strategy of the heritage structures and new development
- Budgeted costs directly related to seismic retention construction
- Changes proposed during construction; and
- The project at completion to confirm compliance with work defined in the application

The heritage conservation review has been completed in line with the “Standards and Guidelines for the Conservation of Historic Places in Canada” Second Edition (2010).



## 2.0 BUILDING HISTORY

The heritage-designated structure to be considered as part of the TIP application is located at 1050-1058 Pandora Avenue at the corner of Pandora Avenue and Cook Street. Also known as “Wellburn’s Market” and “Parkway Apartments”, the original structure was built in 1911 and consisted of a ground-level commercial area with residential apartment units in the second floor above.

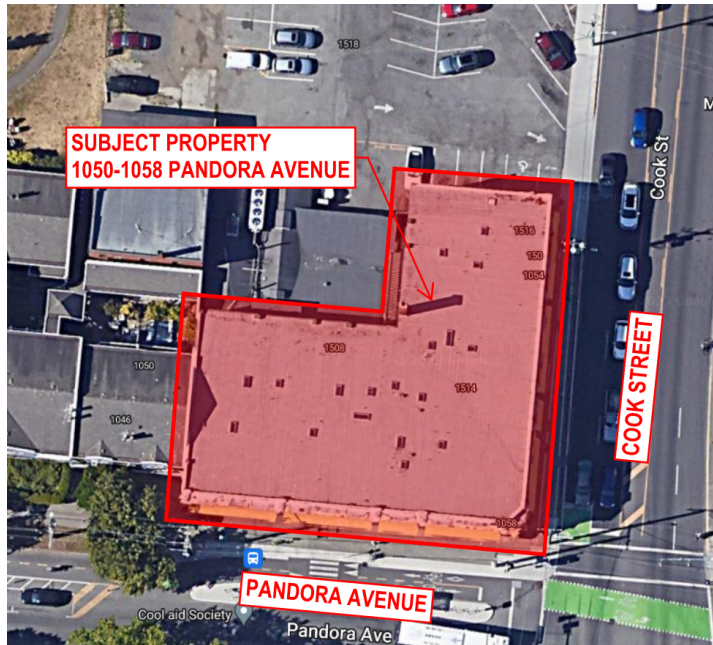


Figure 1 – Context Plan of Subject Site



Figure 2 – Historic News Article



### 3.0 BUILDING LAYOUT AND EXISTING CONDITIONS

The existing heritage structure located at 1050-1058 Pandora Avenue consists of two storeys, with the at-grade bottom storey serving as a commercial retail until historically used as a grocery store, and residential apartments in the second storey. The perimeter walls were constructed primarily with unreinforced mass clay brick walls, with the ground level frontages along Cook Street and Pandora Avenue being supported by brick pilasters and steel beams framing between storefront glazing and supporting the brick walls above. The building façade elevations along both Cook Street and Pandora utilize a mix of finishing bricks and tiles (as well as wood-silled windows and bent metal cornice), while the remaining walls use more utilitarian clay bricks. Reinforced concrete header beams are used at the second storey to span the clay brick walls above the punched window openings.

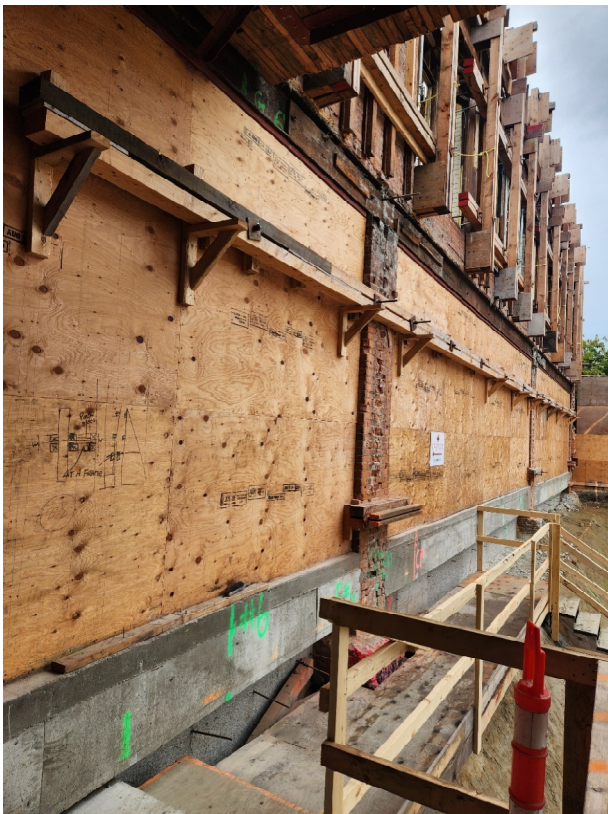


Figure 3 – Back of Façade along Pandora



Figure 4 – Underside of Second Storey



The second storey floor framing consists of a solid 2x8 wood floor stacked vertically, which in turn are supported by heavy timber beams and posts below. The roof framing consists of 1" tongue-and-groove planking supported by a double 2x joist system, with the upper set of joists sloped to suit and supported by regular pony stud walls which in turn are supported by the second set of joists which also serve to support the interior ceiling. The roof joist system is supported by 2x stud walls, which land on the solid 2x8 floor system below.



Figure 5 – Second Storey Cornice along Cook



Figure 6 – Stair Opening Cut through 2x8 Floor



**Figure 7 – Typical Second Storey and Roof Framing**



**Figure 8 – Deteriorated Roof and Parapet Condition**



For reference, the new development consists of one level of below-grade parking level with an at-grade suspended slab and second storey concrete transfer slab that supports an additional four storeys of woodframing above. A portion of second storey of the heritage structure is being cut back to accommodate the new structure, with the existing 2x8 floor system being connected to the new concrete slab. The new woodframing above the second storey is being laterally supported by plywood-sheathed stud shearwalls, and the lower concrete structure is being supported by reinforcing concrete shearwalls and foundations.



**Figure 9 – Rendering of New Parkway Development**

Construction and rehabilitation of portions of the structure have already commenced; the construction scope and schedule as well as overall development is beyond the scope of this report. A field review of the existing site conditions was conducted on September 25, 2023 with representatives from the developer (Greg Mitchell), general contractor, City of Victoria Heritage Planner (Kristal Stevenot) and Glotman Simpson Consulting Engineers (James Macauley). The preceding condition photos were taken as part of this review. In general, the second floor interior 2x8 floor and supporting heavy timber framing appeared to be in fair condition. The condition of the exterior façade framing varied from fair to poor, with the second storey exterior bent metal cornice and brick roof parapet in very poor condition due to long-term weather exposure. The roof decking and membrane also varied in condition, with the portions around drains and abutting the perimeter brick walls in particularly poor condition.





## 4.0 HERITAGE RETENTION AND SEISMIC DESIGN STRATEGY

Given the vintage of the structure, it is almost certain that the original designers did not consider the lateral capacity of the structure. Mass brick wall structures such as this typically withstand minor seismic events due to the sheer weight of the wall. However, these types of structures are also very brittle and do not dissipate seismic energy well. As such, they cannot typically accommodate significant lateral movements; the current BC Building Code allows for lateral interstorey drifts up to 2.5%, whereas unreinforced masonry (URM) walls cannot typically exceed 0.5-1.0% before leading to stability issues and possible failure.

Seismic loading for Vancouver Island has increased significantly over the last decade as the seismicity of the region has become better understood. The National Research Council (NRC) continues to refine their seismic modelling as additional earthquake sources are identified and included, such as the decision to account for the Cascadia fault subduction event (not previously included prior to 2010). The current BC Building Code (BCBC 2018) relies on the National Building Code (NBCC 2015), which in turn increased seismic loading roughly 30-40% for this specific project location and geology between NBCC 2010 and NBCC 2015. From previous similar projects (and accounting for the local conditions), we estimate that the existing mass brick walls have a capacity of roughly 10-15% of current BCBC 2018 code demands; this will be further reduced by any subsequent code changes. To this end, seismic retrofit is required regardless of the scope of the new development.

### 4.1 ORIGINAL FRAMING AND POSSIBLE RETENTION

The original structure built at 1050-1058 Pandora Avenue consists of an “L” shape with the long legs along Cook Street and Pandora. There have also been extensions built and attached at the north-west portion of the structure which are not being considered as part of the heritage retention.

It is possible for the existing heritage structure to be retained but to do so would require extensive retrofit. Given the seismic design requirements mentioned previously and the inadequacy of the existing structure, new seismic resisting elements are required to support the structure; possible options include concrete shotcrete shearwalls and steel braces or moment frames. All of these lateral force resisting systems will require extensive new concrete foundations, likely complete with soil anchors drilled to provide overturning resistance. The existing diaphragms require upgrade, likely with a combination of new plywood sheathing and steel straps or alternatively a reinforced concrete topping, to drag seismic loading back to the new shearwalls/braces. Additional to this, back-up framing would be required to support the exterior walls to tie the existing framing back to the new diaphragms.

While it is technically feasible to retain these elements, they require extensive intervention to the existing structure including spatial allowances required to install the lateral bracing, further reducing occupiable space. These upgrades require significant cost, typically far beyond the revenue that can be generated by the upgrade space over the extended life of the structure. Additionally, the amount of residential area is limited to the pre-existing areas at Level 2, thus not allowing for full utilization of the site for housing.

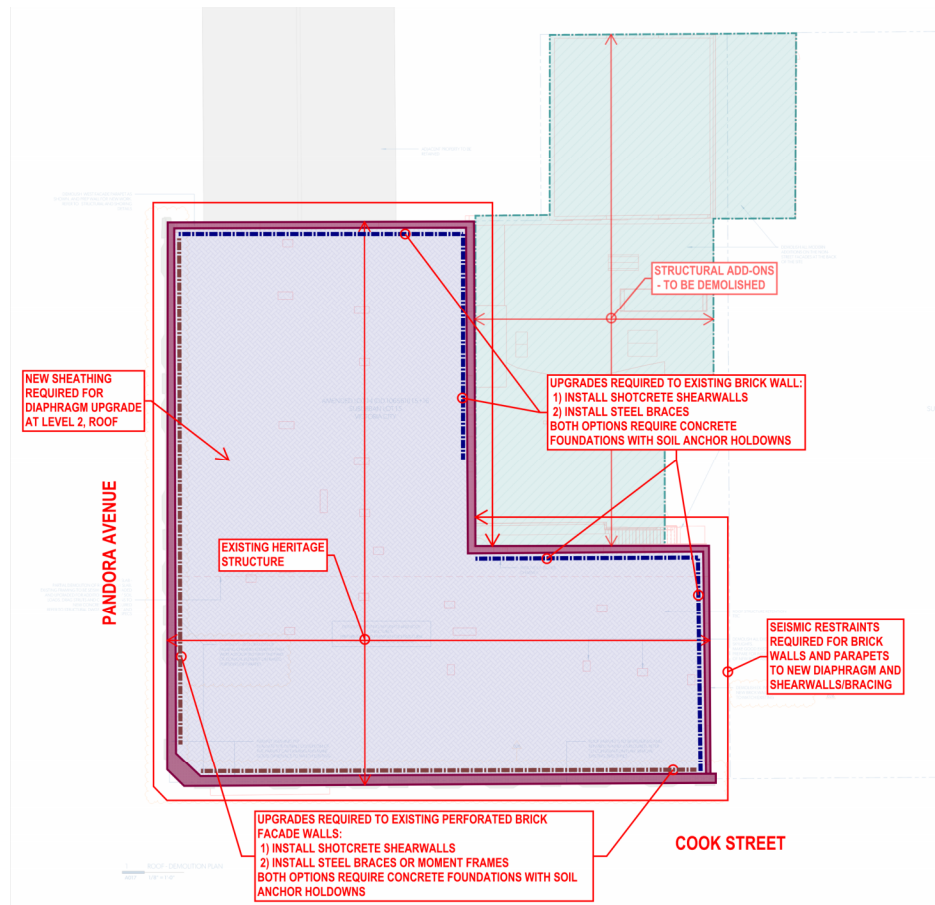


Figure 10 – Original Heritage Structure Layout

#### 4.2 PROPOSED DEVELOPMENT RETROFIT

The new development has retained the following heritage items:

- Cook Street and Pandora Avenue façade framing, including parapets and cornices
- Roughly 50% of second storey framing, including solid 2x8 vertically stacked slab and heavy timber dropped beams and posts

The following items have been demolished:

- Remaining north and west mass brick walls
- Roof slab framing and supporting stud walls at second storey
- Remaining 50% of second storey framing
- Ground level foundations including concrete spread footings and slab-on-grade

Find following a summary of the proposed retrofit and changes to the existing heritage structure.

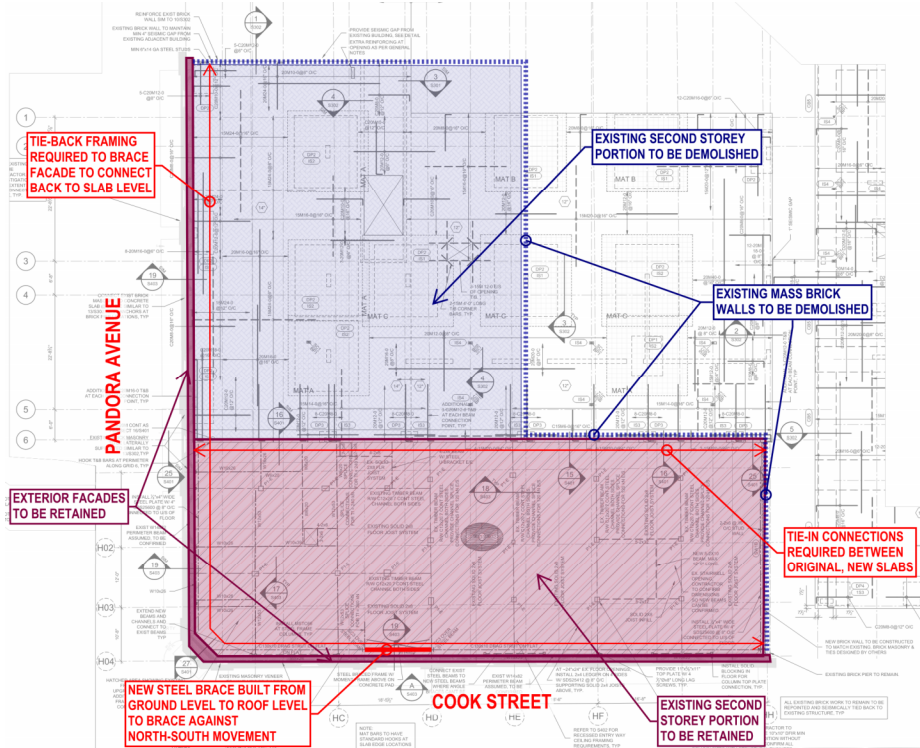


Figure 11 – Second Storey Heritage Retention Plan (As Proposed by Developer)

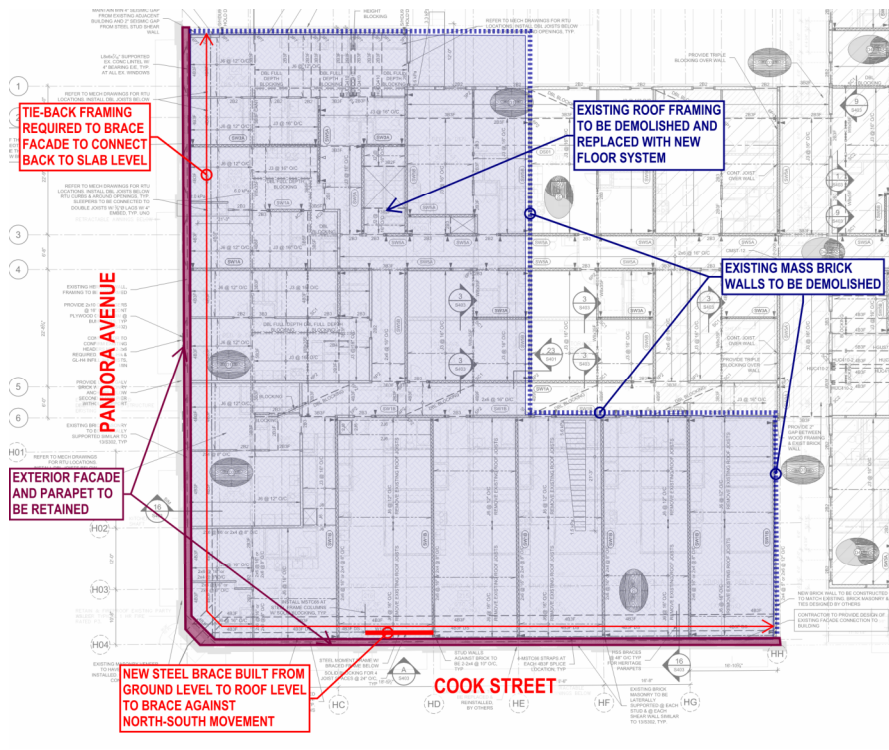


Figure 12 – Roof Level Heritage Retention Plan (As Proposed by Developer)



### 4.2.1 Façade Framing

The brick façade does not have sufficient out-of-plane capacity to resist horizontal lateral movement in a seismic event (i.e. pulling away from the main building) and will require back-up framing. The façades are proposed to be retrofitted with tie-backs to the second storey and roof framing with supplemental steel posts and beams as well as connections. Additional framing is also required to support the parapet at the roof level. Additionally, there is very little in-plane stiffness or strength for the brick to act as a shearwall along the lengths of the wall; tie-in to the slab diaphragms is essential for bracing against out-of-plane and in-plane loading.



Figure 13 – Ground Level Façade Back-Up Framing along Pandora

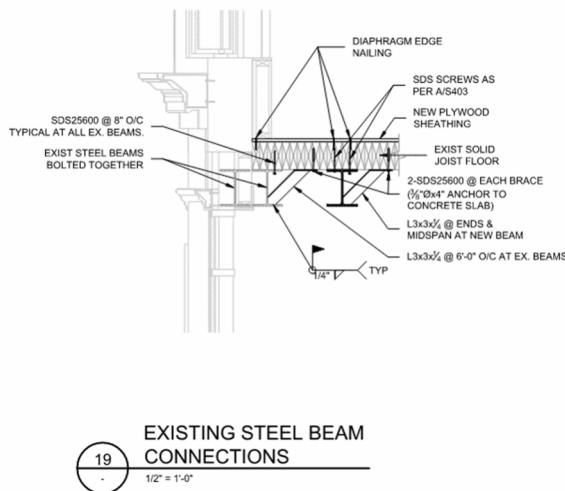


Figure 14 – Typical Façade Tie-Back at Second Storey

### 4.2.2 Second Storey

Roughly half of the existing second storey slab framing will be retained as part of the new proposed development. While the existing 2x8 slab and dropped timber framing (with new steel beam reinforcing) is adequate to support gravity loading, there is insufficient diaphragm capacity to distribute the seismic loads from both the slab and façade weights to new vertical steel braces or



concrete shearwalls; new supplemental plywood sheathing will be nailed to the top of the existing slab.

The existing slab portion to be retained will be connected to a new concrete slab to the west. Additionally, a steel brace frame is being constructed to brace the east side of the slab portion just behind the brick façade along Cook Street to brace both the second storey and new roof framing against north-south seismic loading. All of the seismic loading from the façade and remaining second storey framing will be resisted by the new steel frame along Cook Street as well as the concrete shearwalls to the west supporting the new second storey concrete slab.



## 5.0 COST ASSESSMENT

The costs associated to seismic restraint of the heritage structure break down into direct and indirect components as it relates to the TIP application. In general, it is straightforward to quantify the direct costs associated with bracing the façade system back to the main structure as the back-up framing and connections are only being used for this purpose. It is more difficult to quantify what portion of the overall new structural framing is being utilized to support the existing structure against seismic loading demands as this framing supports both old/heritage and new structural elements. In other words, what portion of the cost of the concrete shearwalls and footings can be attributed to the seismic restraint of the heritage retention. It is our understanding that costs related to heritage conservation not related to seismic restraint are not considered as part of the TIP claim. Refer to Appendix A for an assessment of the structural components related to direct and indirect costs. As part of the TIP application, the developer has provided cost estimates from the general contractor for the project (Summit Brooke) as well as an independent quantity surveyor (Beacon Construction Consultants).

### 5.1 DIRECT COSTS

As discussed previously, 100% of the costs associated with the restraint of the heritage framing can be claimed as part of the TIP application Refer to Appendix A for a summary of these components. We have isolated the components described in the preceding sections and have summarized below:

Beacon	Summit Brooke
$(\$247,956.65) \times 1.1 \times 1.1$ <b>= \$300,027.55</b>	$(\$326,882.00) \times 1.05$ <b>= \$343,226.10</b>
* Includes portion of structural steel estimated to be part of back-up framing (noted multipliers are for “General Requirements” and “Contractor’s Fee” of 10% each)	* Includes portion of structural steel estimated to be part of back-up framing (noted multiplier is for “Contractor’s Fee” of 5%)

### 5.2 INDIRECT COSTS

In an effort to quantify the costs associated with the lateral support of the heritage framing, the weight of the retained heritage framing (including brick façade) was compared to the overall weight of the southern portion of the project, with the weight being directly related to the seismic force to be resisted. We have calculated that the retained heritage framing consists of roughly 18% of the overall weight. To this end, 18% of the costs associated with the woodframe shearwalls and diaphragms and concrete shearwalls, diaphragm reinforcing and concrete footings supporting the shearwalls can be claimed as part of the TIP application. Refer to Appendix A for a summary of the components we have identified as part of these systems.

