

## **CM/GC CONSTRUCTION CONTRACT**

### **LINDSEY-FLANIGAN COURTHOUSE GLASS GUARDRAIL REPLACEMENT**

#### **CONTRACT AND AGREEMENT**

**THIS AGREEMENT** is made between the **CITY AND COUNTY OF DENVER**, a municipal corporation of the State of Colorado (the “City”) and **HENSEL PHELPS CONSTRUCTION CO.**, a Colorado corporation whose address is 420 Sixth Avenue, Greeley, Colorado 80631 “the Contractor,” jointly “the parties.”

#### **RECITALS**

**1.** The City wishes to repair the glass guardrail at the Lindsey-Flanigan Courthouse located at 520 West Colfax Avenue, Denver, Colorado 80202.

Project Name: Lindsey-Flanigan Courthouse Glass Guardrail Replacement  
Project No. PWFAC2017-063  
CONTRACT CONTROL NO. 201845871  
(the “PROJECT”)

**2.** In furtherance of the Project, the City has contracted with gkkworks, (the “Designers or Design Consultants or Consultant Team”) to perform professional engineering and design services for the programming and design of the Project.

**3.** Pursuant to Section 20-56 of the Denver Revised Municipal Code, the City commenced on November 30, 2017, and advertised for at least three (3) consecutive days, the City’s solicitation for qualification submissions from qualified contractors for the Project.

**4.** The City’s solicitation sought a contractor to furnish all fast-track Construction Manager/General Contractor (“CM/GC”) preconstruction and construction experience, expertise and services; and all construction administration, management, supervision, coordination and fast-track project construction experience and expertise; and all construction services, work effort, labor, tools, supplies, manufactured components, equipment, materials, and everything else necessary and required to assist in the Project design and to complete the construction of the Project on an expedited basis and within budget; while satisfying the City’s longstanding commitment to quality, efficiency, value, innovation, partnering, responsiveness to agency and community needs and compliance with all applicable regulatory requirements in the performance of general public improvements.

**5.** Submissions received pursuant to said advertisement were evaluated and formal proposals were requested from selected firms best meeting the City’s qualifications criteria for this Project.

**6.** Proposals received were evaluated and ranked by a selection committee and a recommendation was made to the Executive Director of Public Works who evaluated the Proposals and recommended that a contract or contracts for performance on the Project be made and entered into with the above-named Contractor. The terms “Executive Director of Public Works”, “Executive Director”, “Manager of Public Works” and “Manager” are interchangeable and shall have the same meaning.

7. Based upon that ranking, the City and the Contractor entered into a Preconstruction Services Agreement, Contract No. 201842270, dated August 9, 2018, to perform preconstruction services.

8. In accordance with the terms and conditions of the Preconstruction Services Agreement, the Contractor has reviewed the Project Site and design documents and has performed constructability, availability, scheduling and cost estimating analysis on design documents prepared for the Project.

9. Based on this performance, the Contractor is thoroughly informed about the Project and the Project design. Contractor has submitted and the City has accepted a GMP to construct the project.

10. As a consequence of the Project's time limitations and in order to maintain the existing Project schedule, the Contractor and the City now desire to enter into a Construction Manager/General Contractor contract (the "Construction Contract") for a Guaranteed Maximum Price (the "GMP") for all of the Work necessary to complete the Project.

11. The Contractor is willing, able and has the present capacity to perform the construction phase services, as an independent contractor, in accordance with this Construction Contract, said advertisement, the preconstruction agreement and the referenced selection documents.

**NOW THEREFORE**, in consideration of the compensation to be paid the Contractor, the mutual agreements hereinafter contained, and subject to the terms hereinafter stated, it is mutually agreed as follows:

## **1.0 PROJECT SUMMARY AND DEFINITIONS:**

**1.1 Project.** The "Project" as used herein shall mean the:

### **LINDSEY-FLANIGAN COURTHOUSE GLASS GUARDRAIL REPLACEMENT**

**1.1.1** The Project is located at the "Project Site" 520 West Colfax Avenue, Denver Colorado 80202.

**1.1.2** The specific details of the Project are more particularly set forth in the shop drawing design submittal by Southwest Metalsmiths dated May 24, 2018 and accompanying Structural Calculation by GLR Engineering for Southwest Metalsmiths dated July 12, 2018 as reviewed by the Designers and determined to be consistent with the design intent as described in Cannon Design letter of September 4, 2018 and S. A. Miro letter of August 29, 2018.

**1.1.3** The Project shall be comprised of the following: (Project Phases/or drawing set if single GMP).

**1.1.3.1** Guaranteed Maximum Price (GMP) Work. The GMP proposal provides all necessary labor, materials and equipment necessary to complete the work more particularly set out in the Contract Drawings, Technical Specifications and the Contractors GMP Proposal.

**1.1.4 Contractor Selection.** In accordance