	Beacon	Summit Brooke
<b>Construction Costs</b>	<b>\$309,539.60</b>	<b>\$1,156,405.00</b>
<b>General Requirements and Contractor Fee</b>	$(\$309,539.60) \times 0.1$ $+ (\$309,539.60) \times 0.1 \times 1.1$ <b>= \$65,003.32</b>	$$(1,156,405.00) \times 0.05 +$ $\$24,800.00$ <b>= \$82,620.25</b>
<b>Total Indirect Costs</b>	$(\$309,539.60 + \$65,003.32) \times 0.18$ <b>= \$67,41.72</b>	$$(1,156,405.00 + \$87,116.25) \times$ $0.18$ <b>= \$223,024.55</b>



### 5.3 TOTAL COSTS (DIRECT + INDIRECT)

Find following a summary of the total cost for both Beacon and Summit Brooke estimates:

<b>Beacon</b>	<b>Summit Brooke</b>
$\$300,027.55 + \$67,41.72$ <b>= \$367,445.27</b>	$\$343,226.10 + \$223,024.55$ <b>= \$566,250.65</b>

Using both construction cost estimates as a basis for our assessment, we estimate that the construction costs for seismic restraint to be \$367,445.27 for the Beacon estimate and \$566,250.65 for the Summit Brooke estimate.



## 6.0 DISCUSSION

The proposed development at 1050-1058 Pandora Avenue will be retaining heritage components of the historic Scott Building as part of the overall development. The developer will induce expenses related to the retention, including costs for both conservation of historic elements as well as the back-up framing to brace these elements against seismic loading. The costs for seismic restraint have been put forward by the developer as part of the City of Victoria's Tax Incentive Program, which requires review by the Heritage Review Panel. Glotman-Simpson Consulting Engineers has been retained to review the structural components of the application, including review of the framing to identify components that are required for seismic restraint as well as cost estimates put forward by the developer.

This report has discussed and identified the proposed structural framing and have broken down the seismic restraint framing into two categories with associated costs: direct, and indirect. The direct costs are for framing exclusively for the seismic restraint of heritage elements, and includes strong-back framing and drilled anchors connecting the strong-backs to the heritage components. The indirect costs are for framing supporting both the heritage framing as well as new building components, and includes new concrete shearwalls and floor diaphragms supporting a full given floor. The indirect costs attributed to seismic restraint are not as clear, as they support both old and new framing. We have used the weight of both old and new components to estimate their contribution to the overall seismic loading, and as an extension what portions of the overall cost can be attributed to each. Using both construction cost estimates as a basis for our assessment, we estimate that the construction costs for seismic restraint to be \$367,445.27 for the Beacon estimate and \$566,250.65 for the Summit Brooke estimate.





## 7.0 LIMIT OF LIABILITY & CLOSE-OUT

This Tax Incentive Program assessment is based on a visual inspection of the existing structure and building systems and a review of the available and drawing information, as part of our review. No testing or dismantling of any architectural cladding was performed and inspections were made on a random basis with no attempt to review or inspect every element or portion of the building. The intent of the inspections was to verify the layout shown in the proposed structural engineering drawings provided by Primex Investments Ltd. (“IFC Interiors Update” structural drawings by Equilibrium Consulting Inc dated March 21, 2023), but not to ascertain the quality or sufficiency of any specific aspect of the development. Our comments are limited to determining the framing elements related to the seismic restraint of heritage elements and does not constitute an independent structural peer review complete with design checks. Our comments are not a guarantee or warranty of any aspect of the condition of the development whatsoever.

This report was prepared by Glotman•Simpson Consulting Engineers for the account of the City of Victoria. The material in it reflects the existing structural condition of the existing buildings to our best judgment considering the information available to us at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Glotman•Simpson Consulting Engineers accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

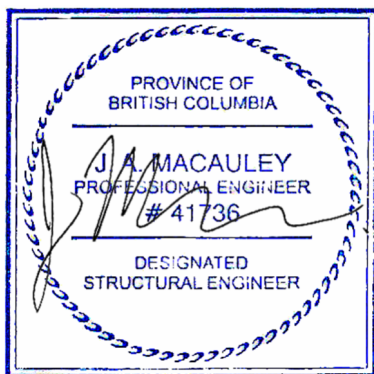
The following items were not examined by us nor were they considered as part of the structural survey of the building:

- condition of the roofing system and any leakage concerns;
- building envelope design and condition issues;
- moisture considerations at exterior walls;
- plumbing, mechanical or electrical considerations;
- fire prevention requirements or condition of existing equipment and systems; and
- presence of hazardous materials such as asbestos, PCB’s or toxic industrial waste.

We trust the above is satisfactory for your needs at this time. Please feel free to contact the undersigned if we can provide any further information or clarification on this matter.

Yours truly,

**GLOTMAN•SIMPSON CONSULTING ENGINEERS**



Per: James Macauley, P.Eng, Struct.Eng  
Associate

Per: Levi Stoelting, P.Eng  
Principal



# **APPENDIX A**

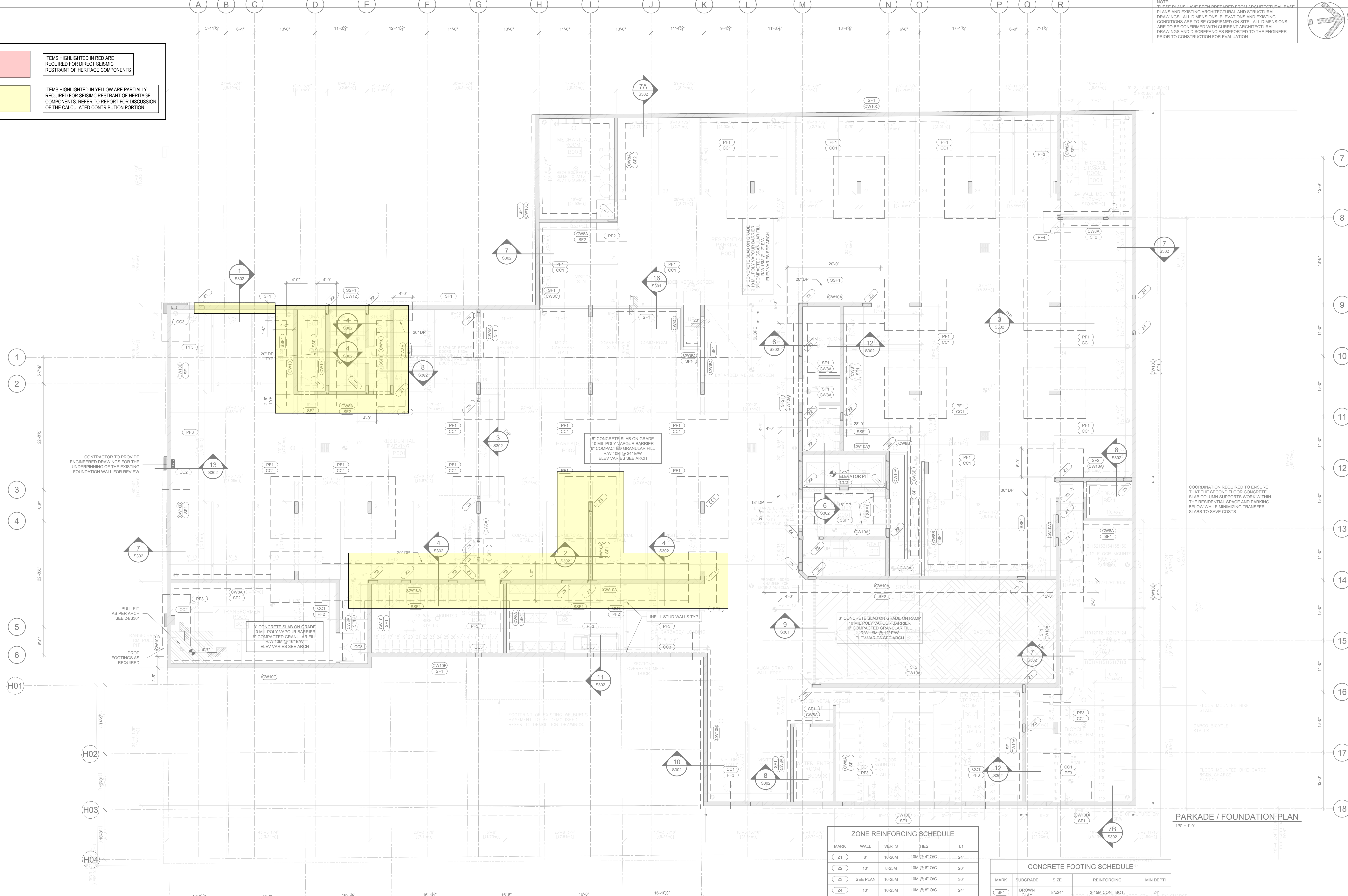
## Structural Drawings

14	2022/12/16	ISSUED FOR CONSTRUCTION
13	2022/11/25	DRAFT IFC
12	2022/07/20	BUILDING PERMIT R2
11	2022/07/13	BP REVIEW
10	2021/11/19	RE-ISSUED FOR BP
9	2021/11/02	COORDINATION
8	2021/07/23	CLIENT REVIEW
7	2021/03/22	TENDER ADDENDUM
6	2021/01/29	RE-ISSUED FOR BP
5	2020/12/16	TENDER
4	2020/12/02	COORDINATION
3	2019/12/12	BUILDING PERMIT
2	2019/11/08	90% REVIEW
1	2019/10/04	60% REVIEW
NO DATE	DESCRIPTION	ISSUES

ITEMS HIGHLIGHTED IN RED ARE REQUIRED FOR DIRECT SEISMIC RESTRAINT OF HERITAGE COMPONENTS

ITEMS HIGHLIGHTED IN YELLOW ARE PARTIALLY REQUIRED FOR SEISMIC RESTRAINT OF HERITAGE COMPONENTS. REFER TO REPORT FOR DISCUSSION OF THE CALCULATED CONTRIBUTION PORTION.

NOTE:  
THESE PLANS HAVE BEEN PREPARED FROM ARCHITECTURAL-BASE PLANS AND EXISTING ARCHITECTURAL AND STRUCTURAL DRAWINGS. ALL DIMENSIONS, ELEVATIONS AND EXISTING CONDITIONS ARE TO BE CONFIRMED ON SITE. ALL DIMENSIONS ARE TO BE CONFIRMED WITH CURRENT ARCHITECTURAL DRAWINGS AND DISCREPANCIES REPORTED TO THE ENGINEER PRIOR TO CONSTRUCTION FOR EVALUATION.

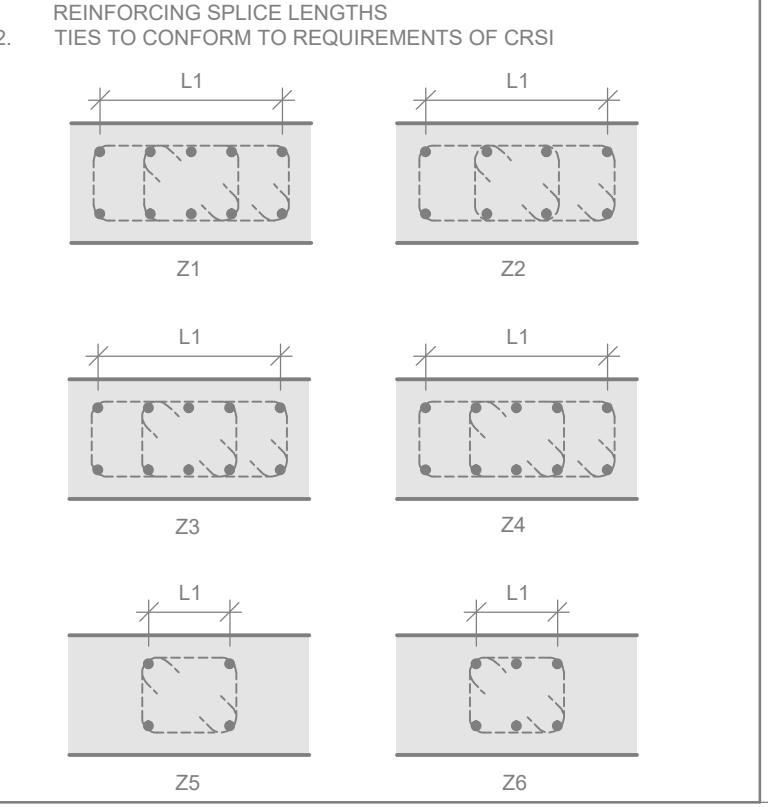


MARK	WIDTH	REINFORCING	LOCATION
CWS	6"	15M @ 16" O/C EW	OUTSIDE FACE
CWB	8"	15M HORIZ @ 16" O/C 15M VERT @ 12" O/C	LOWER SOIL FACE
CWBA	8"	15M @ 12" O/C EW	MID
CWB8	8"	15M @ 20" O/C EW	MID
CWB8C	8"	15M @ 16" O/C EW	HIGHER SOIL FACE
CW10	10"	15M VERT @ 16" O/C 15M HORIZ @ 12" O/C	EACH FACE
CW10A	10"	15M HORIZ @ 12" O/C 15M VERT @ 16" O/C	EACH FACE
CW10B	10"	15M HORIZ @ 12" O/C 15M VERT @ 16" O/C	INSIDE FACE
CW10D	10"	15M HORIZ @ 12" O/C 15M VERT @ 16" O/C	INSIDE FACE
CW12	12"	15M @ 12" O/C EW	EACH FACE

MARK	SIZE	VERTS	TIES
CC1	10"x30"	14-25M	10M @ 10"
CC2	10"x24"	12-25M	10M @ 10"
CC3	10"x16"	8-25M	10M @ 10"
CC4	8"x36"	10-20M	15M @ 8"
CC5	28"x36"	23-25M	10M @ 6"
CC6	12"x12"	4-20M	10M @ 4"

LOADING CONDITION	LOADING
SUITE & CORRIDOR DEAD LOAD	1.65 kPa (35 psf)
ROOF DEAD LOAD (MAX. 4" SEDUM)	2.90 kPa (60 psf)
DECK DEAD LOAD	1.25 kPa (25 psf)
MECHANICAL AREA DEAD LOAD	1.85 kPa (35 psf)
SUITE LIVE LOAD	1.90 kPa (40 psf)
CORRIDOR LIVE LOAD	4.80 kPa (100 psf)
DECK LIVE LOAD	4.80 kPa (100 psf)
MECHANICAL AREA LIVE LOAD	3.80 kPa (75 psf)
LIVE LOAD DEFLECTION LIMIT	L/360
TOTAL LOAD DEFLECTION LIMIT	L/240

MARK	WALL	VERTS	TIES	L1
Z1	8"	10-20M	10M @ 4" O/C	24"
Z2	10"	8-25M	10M @ 6" O/C	20"
Z3	SEE PLAN	10-25M	10M @ 4" O/C	30"
Z4	10"	10-25M	10M @ 8" O/C	24"
Z5	SEE PLAN	4-15M	10M @ 8" O/C	10"
Z6	10"	6-15M	10M @ 8" O/C	16"



MARK	SUBGRADE	SIZE	REINFORCING	MIN DEPTH
SF1	BROWN CLAY	8"x24"	2-15M CONT BOT.	24"
SF2	BROWN CLAY	10"x30"	3-15M CONT BOT. 15M @ 10" O/C TRANS BOT.	24"
SF3	3400 psf BEARING CAPACITY	18"x42"	15M @ 12" O/C SHORT T&B 6-20M CONT LONG T&B (SEE 23301)	-
SF4	3400 psf BEARING CAPACITY	~36"x42"	15M @ 12" O/C SHORT T&B 6-20M CONT LONG T&B 10M TIES @ 8" O/C	-
SSF1	GRAY CLAY	SEE PLAN	20M @ 8" O/C EW T&B	30"
SSF2	GRAY CLAY	SEE PLAN	20M @ 4" O/C LONG BOT 10M @ 8" O/C LONG TOP 20M @ 8" O/C TRANS TOP & BOT	48"
PF1	BROWN CLAY	SEE PLAN	25M @ 8" O/C LONG BOT 20M @ 8" O/C LONG TOP 20M @ 8" O/C TRANS TOP & BOT	48"
PF2	BROWN CLAY	167"x132" x34"	15-25M TRANS BOT 20-25M LONG BOT	36"
PF3	BLAST ROCK/FILL	92"x72"x30"	14-20M TRANS BOT H2E 13-20M LONG BOT H2E	30"
PF4	BEDROCK	57"x32"x20"	7-20M TRANS BOT H2E 8-20M LONG BOT H2E	24"
PF5	GRAY CLAY	132"x108"x20"	10-20M TRANS BOT 9-20M LONG BOT	24"
PF6	BROWN CLAY	108"x78"x18"	7-20M TRANS BOT 6-20M LONG BOT	24"
PF7	BLAST ROCK/FILL	48"x48"x16"	4-20M EW BOT H2E	24"
PF8	BEDROCK	48"x48"x16"	4-20M EW BOT H2E	24"

MARK	SUBGRADE	SIZE	REINFORCING	MIN DEPTH
PF9	GRAY CLAY	72"x120"x18"	10-20M SHORT WAY BOT 7-20M LONG WAY BOT	24"
PF10	BROWN CLAY	60"x96"x18"	8-20M SHORT WAY BOT 6-20M LONG WAY BOT	24"
PF11	BLAST ROCK/FILL	36"x60"x14"	6-15M SHORT WAY BOT H2E 5-15M LONG WAY BOT H2E	24"
PF12	BEDROCK	36"x60"x14"	6-15M SHORT WAY BOT H2E 5-15M LONG WAY BOT H2E	24"
PF13	BROWN CLAY	70"x70"x14"	6-20M EW BOT	24"
PF14	BROWN CLAY	54"x54"x12"	5-15M EW BOT	24"
PF15	GRAY CLAY	42"x42"x24"	4-15M EW T&B & BOT	24"

NOTE:  
1. REFER TO GENERAL NOTES FOR CONCRETE COVER AND REINFORCING SPICE LENGTHS  
2. FOOTING DEPTHS ARE MEASURED FROM FINISHED GRADE/TOP OF CONCRETE SLAB TO UNDERSIDE OF FOOTING

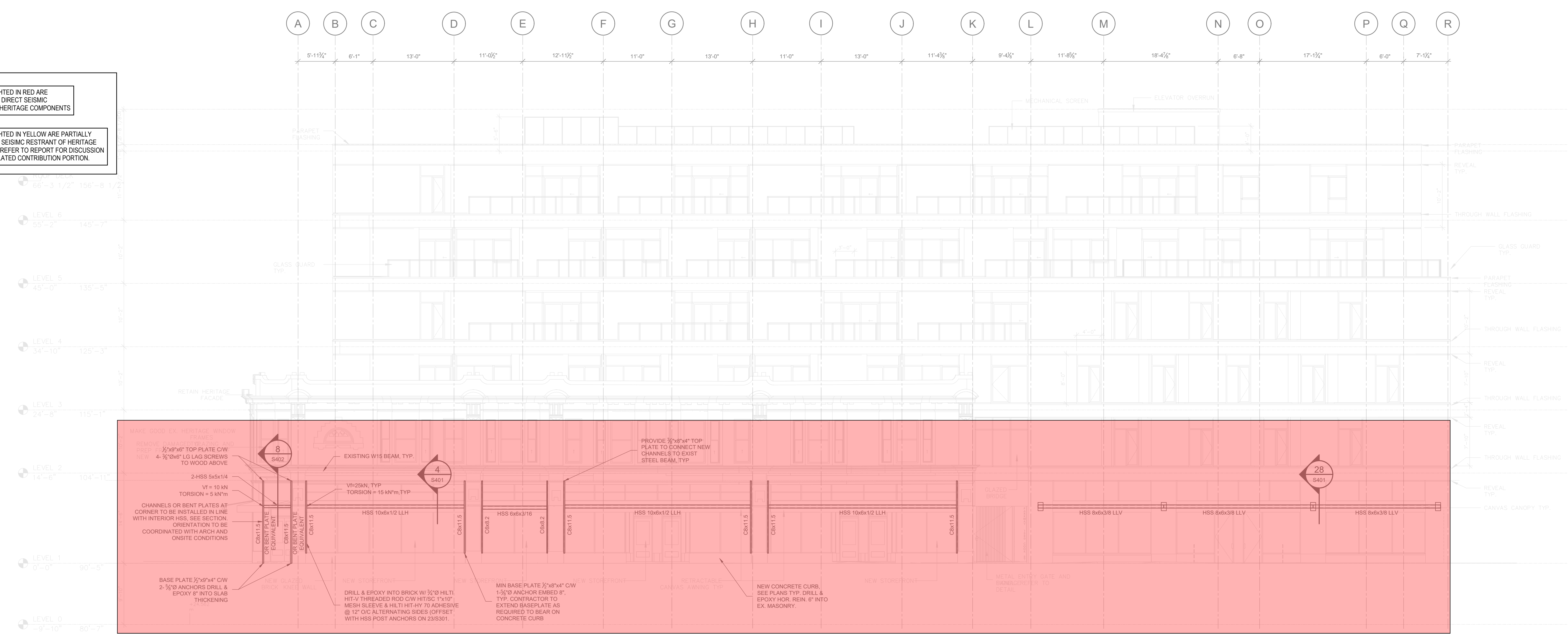




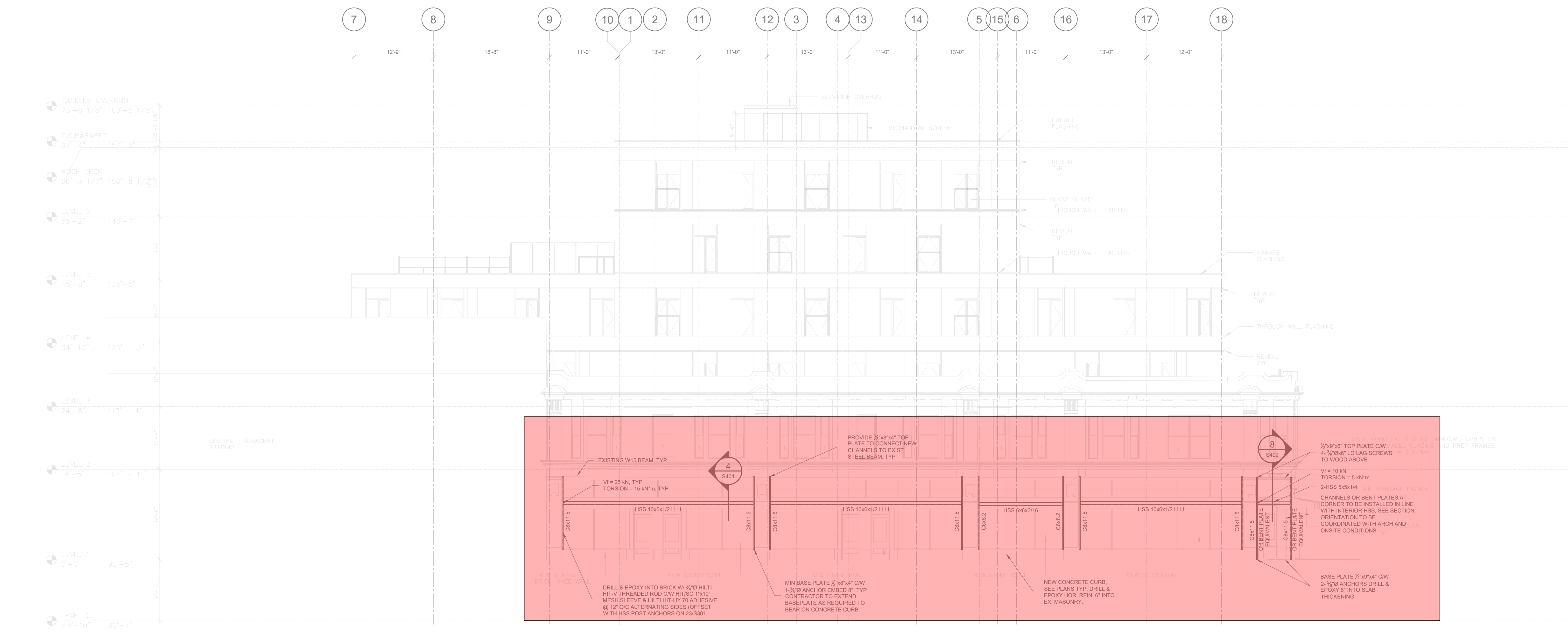


**ITEMS HIGHLIGHTED IN RED ARE REQUIRED FOR DIRECT SEISMIC RESTRAINT OF HERITAGE COMPONENTS**

**ITEMS HIGHLIGHTED IN YELLOW ARE PARTIALLY REQUIRED FOR SEISMIC RESTRAINT OF HERITAGE COMPONENTS. REFER TO REPORT FOR DISCUSSION OF THE CALCULATED CONTRIBUTION PORTION.**



**A EAST ELEVATION**  
1/8" = 1'-0"



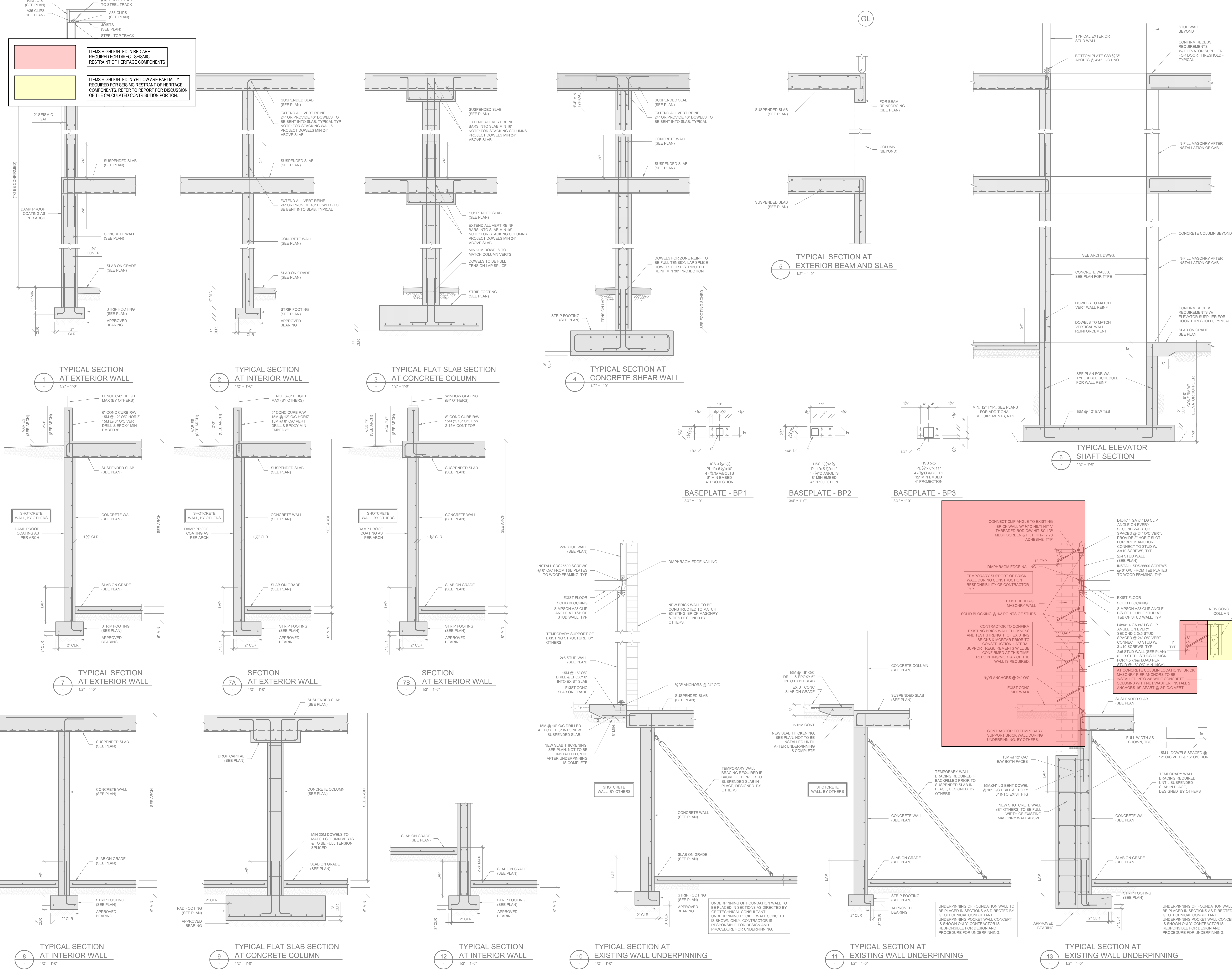
**B SOUTH ELEVATION**  
1/8" = 1'-0"

CLIENT  
**PRIMEX INVESTMENTS**

**ISSUED FOR CONSTRUCTION**

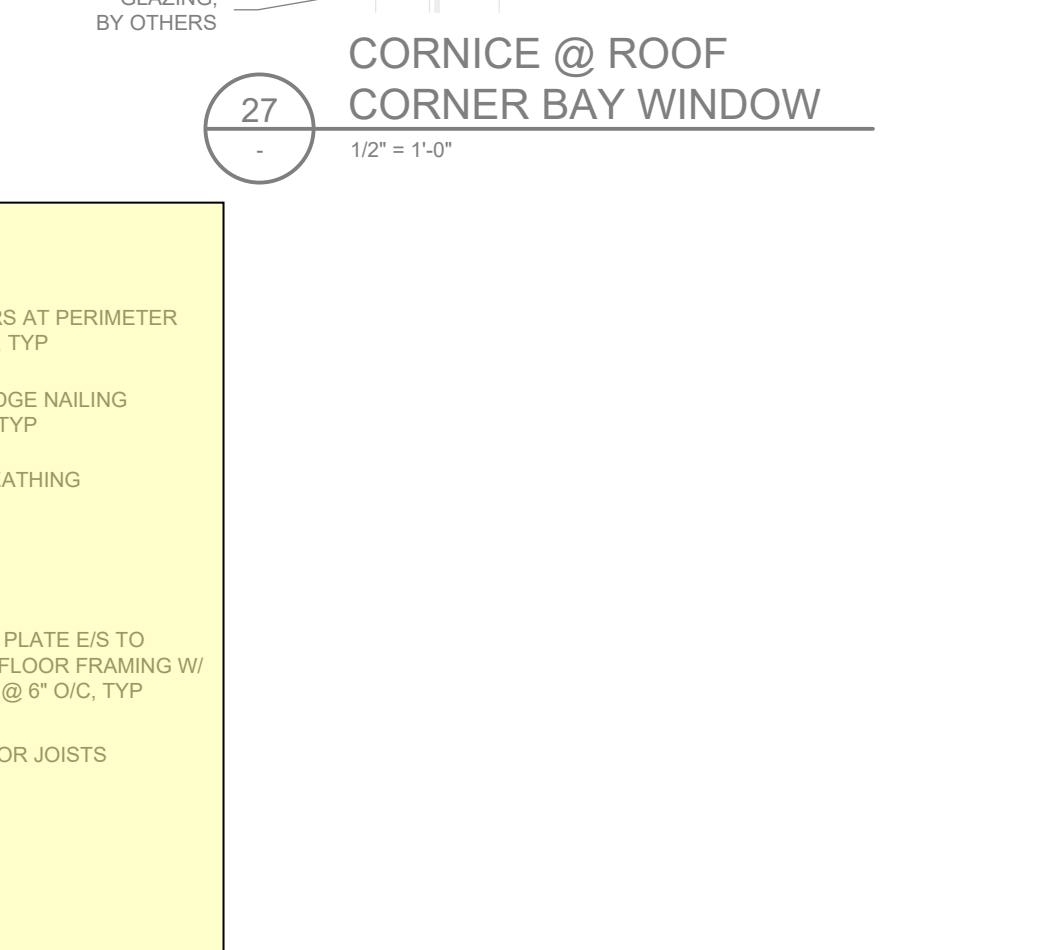
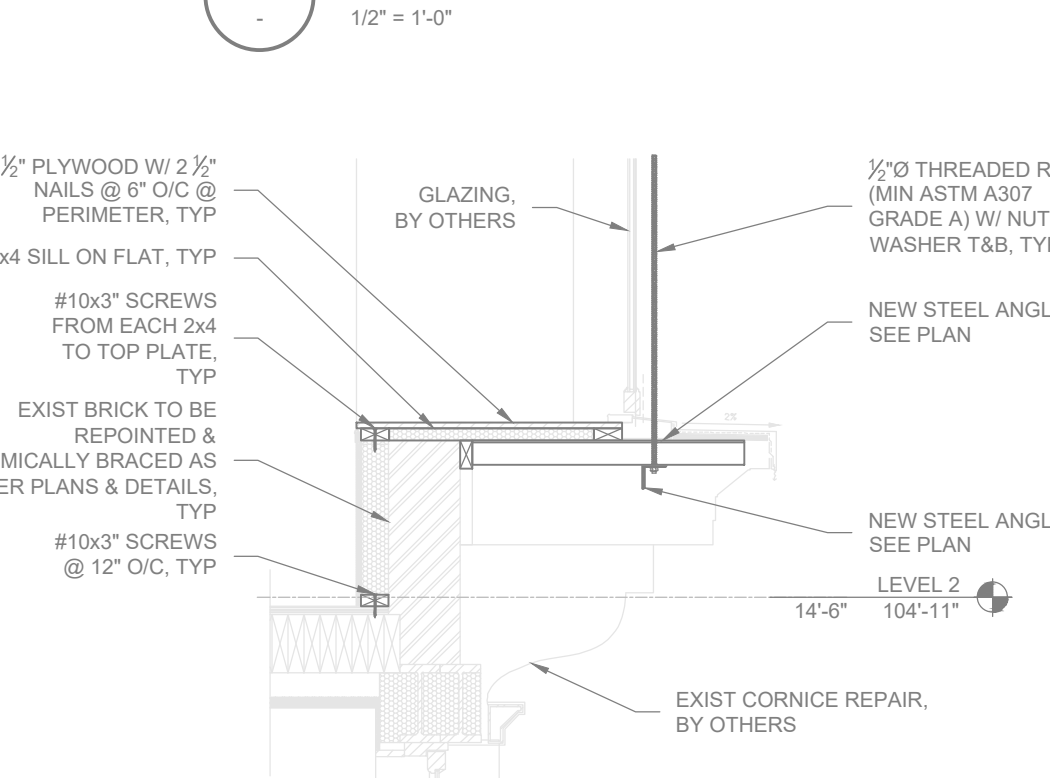
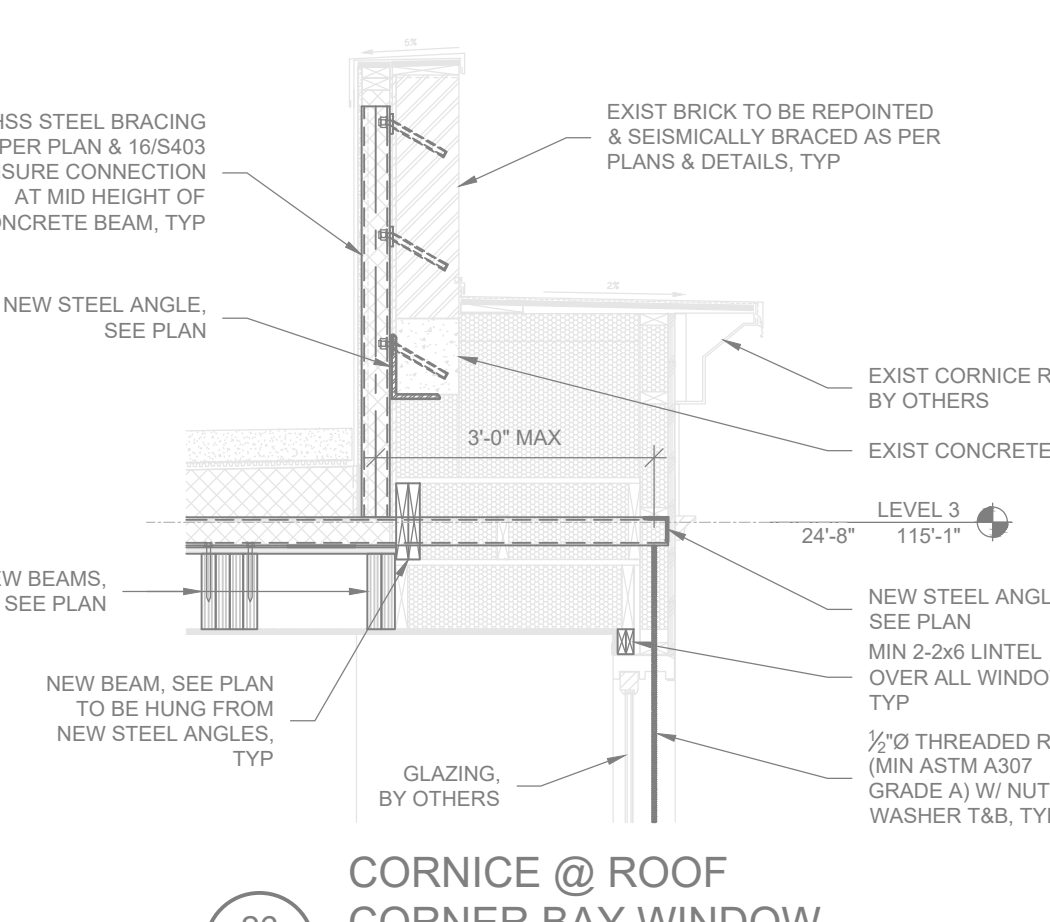
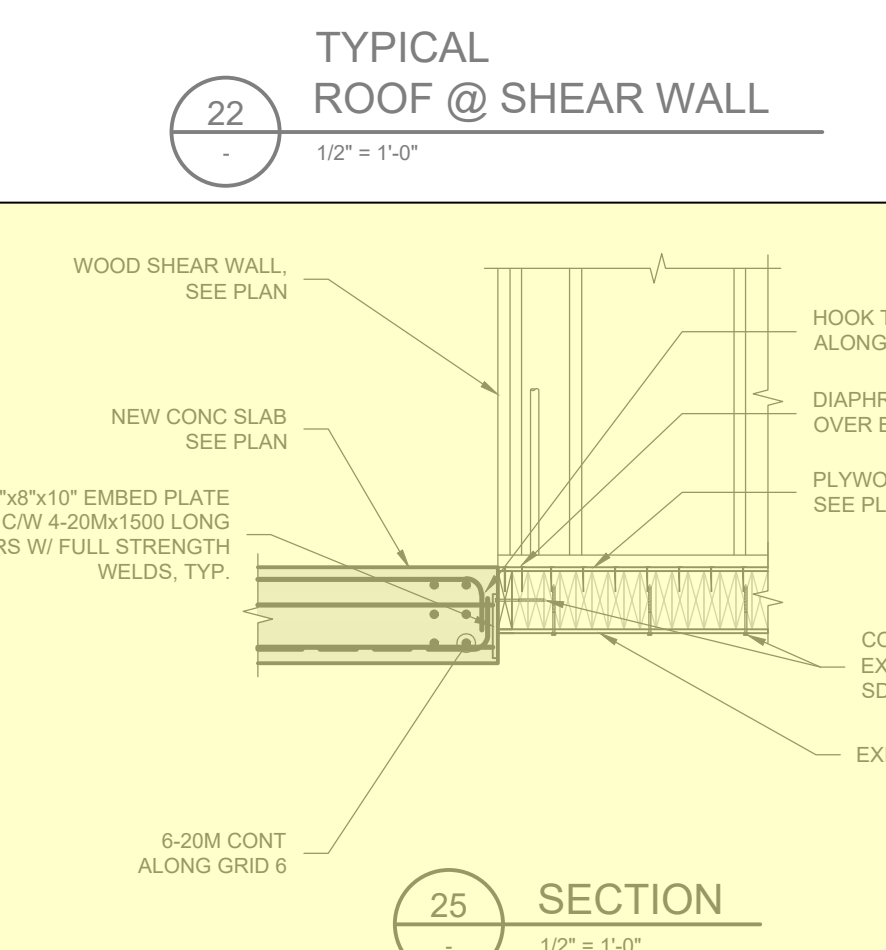
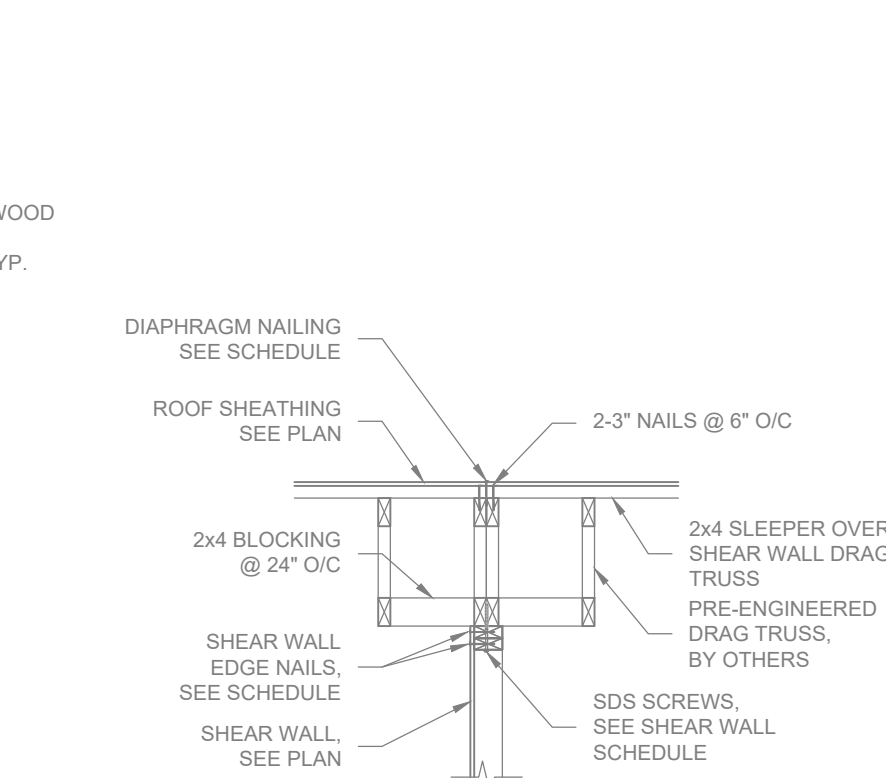
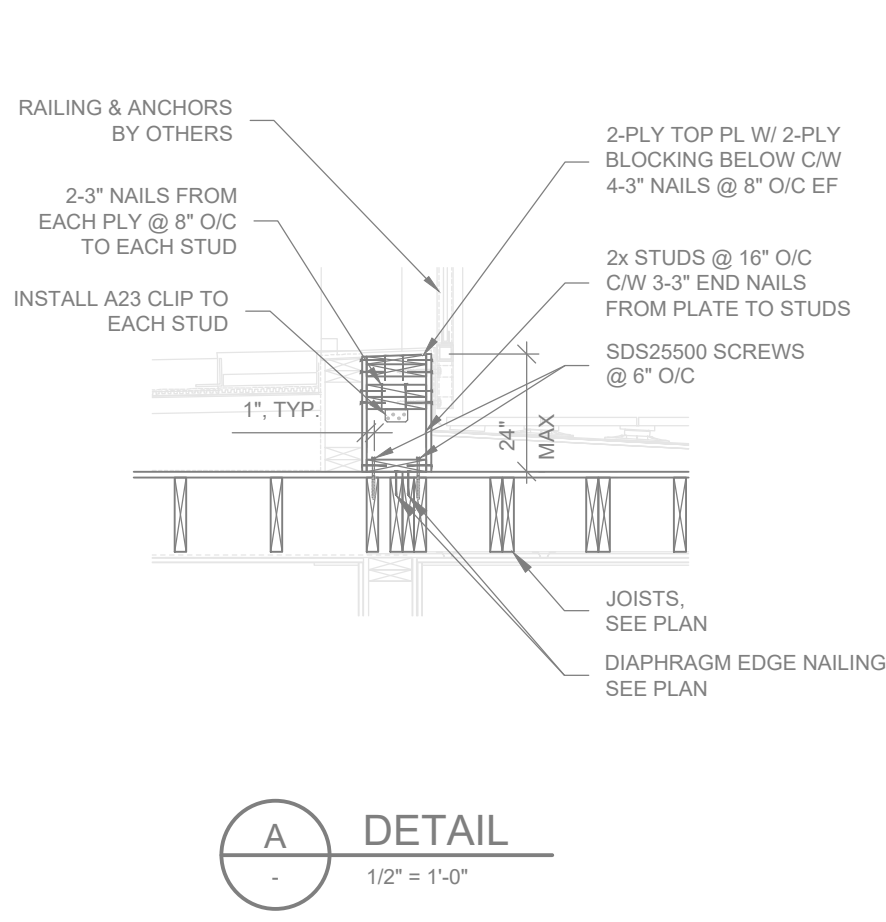
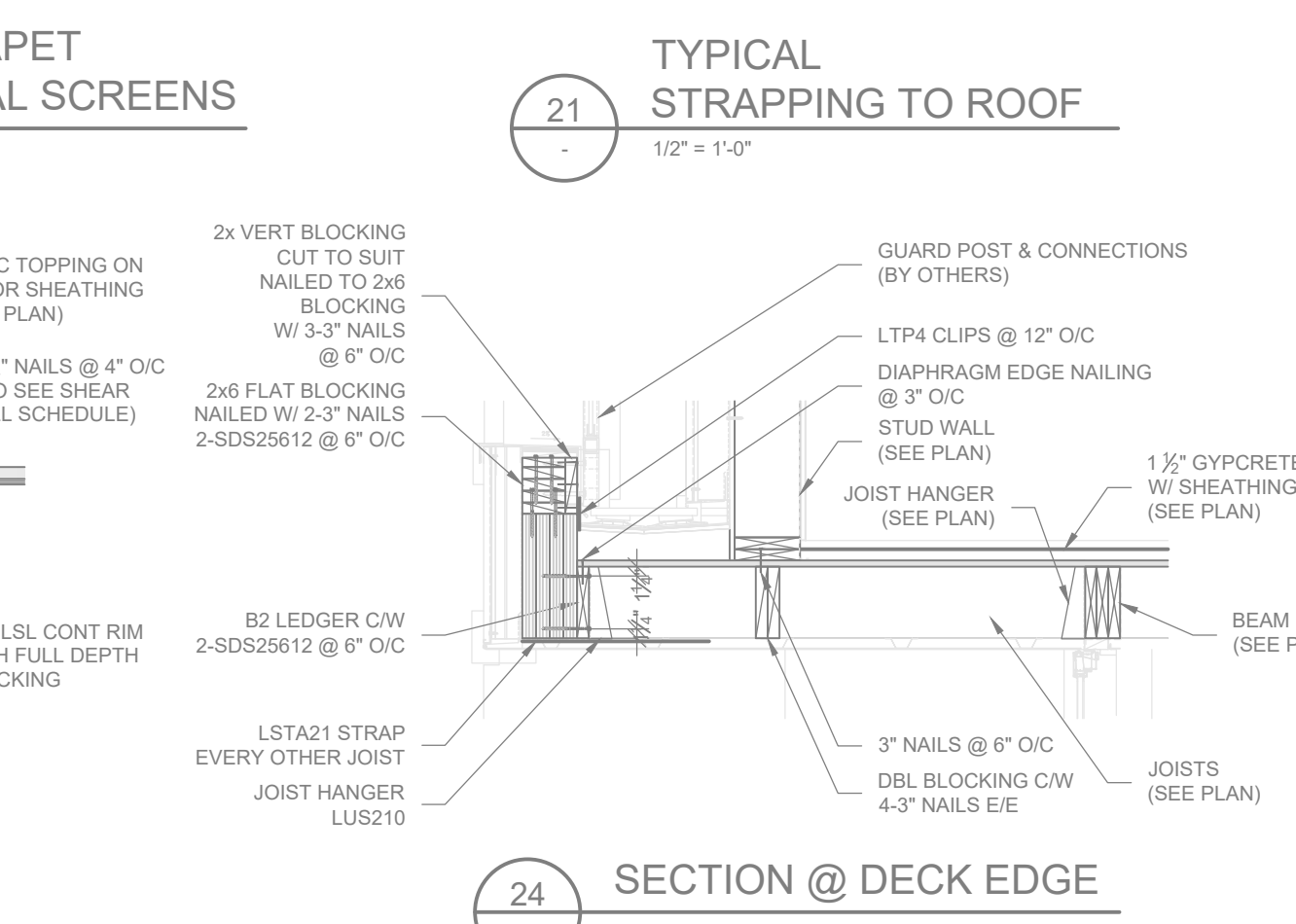
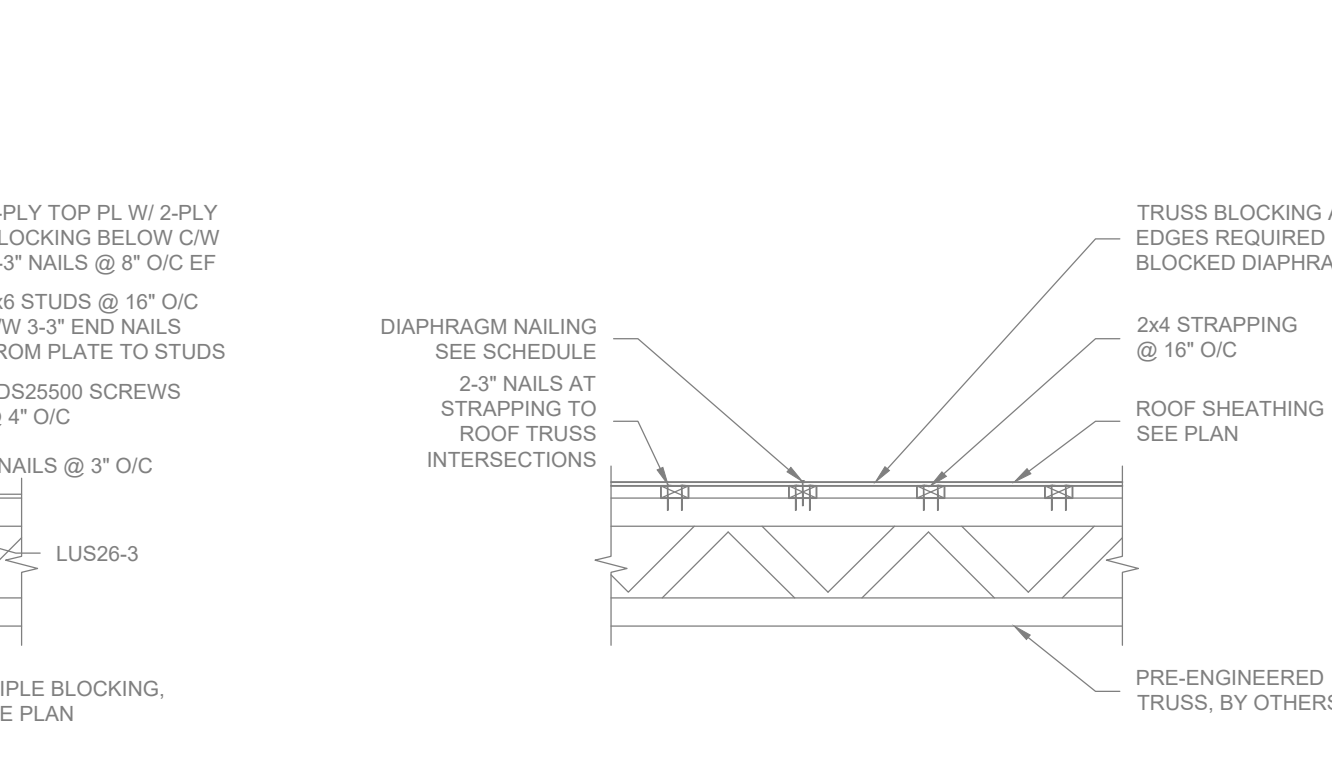
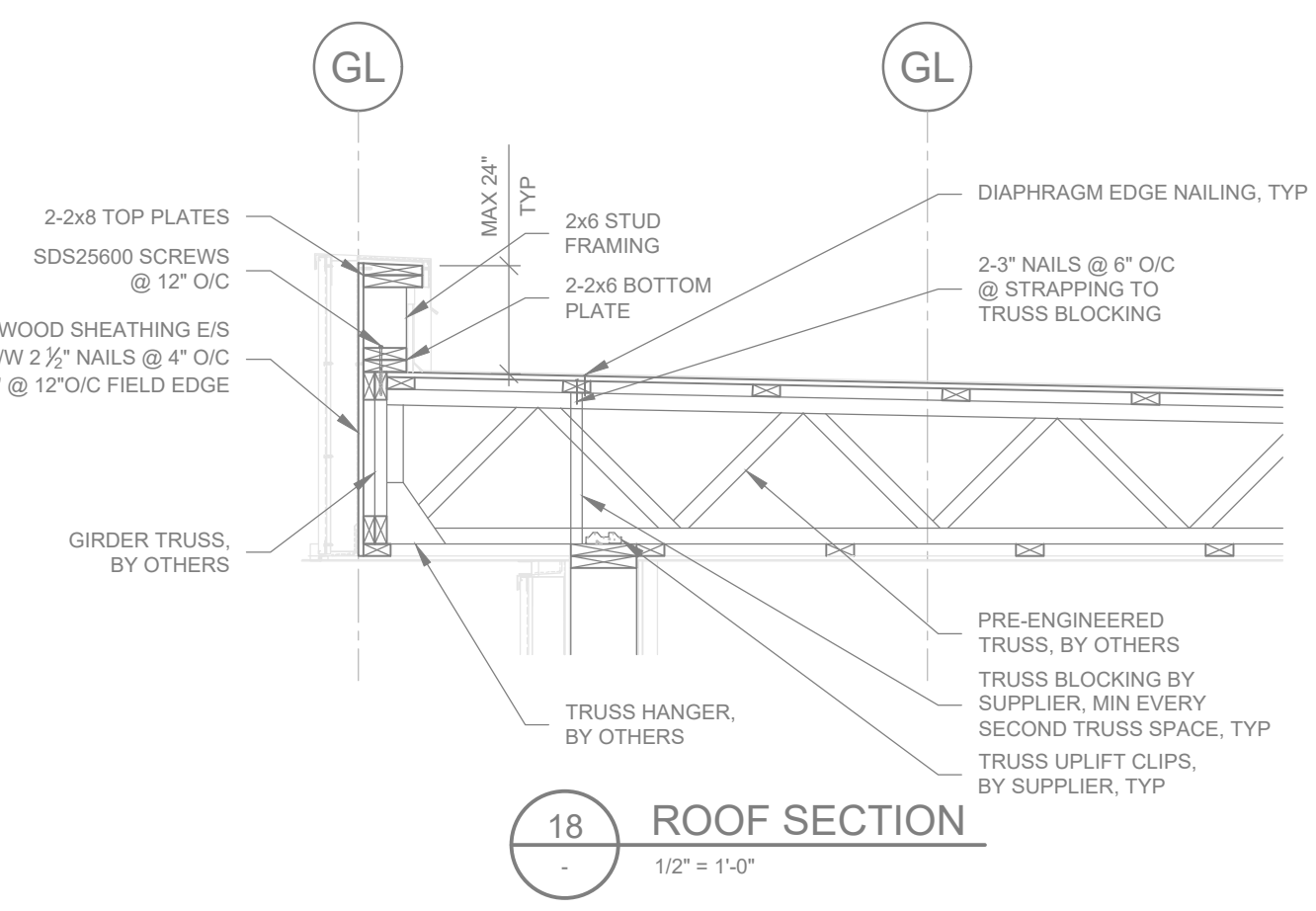
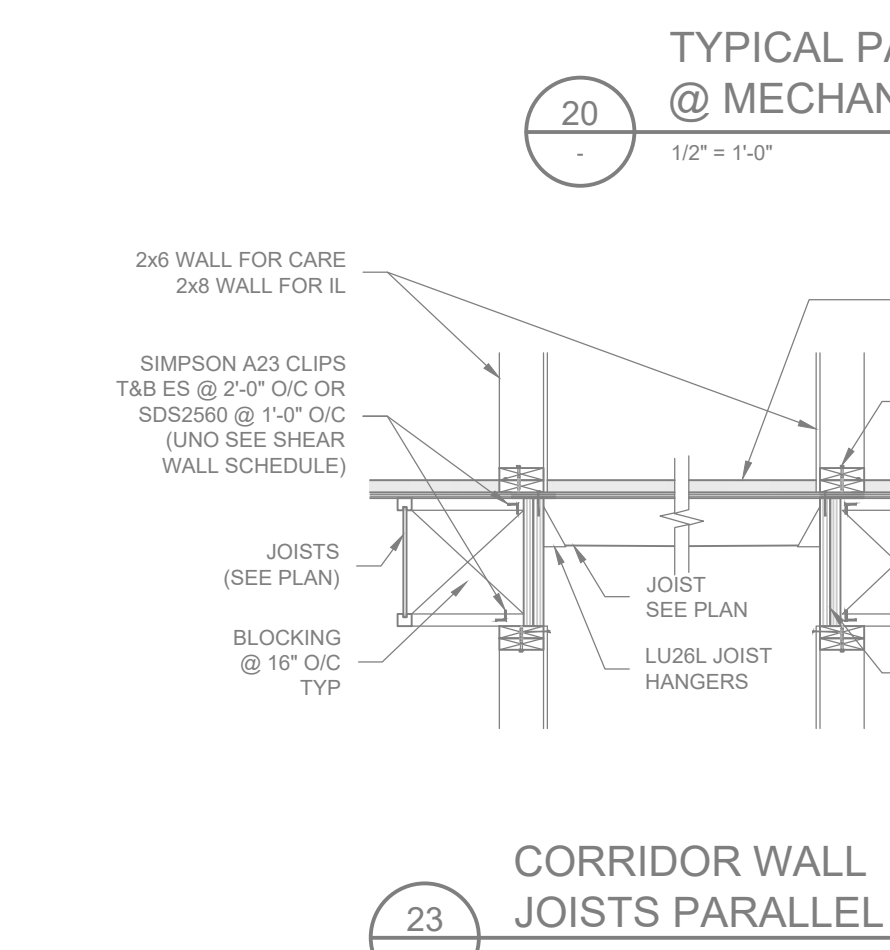
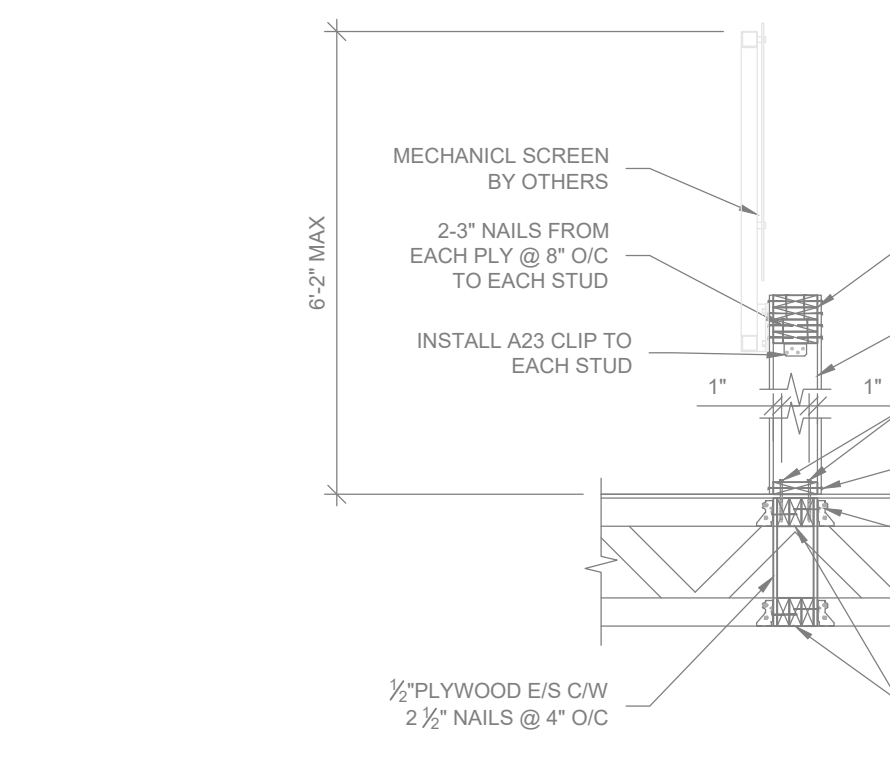
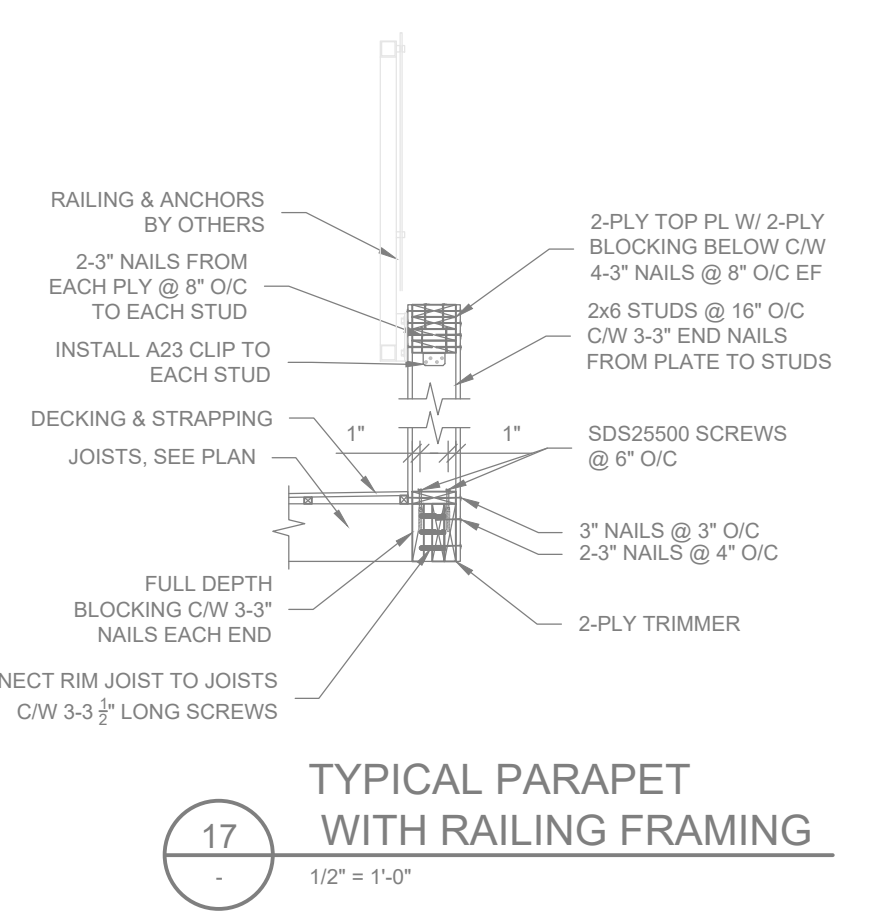
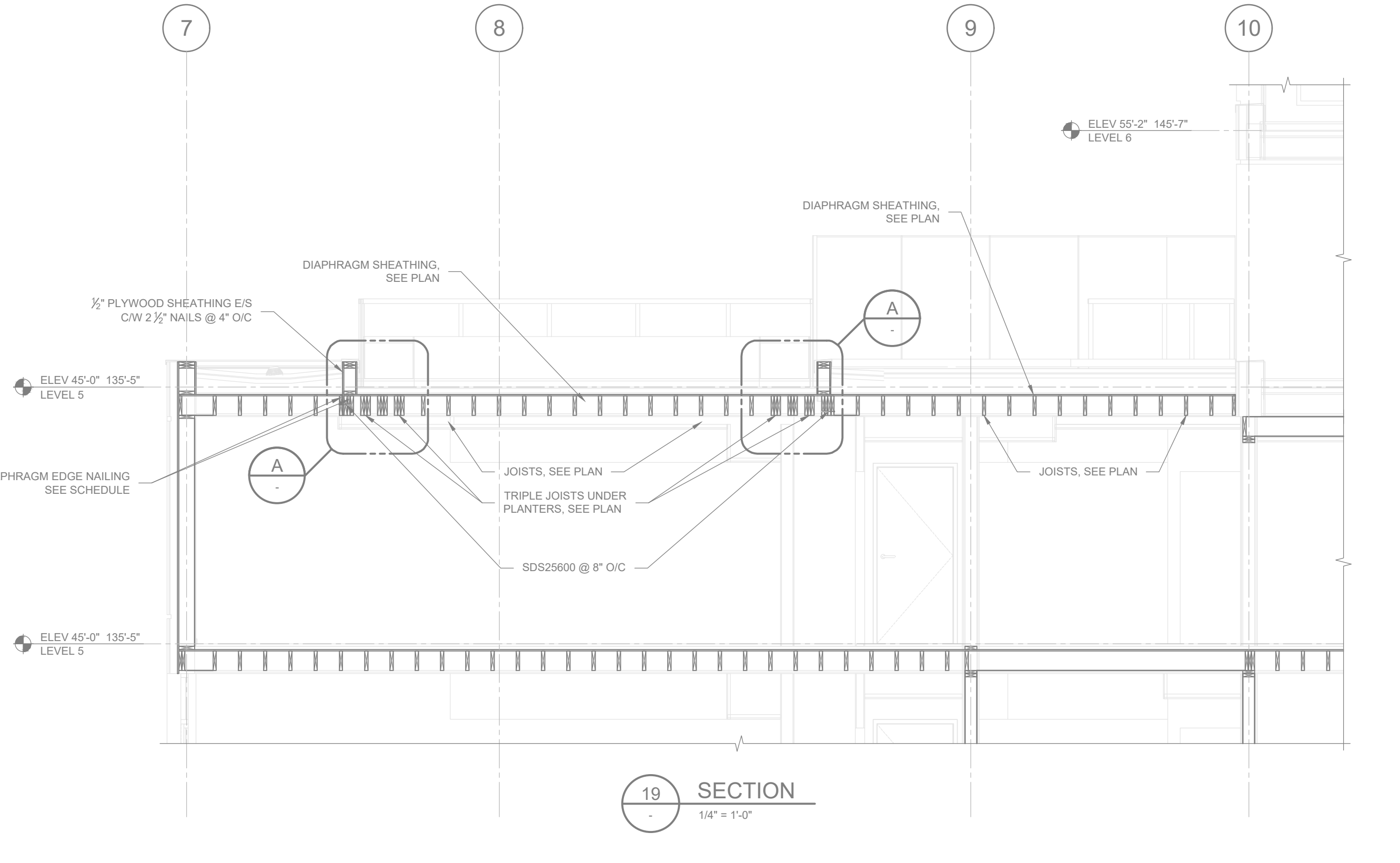
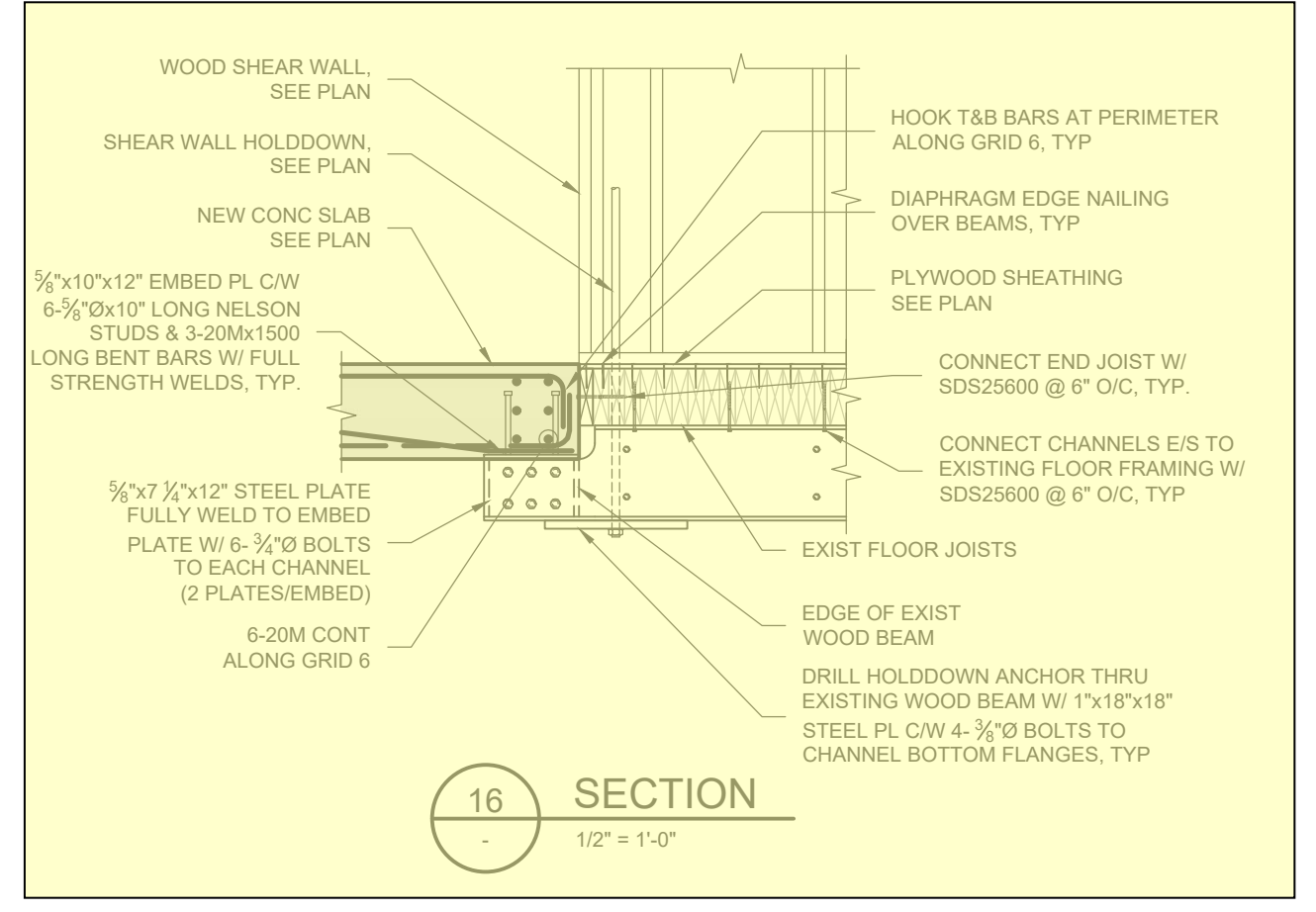
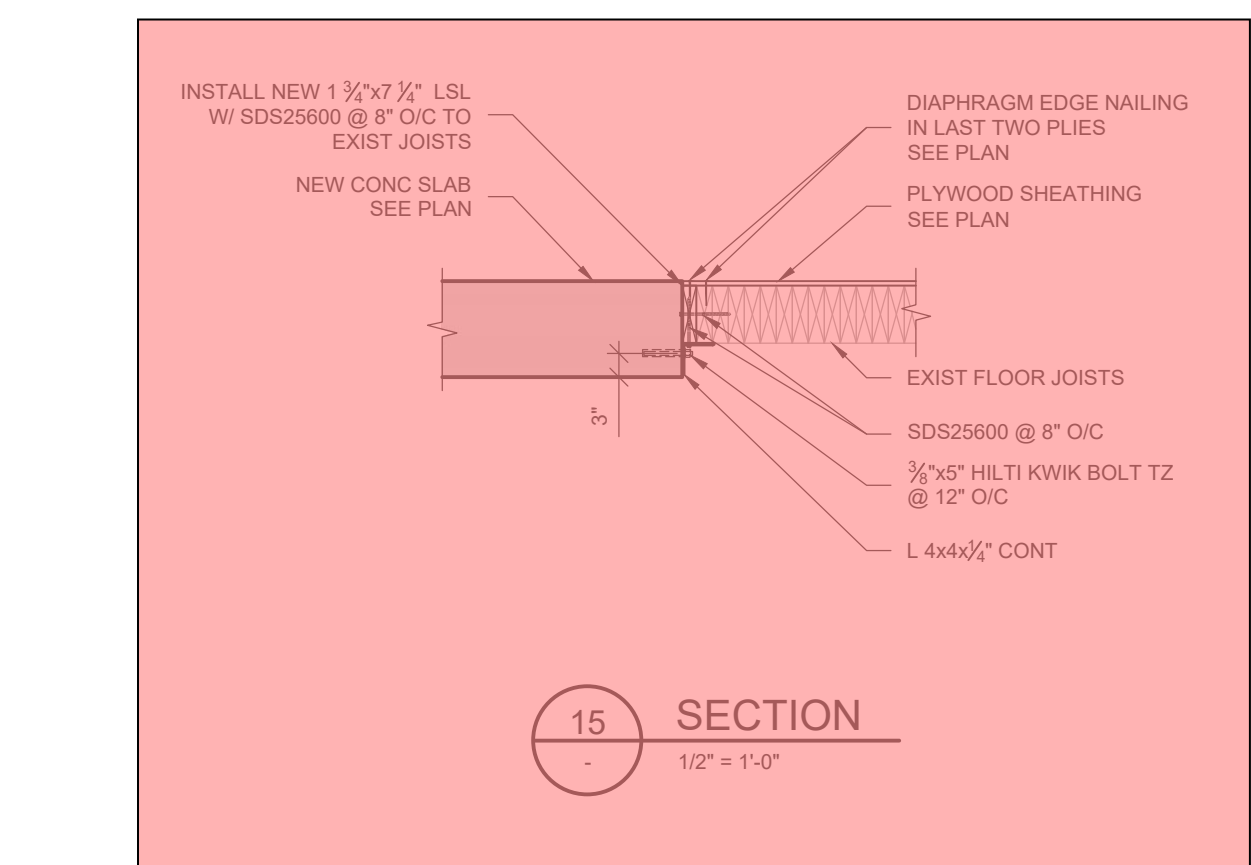
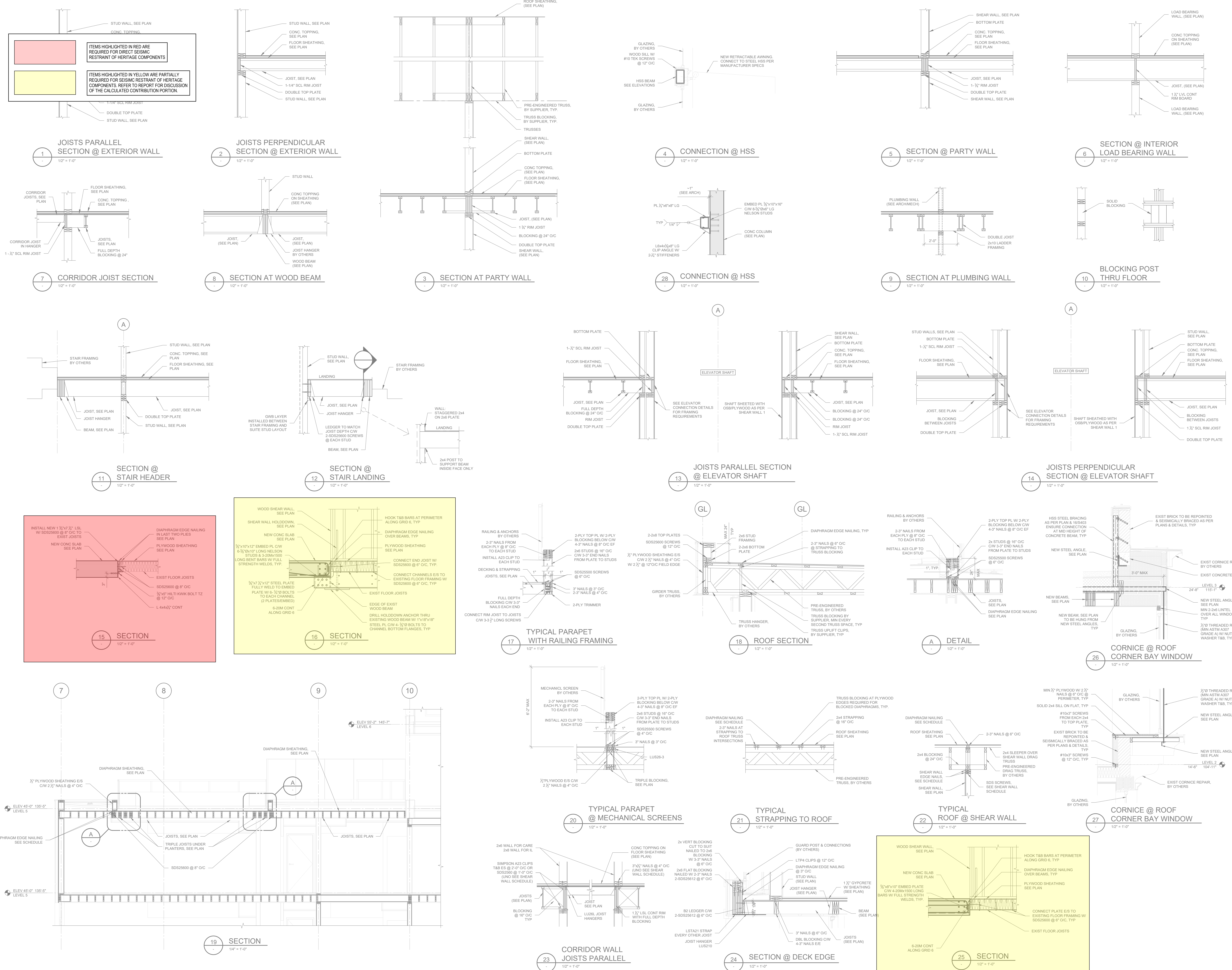
NO	DATE	DESCRIPTION
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13	2022/10/28	SSI-002 R2
12	2022/07/20	BUILDING PERMIT R2
11	2022/07/13	BP REVIEW
10	2021/11/19	RE-ISSUED FOR BP
9	2021/10/25	COORDINATION
8	2021/07/23	CLIENT REVIEW
7	2021/03/22	TENDER ADDENDUM
6	2021/01/29	RE-ISSUED FOR BP
5	2020/12/16	TENDER
4	2020/12/02	COORDINATION
3	2019/12/12	BUILDING PERMIT
2	2019/11/08	90% REVIEW
1	2019/10/04	60% REVIEW

NO	DATE	DESCRIPTION
14	2022/12/16	ISSUED FOR CONSTRUCTION
13	2022/11/25	DRAFT IFC
12	2022/07/20	BUILDING PERMIT R2
11	2022/07/13	BP REVIEW
10	2021/11/19	RE-ISSUED FOR BP
9	2021/11/025	COORDINATION
8	2021/07/23	CLIENT REVIEW
7	2021/03/22	TENDER ADDENDUM
6	2021/01/29	RE-ISSUED FOR BP
5	2020/12/16	TENDER
4	2020/12/02	COORDINATION
3	2019/12/12	BUILDING PERMIT
2	2019/11/08	90% REVIEW
1	2019/10/04	60% REVIEW



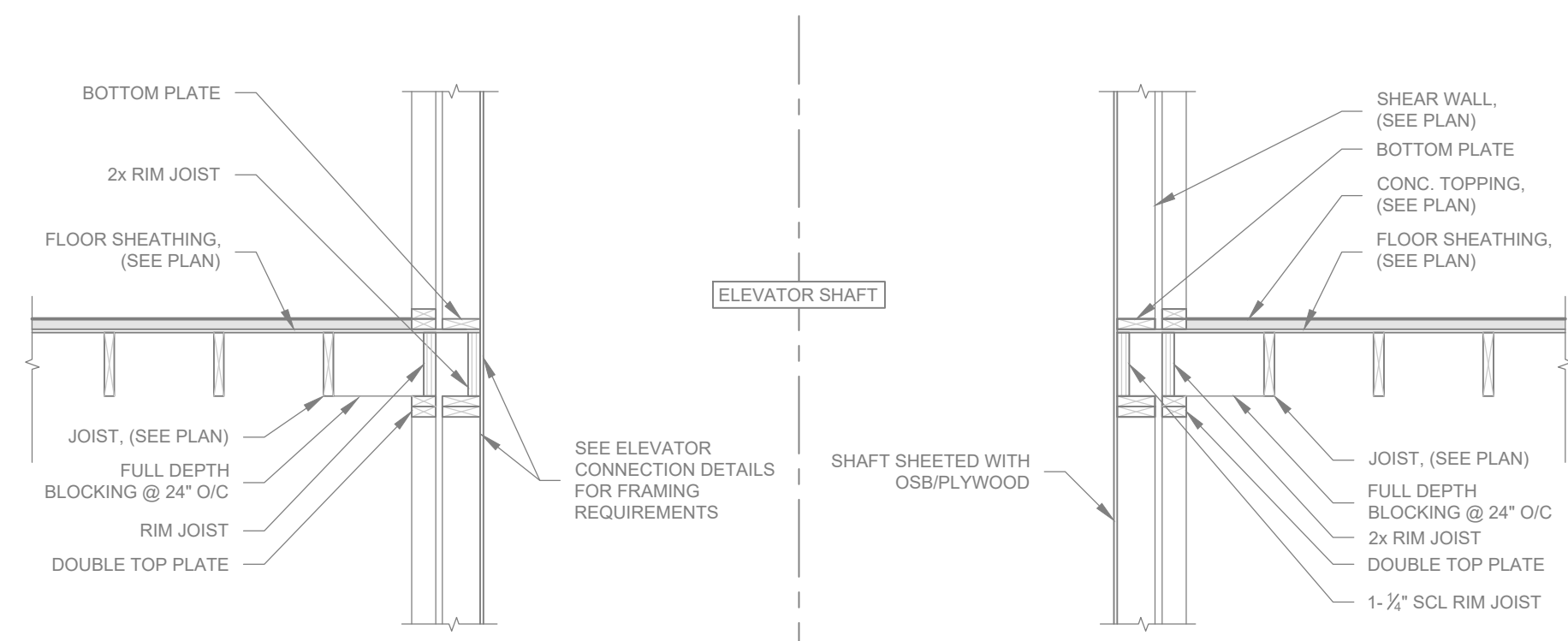


NO	DATE	DESCRIPTION
14	2022/12/16	ISSUED FOR CONSTRUCTION
13	2022/11/25	DRAFT EFC
12	2022/07/20	BUILDING PERMIT R2
11	2022/07/13	BP REVIEW
10	2021/11/19	RE-ISSUED FOR BP
9	2021/10/25	COORDINATION
8	2021/07/23	CLIENT REVIEW
7	2021/03/22	TENDER ADDENDUM
6	2021/01/29	RE-ISSUED FOR BP
5	2020/12/16	TENDER
4	2020/12/02	COORDINATION
3	2019/12/12	BUILDING PERMIT
2	2019/11/08	90% REVIEW
1	2019/10/04	60% REVIEW
NO DATE		DESCRIPTION
		ISSUES

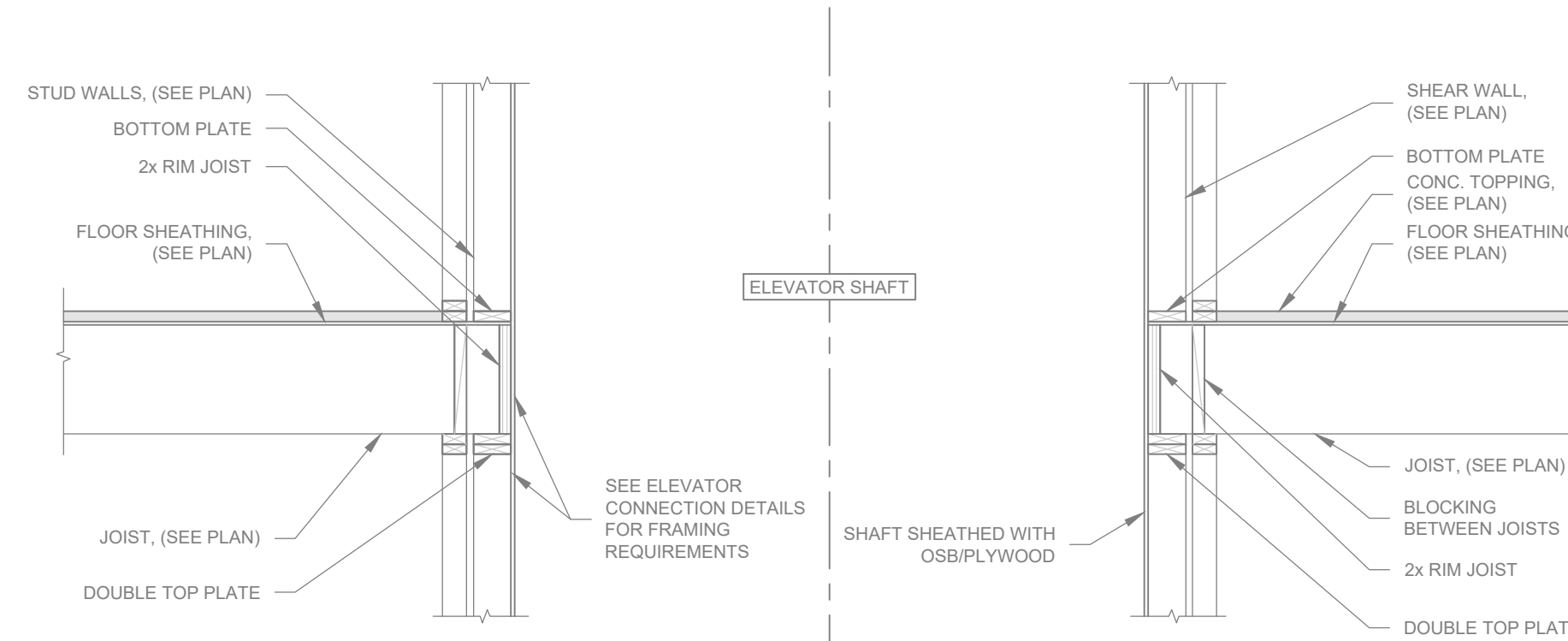


**ITEMS HIGHLIGHTED IN RED ARE REQUIRED FOR DIRECT SEISMIC RESTRAINT OF HERITAGE COMPONENTS**

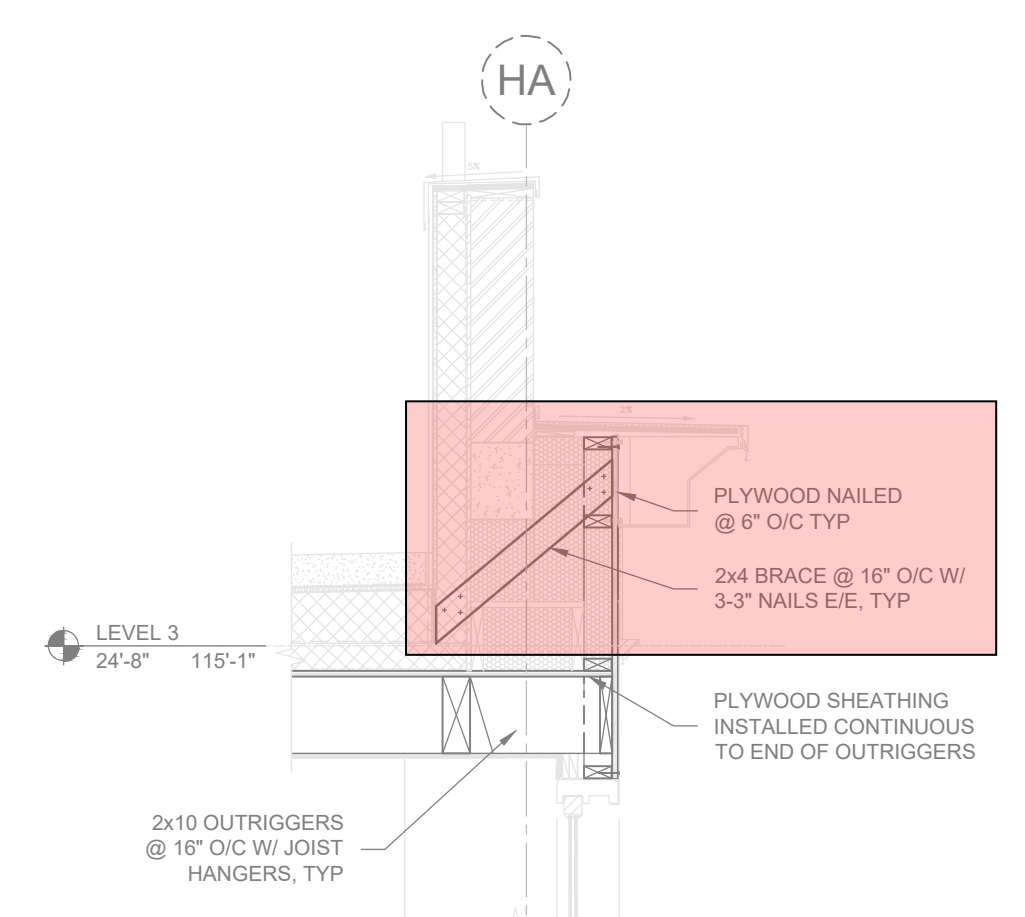
**ITEMS HIGHLIGHTED IN YELLOW ARE PARTIALLY REQUIRED FOR SEISMIC RESTRAINT OF HERITAGE COMPONENTS. REFER TO REPORT FOR DISCUSSION OF THE CALCULATED CONTRIBUTION PORTION.**



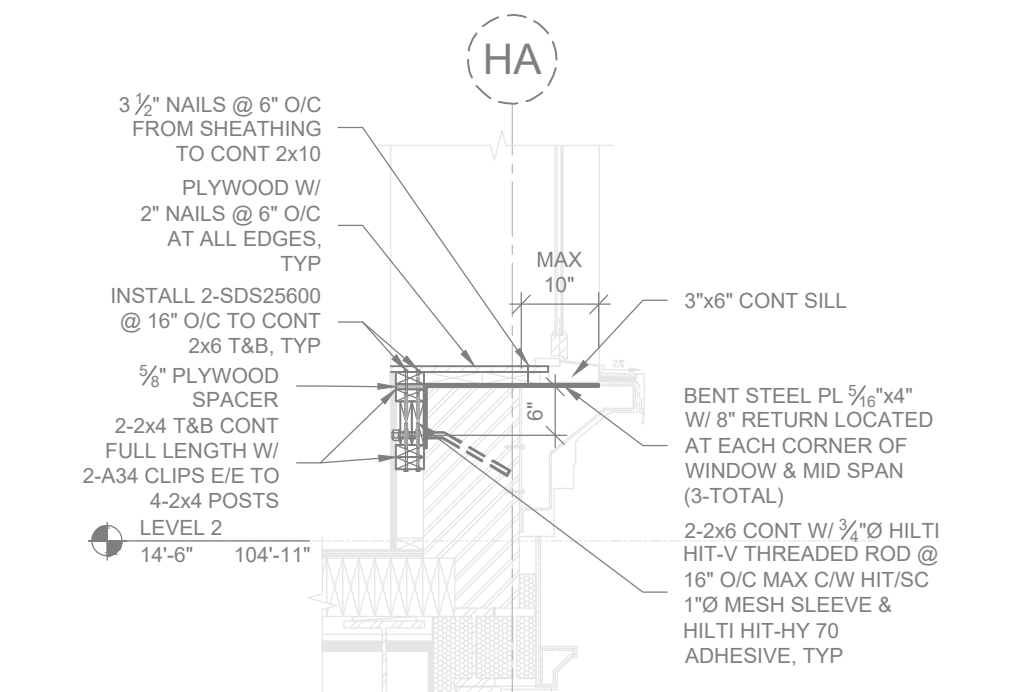
**JOISTS PARALLEL SECTION @ ELEVATOR SHAFT**  
1/2" = 1'-0"



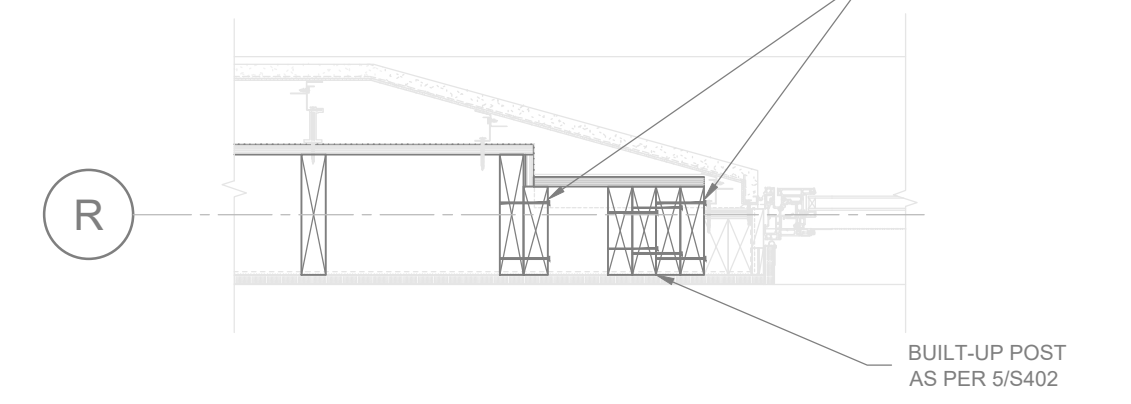
**JOISTS PERPENDICULAR SECTION @ ELEVATOR SHAFT**  
1/2" = 1'-0"



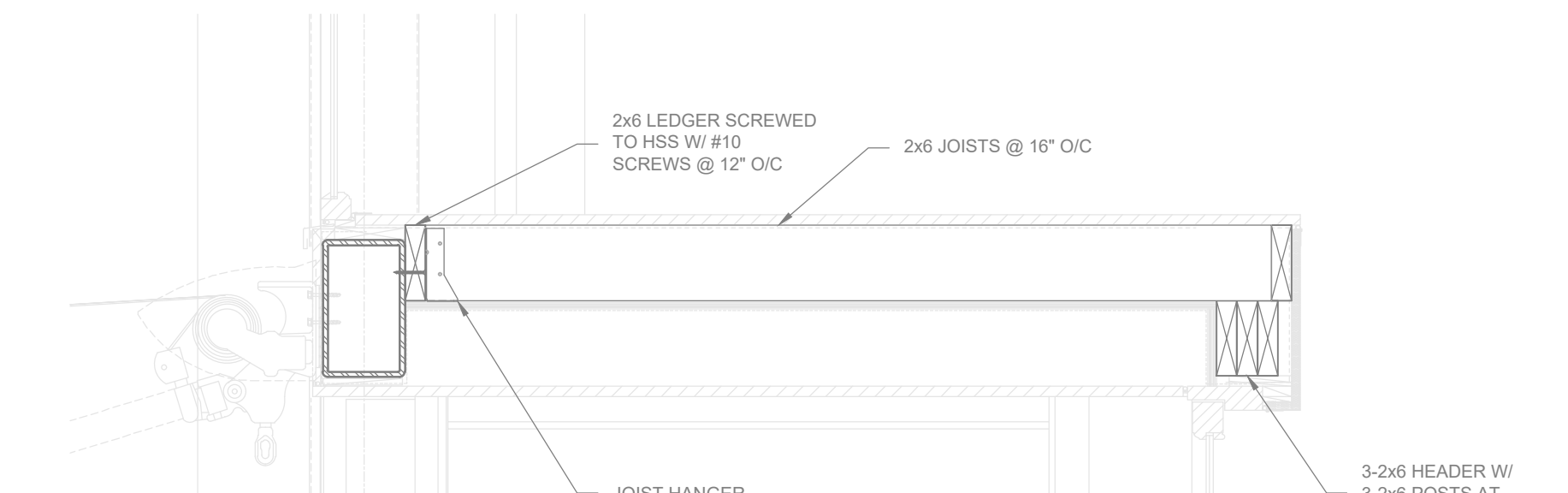
**TYPICAL BAY WINDOW ROOF FRAMING**  
1/2" = 1'-0"



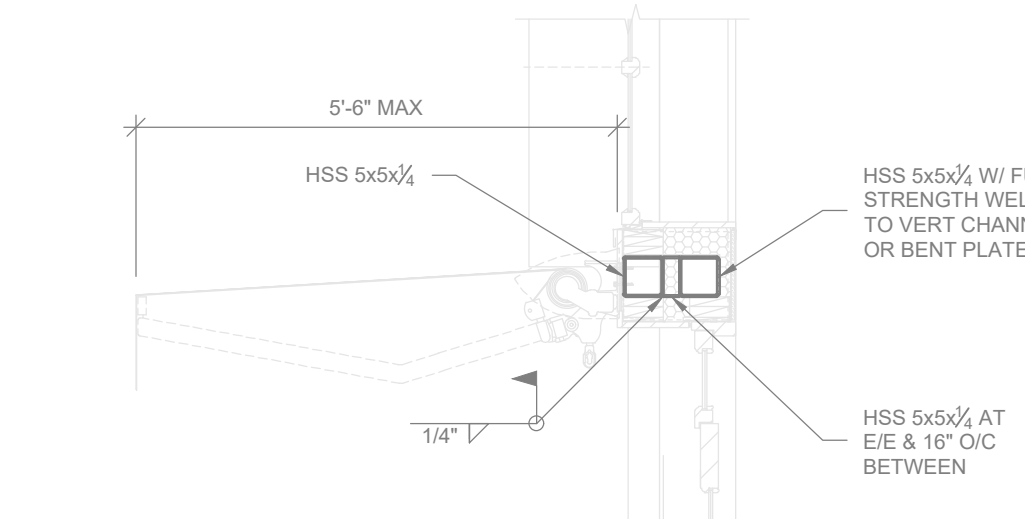
**TYPICAL BAY WINDOW SUPPORT**  
1/2" = 1'-0"



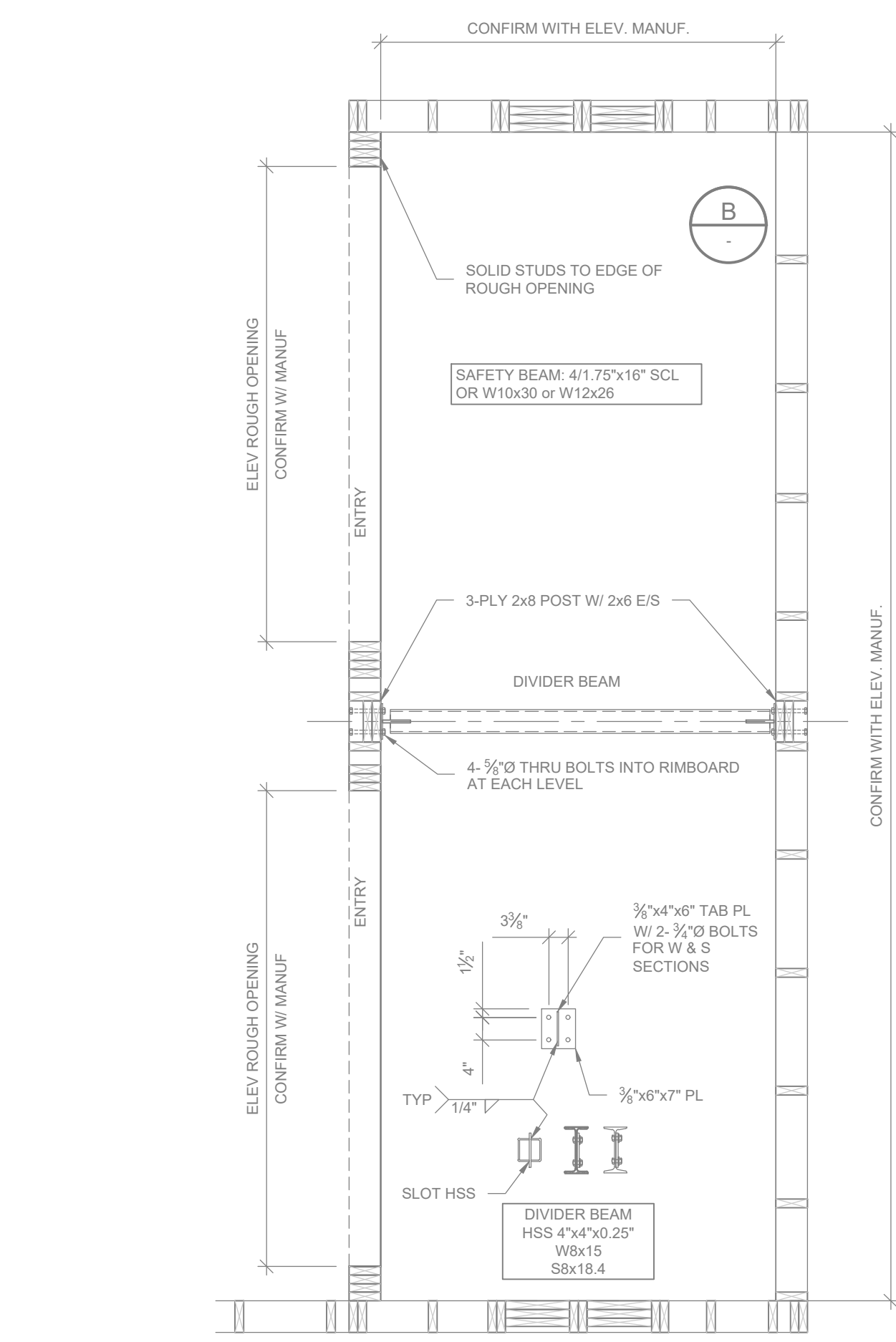
**MAIN LEVEL WINDOW STUD DETAIL**  
1" = 1'-0"



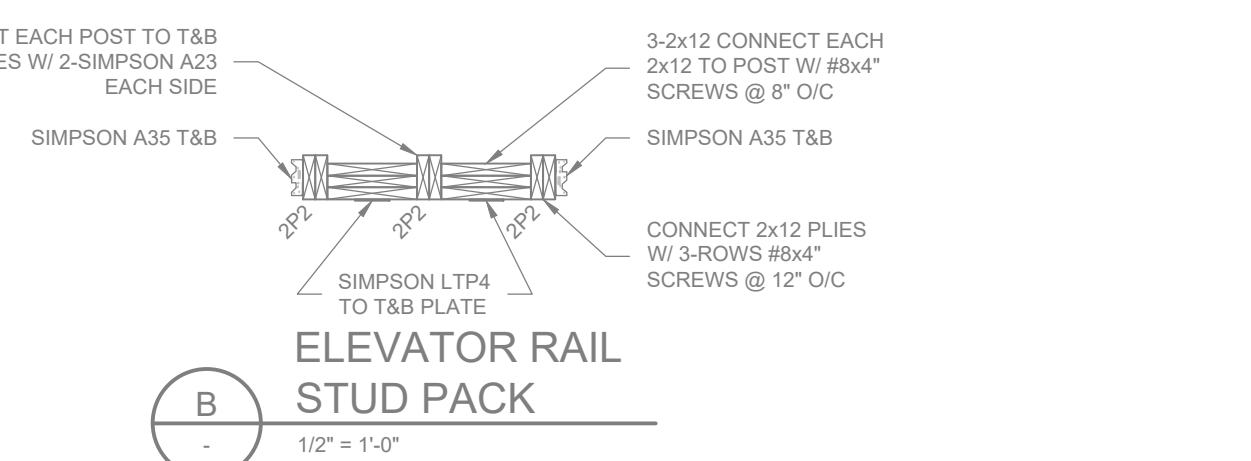
**TYPICAL COVERED ENTRYWAY CEILING DETAIL**  
1" = 1'-0"



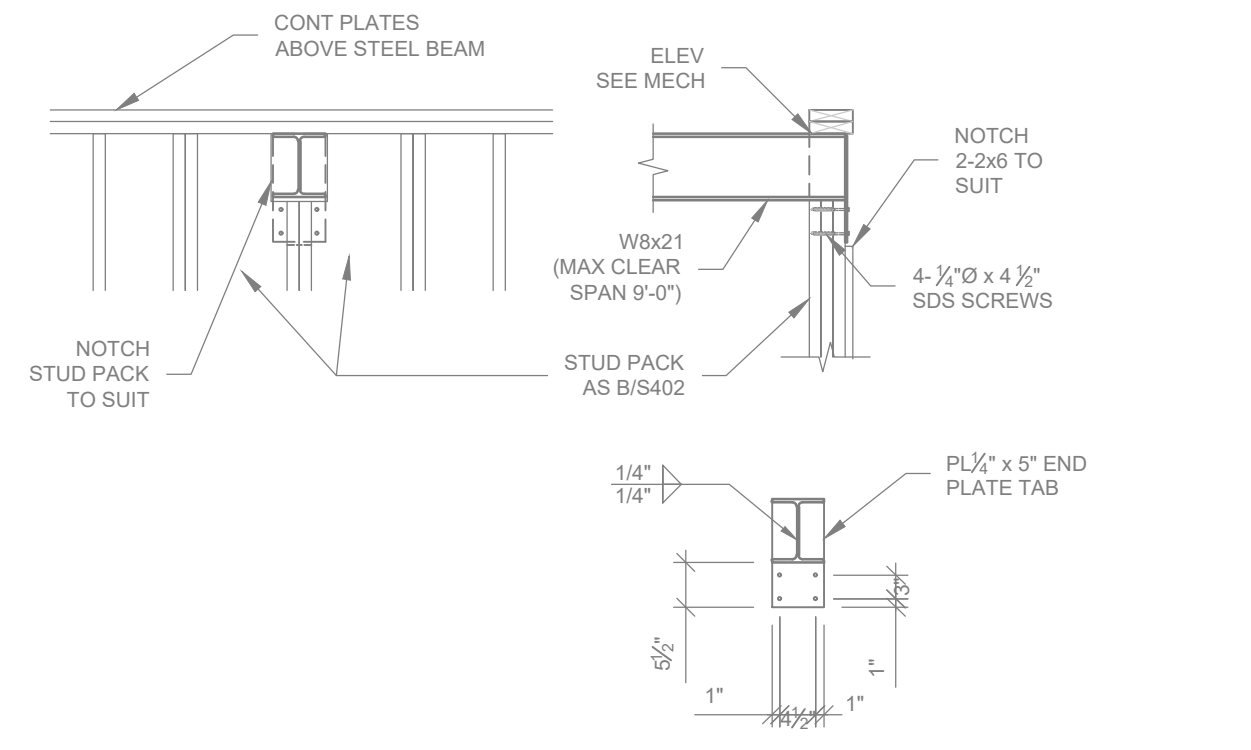
**CORNER BAY AWNING SUPPORT**  
1/2" = 1'-0"



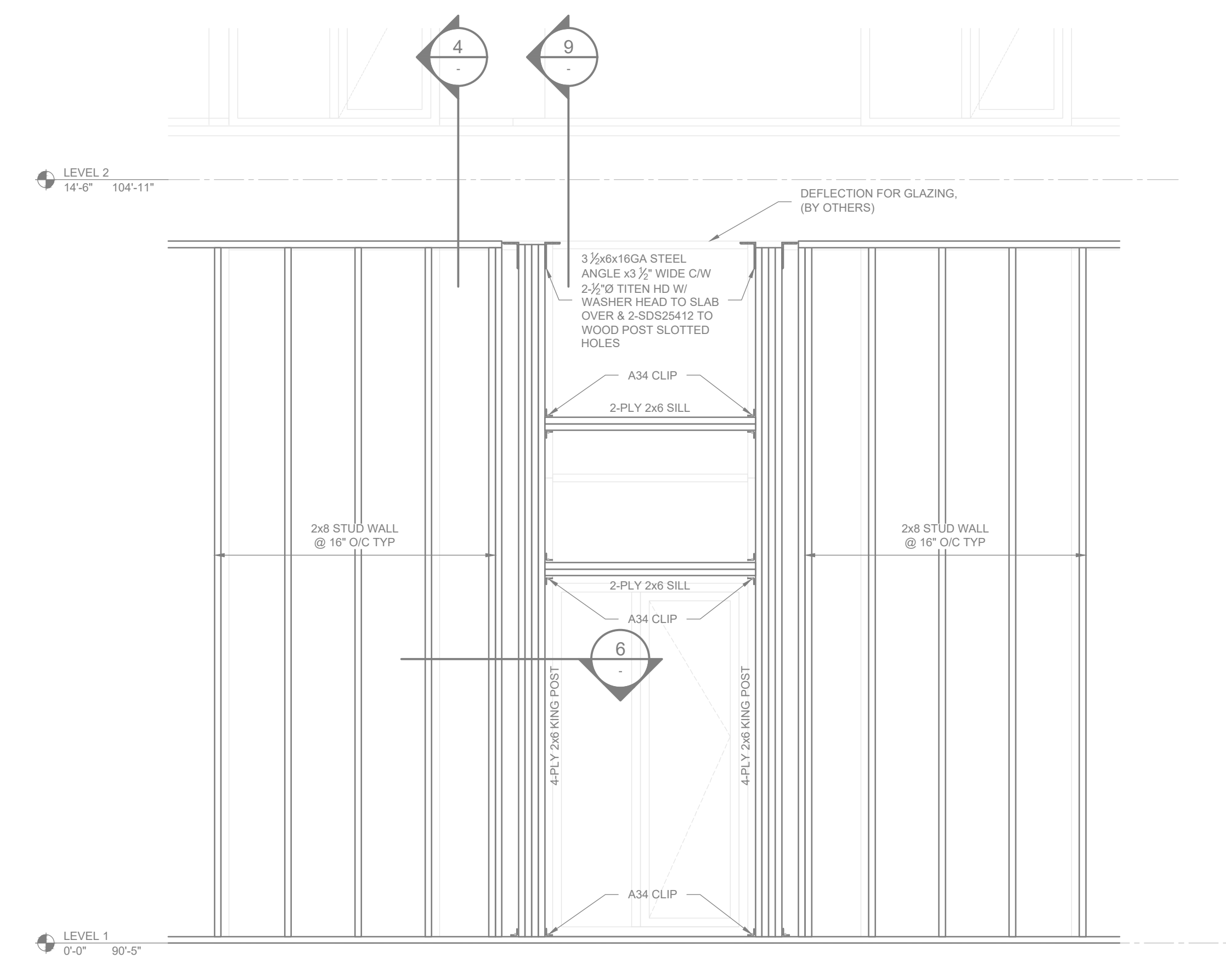
**WOOD WALLS ELEVATOR PLAN**  
1/2" = 1'-0"



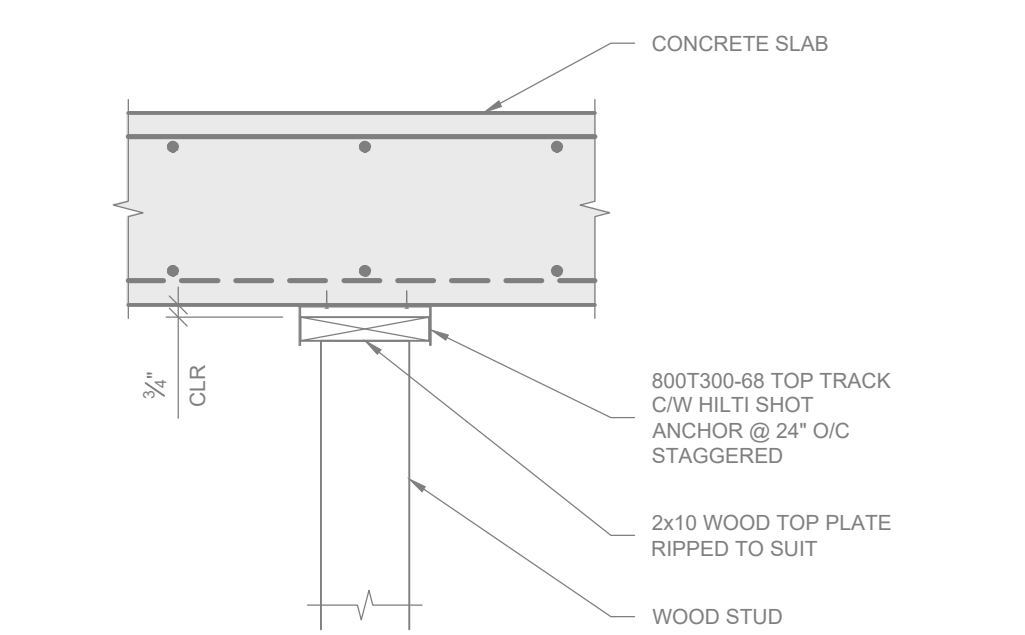
**ELEVATOR RAIL STUD PACK**  
1/2" = 1'-0"



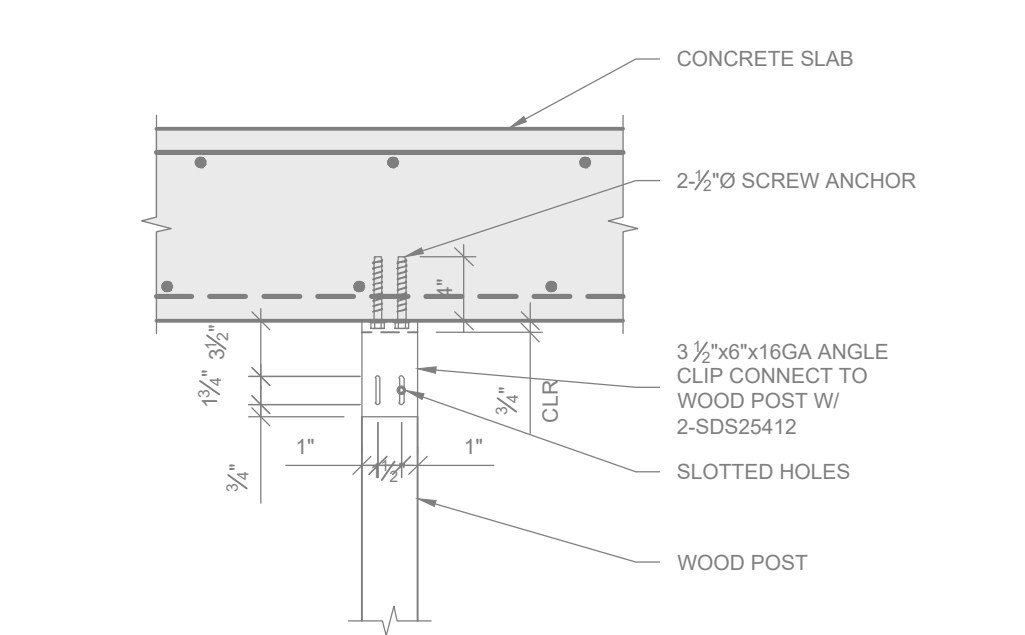
**ELEVATOR LIFT BEAM**  
1/2" = 1'-0"



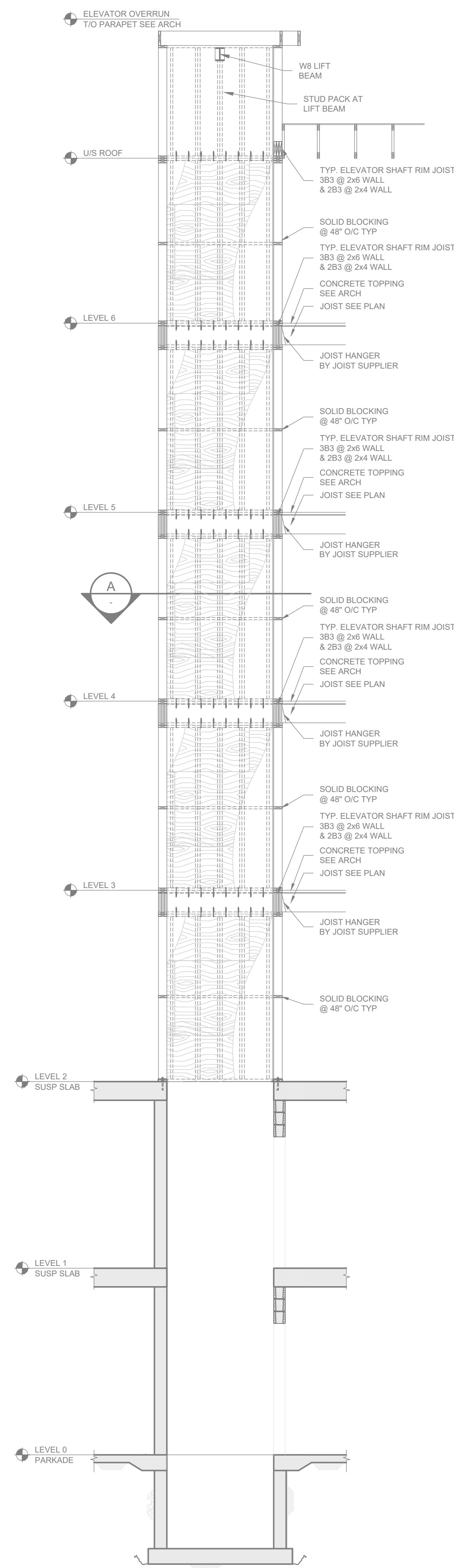
**NORTH WALL DOOR OPENING FRAMING ELEVATION**  
1/2" = 1'-0"



**WOOD STUDS TO CONCRETE SLAB**  
1" = 1'-0"



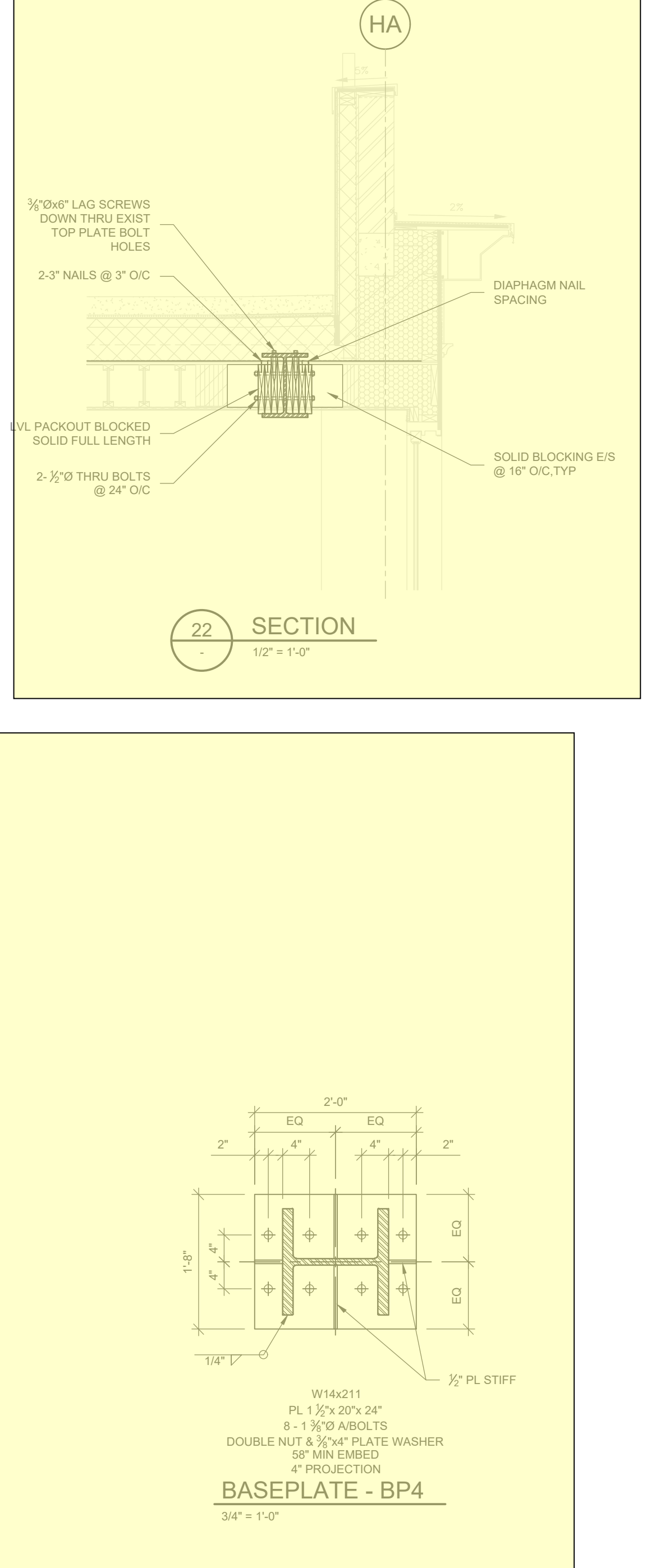
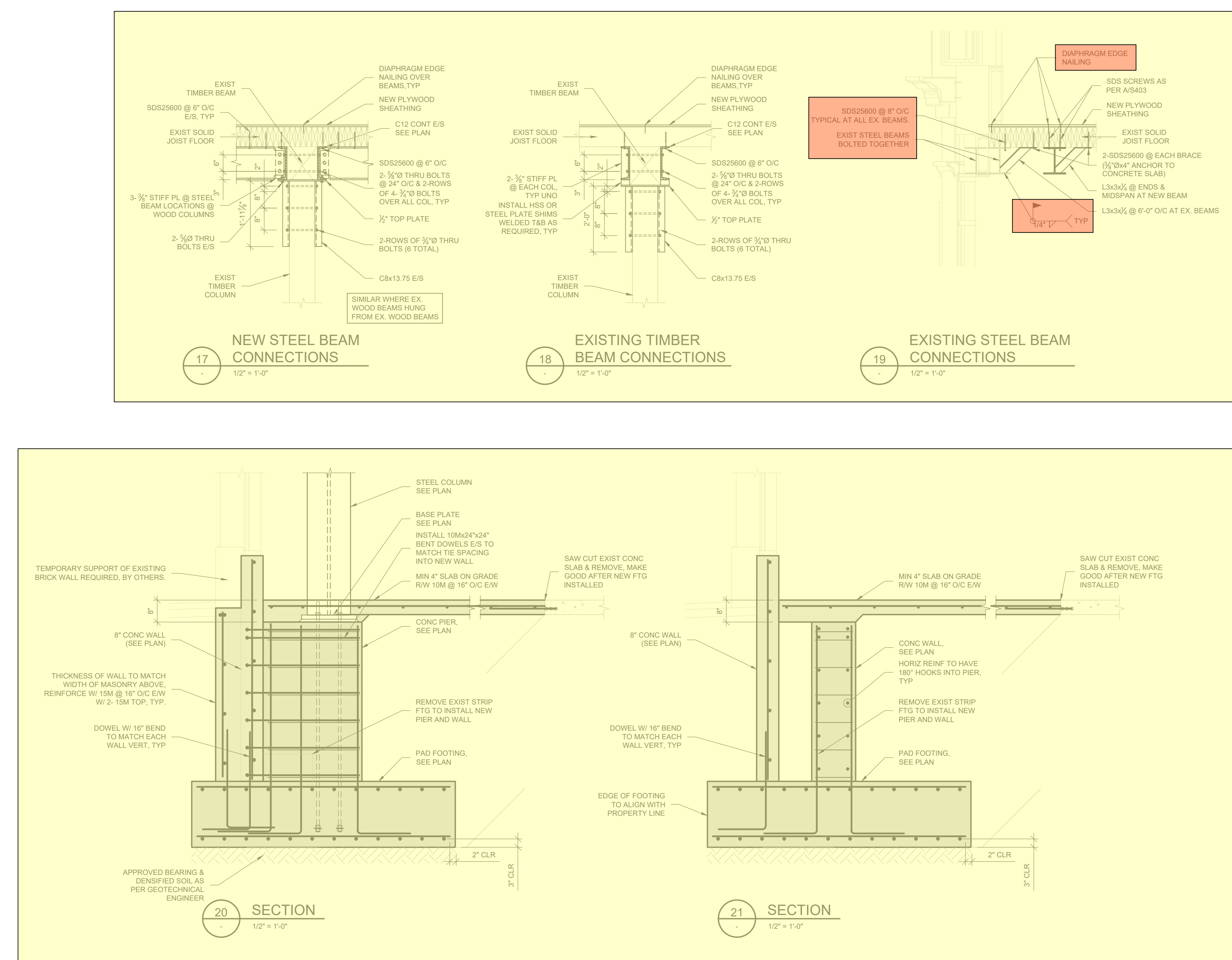
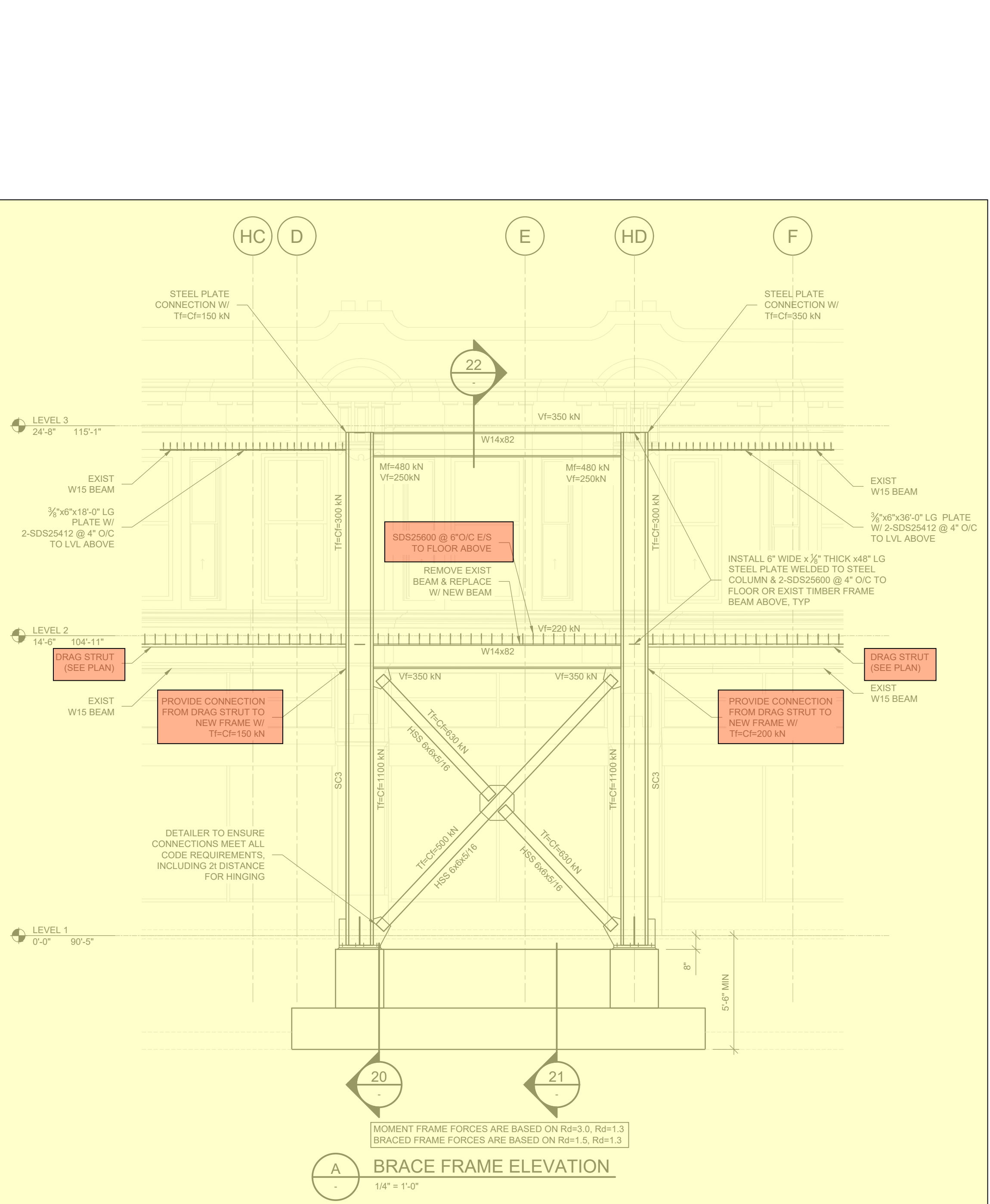
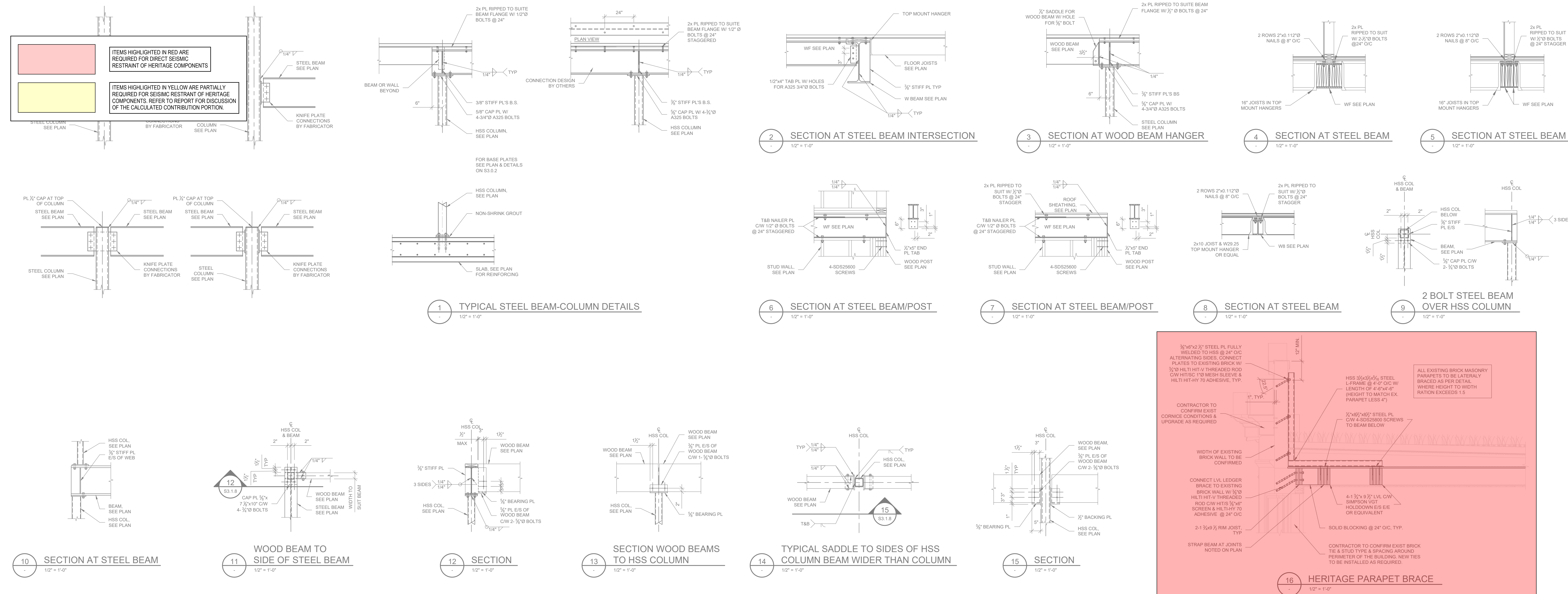
**WOOD POST TO CONCRETE SLAB**  
1" = 1'-0"



**TYPICAL SECTION AT ELEVATOR**  
1/4" = 1'-0"

NO	DATE	DESCRIPTION
15	2022/11/25	CONSTRUCTION
14	2022/10/26	ISSUED R&R CONSTRUCTION
13	2022/09/01	SSJ-002
12	2022/07/20	BUILDING PERMIT R2
11	2022/07/13	BP REVIEW
10	2021/11/19	RE-ISSUED FOR BP
9	2021/10/25	COORDINATION
8	2021/07/23	CLIENT REVIEW
7	2021/03/22	TENDER ADDENDUM
6	2021/01/29	RE-ISSUED FOR BP
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3	2019/12/12	BUILDING PERMIT
2	2019/11/08	90% REVIEW
1	2019/10/04	60% REVIEW

NO	DATE	DESCRIPTION
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4	2020/12/02	COORDINATION
3	2019/12/12	BUILDING PERMIT
2	2019/11/08	90% REVIEW
1	2019/10/04	60% REVIEW
NO DATE		DESCRIPTION
		ISSUES





## **APPENDIX B**

### Cost Assessments

# Beacon Construction Consultants Inc.

CHARTERED QUANTITY SURVEYORS

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Tom Crosbie, PQS, MRICS  
Aidan Kelly, PQS; BSc (Hons)

1-3471 Short Street  
Victoria, BC V8X 2V6  
Telephone: 250 385 7899  
Fax: 250 385 7855

February 13, 2021

Primex Investments Ltd.  
200 – 1785 West 4th Avenue  
Vancouver BC  
V5Y 3X2

**Attention**

**Greg Mitchell**

Dear Sirs/ Mesdames,

**Parkway Building. Pandora/Cook Street, Victoria, BC**

Attached is our estimate for the heritage & Seismic work to the building at the above.

Yours truly,  
**Beacon Construction Consultants**



**Tom Crosbie PQS, MRICS**

**Scott Building**  
**1050 Pandora Avenue & 1518 Cook Street, Victoria BC**

**HERITAGE & SEISMIC WORKS ESTIMATE**

February 13, 2021

Beacon Construction Consultants Inc.  
#1 – 3471 Short Street  
Victoria BC V8X 2V6  
Tel. 250 385-7899  
Fax 250 385-7855

## INTRODUCTION

This report provides our estimate of the capital costs for the proposed heritage element of the works to the existing facades to the Pandora Avenue & Cook Street elevations of the building.

## ESTIMATED COST

The costs have been developed in February 2021 dollars

The capital construction cost for this work has been estimated as follows

<b>Heritage works</b>	<b>\$666,000.00</b>
<b>Seismic works</b>	<b>\$712,000.00</b>

Details of the estimate are provided at the end of this report.

This estimate is only for the refurbishment of the elevations of the building facing Pandora Avenue and Cook Street elevations. (South & East respectively) and the painting of the retained walls on the west & north of the property

The following works are not included in this estimate:

1. Underpinning of existing foundations except at location of steel brace frame on Cook Street elevation
2. Demolition within the existing building
3. Finishing to the interior faces of the exterior walls.
4. Construction of new works inside of the retained structure
5. Construction new works on top of the heritage section of the building other than the seismic upgrading
6. Roofing on level 3 over the retained section of the existing heritage structure

## Exclusions

The estimate is for capital construction costs only and therefore a number of general items that may be associated with the overall project budget are excluded:

- GST
- Material testing
- New construction
- Owner`s management fees
- Consultants` fees
- Municipal taxes
- Property Insurance
- Legal fees

## Basis of the Estimate

The purpose of this estimate is to provide a reasonable cost review of the construction costs for the works. The estimate is based on our opinion of fair value for the work to be carried out. It is not a prediction of low bid but our opinion of the average market price that a contractor would charge for the construction of the building.

Fair value is defined as the amount a prudent contractor, account for all aspects of the project, would quote for the work.

It has been assumed that:

The project will be completed, as part of a fixed price contract for all of the works related to the complete development of the property.

A minimum of three competent contractors will tender for the project on a competitive basis.

Vacant possession will be provided to the Contractor and the work will be carried out in a single phase during normal construction trade working hours

## **Contingencies**

A design contingency allowance of 15% of the construction cost of the heritage works has been included in the estimate to cover the cost of changes that may occur during the design and construction phases.

## **Documentation**

Architectural drawings prepared by Michael Green Architecture Inc. prepared for submission for building permit, dated December 12, 2019 (69 sheets)

Structural drawings prepared by Sorensen Trilogy prepared for coordination, dated December 11, 2020 (17 sheets)

Conservation plan prepared by Donald Luxton & Associates dated July 2019 (53 pages).

Where there are contradictions between the architectural drawings and the Conservation Plan the latter has been assumed to take precedence.

## **Beacon Construction Consultants Inc.**



**Tom Crosbie PQS; MRICS**

February 13, 2021



**Parkway Heritage**  
**Pandora & Cook Street, Victoria**  
**Demolition**

Take down and remove existing storefront windows including removing security sheathing	1,452	sf	\$4.25	\$6,171.00
Ditto infill windows over storfront also with security sheathing	550	sf	\$4.25	\$2,337.50
Ditto wood framed upstand wall	500	sf	\$2.00	\$1,000.00
Strip existing defective paint finish from fascia and prepare for new paint	450	sf	\$4.25	\$1,912.50
Ditto from feature column headers	10	no.	\$45.00	\$450.00
Ditto from brick walls	1,347	sf	\$4.50	\$6,061.50
Remove brackets for old electrical service connections and make good wall	2	no.	\$150.00	\$300.00
Remove miscellaneous anchors set in walls and make good surface- allowance	1	Sum	\$1,000.00	\$1,000.00
Remove existing metal cap sheet from string course including raking our joint at junction with wall for new installation	236	ft	\$3.50	\$826.00
Ditto from top of fascia detail ditto	236	ft	\$3.50	\$826.00
Ditto with bird repellent spikes from parapet wallhead	236	ft	\$2.00	\$472.00
Remove existing punched window frames	770	sf	\$2.20	\$1,694.00
Remove paint from casing to sash and case windows	602	sf	\$4.65	\$2,799.30
Ditto from surfaces of string course	600	sf	\$4.65	\$2,790.00
Ditto from surfaces of fascia	600	sf	\$4.65	\$2,790.00
<b>Cleaning &amp; Repairs</b>				
Cleaning to facing brick walls	1,330	sf	\$3.00	\$3,990.00
Pointing repairs - Provisional Allowance	150	sf	\$22.50	\$3,375.00
Brick repairs - Provisional allowance	1	Sum	\$5,000.00	\$5,000.00
Repairs to stucco cladding- Allowance	1	Sum	\$5,000.00	\$5,000.00

Repairs to fascia - Allowance	1	Sum	\$5,000.00	\$5,000.00
Repairs to dentil block features below string course	1	Sum	\$5,000.00	\$5,000.00
<b>Heritage Works</b>				
Glazed brick upstand wall	297	sf	\$48.20	\$14,315.40
Extra for concrete foundation - Provisional allowance	150	ft	\$40.00	\$6,000.00
Painting to stucco finish to column plinths	10	no	\$20.00	\$200.00
Painting to stucco features at heads of columns	10	no	\$35.00	\$350.00
Precast concrete cope to parapet wall	232	ft	\$42.00	\$9,744.00
Extra for transition between upper & lower levels	19	no	\$185.00	\$3,515.00
Reinstating chimney feature including sealing of existing flues, concrete cope and installation of capped chimney pots	10	no	\$425.00	\$4,250.00
Pressed metal cap flashing to brick wall	48	ft	\$15.00	\$720.00
Sheet lead capping 21" wide dressed over string course wedged into rebate and caulked	245	ft	\$94.00	\$23,030.00
Ditto 15" wide dressed over fascia ditto	235	ft	\$73.00	\$17,155.00
Cleaning existing facing brick	1,330	sf	\$3.50	\$4,655.00
Raking out defective pointing and repointing - Allowance	130	sf	\$32.00	\$4,160.00
Double hung sash and case windows with double glazing into prepared openings				
WHS 1 (Composite 3 units)	12	no.	\$5,640.00	\$67,680.00
WHS 2 (Composite 3 units)	1	no.	\$6,252.00	\$6,252.00
WH03	7	no.	\$2,260.00	\$15,820.00
Painting to sash and case windows, inside & out	1,540	sf	\$7.25	\$11,165.00
Wood framed storefront windows with double glazing	1,452	sf	\$85.00	\$123,420.00
Wood framed overlights with double glazing	550	sf	\$85.00	\$46,750.00
Wood mouldings to window perimetres	625	ft	\$8.65	\$5,406.25

Wood framed two leaf double glazed door complete with frame and hardware	1	pr	\$4,500.00	\$4,500.00
Ditto single leaf	8	no	\$2,620.00	\$20,960.00
Ceiling infill over access recess comprising 2" x 6" joists at 16" centres with marine plywood soffit vapour barrier, batt insulation and plywood cap	190	sf	\$30.00	\$5,700.00
Painting to storefront wood frames (both sides)	4,008	sf	\$6.00	\$24,048.00
				<u>\$478,590.45</u>
Add Contingency			15.00%	<u>\$71,788.57</u>
Add, General Requirements			10.00%	<u>\$55,037.90</u>
Add Contractor's Fee			10.00%	<u>\$605,416.92</u>
				<u>\$665,958.61</u>
<b>Round to</b>			<b>\$</b>	<b><u><u>\$666,000.00</u></u></b>

**Seismic Works**

Saw cut existing 5" thick concrete floor	55	ft	\$32.00	\$1,760.00
Break out concrete floor	245	sf	\$3.60	\$882.00
Excavate in pits	97	cy	\$85.00	\$8,245.00
Excavate in underpinning to existing foundation	8	cy	\$135.00	\$1,080.00
Granular filling	49	cy	\$88.00	\$4,312.00
Temporary support channel bolted to existing concrete foundation wall during underpinning	35	ft	\$210.00	\$7,350.00
Remove projecting nib of existing foundation	31	ft	\$25.00	\$775.00
Concrete in foundation	43	cy	\$275.00	\$11,825.00
Ditto to wall	5	cy	\$355.00	\$1,775.00
Ditto in repairs to floor including vapour barrier	225	sf	\$7.65	\$1,721.25
Formwork to foundation	102	sf	\$13.00	\$1,326.00
Blind forming to wall	120	sf	\$21.00	\$2,520.00
Rebar	13,090	lbs	\$1.95	\$25,525.50
Extra for dowelling rebar into existing foundation wall	108	no	\$35.00	\$3,780.00
Ditto to edge of floor slab	50	no	\$25.00	\$1,250.00
1.25" HD bolts 5" 3" long with plate washers & nuts	16	no	\$95.00	\$1,520.00
Structural steel in brace frame	15,000	lbs	\$8.20	\$123,000.00
Ditto in perimeter tie beam & bracing	10,300	lbs	\$9.10	\$93,730.00
3" x 3" x 1/2" angle brace 1'3" long with plate and fixing to timber one end and welded to existing steel beam other end	22	no	\$142.00	\$3,124.00
Structural steel beams reinforcing existing suspended wood floor	6,798	lbs	\$8.20	\$55,743.60
4/1.75" x 9.5' LVL support beams	280	ft	\$148.00	\$41,440.00

Threaded rod anchors 15" long with sleeve & epoxy mortar to existing brick wall	280	no	\$45.00	\$12,600.00
5/8" plywood sheathing on 9.5" TJIs at 8" on centre	4,820	sf	\$14.65	\$70,613.00
5/8" Plywood to existing floor	4,820	sf	\$4.25	\$20,485.00
3.5" x3.5" x 5/16" HSS in L-shaped parapet brace, 4'0" x 4'8" with two fixing plates welded to base & screwed to wood and three plates welded to vertical and bolted to existing brickwall with epoxy mortar	22	no	\$685.00	\$15,070.00
				\$511,452.35
Add Contingency			15.00%	\$76,717.85
Add, General Requirements			10.00%	\$588,170.20
Add Contractor's Fee			10.00%	\$58,817.02
				\$646,987.22
				\$64,698.72
				\$711,685.95
<b>Round to</b>				<b>\$ 712,000.00</b>

**GST is not included**

## Notes

- 1 Cladding to rear of parapet wall not included
- 2 Work interior faces of existing walls.
- 3 Work within building
- 4 Assumed work to windows and storefronts will be completed only once the building structure has been completed and is secure
- 5 Interior finishing is not included
- 6 Security and protection of public will be responsibility of general contractor
- 7 The heritage works will be carried out simultaneously with general works to the building and heritage contractor will have access to the facilities provided by the general contractor.
- 8 Roofing not included
- 9 Seismic restraints to existing walls not included

**1050 Pandora & 1518 Cook Street - Parkway Apartments**

Job # 2019-003

**Request For Pricing - #01**

Façade Retention & Restoration

23-Feb-21

**Attention: Greg Mitchell**

Primex Investments Ltd.

200 8809 Heather Street

Vancouver BC V6P 3T1

**Cost Summary - RFP #01 - Façade Retention & Restoration**

<b>01 - General Requirements</b>	<b>\$</b>	<b>536,560.00</b>
Misc. General Requirements		24,800.00
Engineering		46,000.00
Street Permits/Traffic Control		30,000.00
Project Management & Administration		204,800.00
Safety Personnel & Equipment		28,880.00
General Labour		28,800.00
Materials Testing		5,000.00
Survey & Layout		4,500.00
Temporary Power & Line Protection		52,500.00
Temporary Heat, Light & Water		15,000.00
Waste Management		7,500.00
Misc. Scaffolding, Hoarding & Barriers		15,000.00
Rental Equipment, Tools & Disposables		49,600.00
Mobile Crane		8,800.00
Street Cleaning, Final Handover Clean & Protection of Work		15,380.00
 <b>02 - Site Work</b>	 <b>\$</b>	 <b>540,657.00</b>
General Site Work		24,375.00
Hazmat Abatement		165,000.00
Demolition & Cartage		148,000.00
Façade Strengthening		96,882.00
Excavation		20,600.00
Hoarding		33,600.00
De-Watering		13,200.00
Excavation Shoring & Underpinning		24,000.00
Sidewalk Re:Re		15,000.00
 <b>03 - Concrete</b>	 <b>\$</b>	 <b>133,897.00</b>
Concrete Forming & Placing		45,364.40
Concrete Reinforcing		43,935.60
Concrete Supply & Pumping		25,897.00
Concrete Finishing		2,700.00
Concrete Parging, Scanning, Cutting & Coring		16,000.00
 <b>04 - Masonry</b>	 <b>\$</b>	 <b>335,542.00</b>
Clay & Glazed Brick Upgrades/Replication		110,542.00
Masonry Cleaning & Restoration		225,000.00

<b>05 - Metals</b>	<b>\$</b>	<b>552,485.00</b>
Structural Steel		237,485.00
Sheet Metal Restoration		315,000.00
<b>06 - Wood &amp; Plastics</b>	<b>\$</b>	<b>271,488.00</b>
Framing Materials		123,501.00
Framing Labour		147,987.00
<b>07 - Thermal &amp; Moisture Protection</b>	<b>\$</b>	<b>132,528.00</b>
Below Grade Waterproofing	\$	30,528.00
Misc. Sealants & Coatings	\$	3,000.00
Roofing	\$	99,000.00
<b>08 - Fenestration</b>	<b>\$</b>	<b>238,825.00</b>
Storefront Transom Restoration/Replication		83,825.00
Heritage Window Restoration/Replication		155,000.00
<b>09 - Finishes</b>	<b>\$</b>	<b>140,000.00</b>
Paint Stripping & Façade Restoration		140,000.00
<b>10 - Specialties</b>		<b>Excluded</b>
<b>11 - Equipment</b>		<b>Excluded</b>
<b>12 - Specialties/Furnishing</b>		<b>Excluded</b>
<b>13 - Special Construction</b>		<b>Excluded</b>
<b>14 - Conveying Systems</b>		<b>Excluded</b>
<b>15 - Mechanical</b>		<b>Excluded</b>
<b>16 - Electrical</b>		<b>Excluded</b>
Sub Total (Including PST)	\$	2,881,982.00
Builder's Fee @ 5%	\$	144,099.10
Contingency @ 10%	\$	302,608.11
<b>Total (GST Excluded)</b>	<b>\$</b>	<b>3,328,689.21</b>
Total Seismic Upgrade Estimate		
Total Heritage Restoration Estimate		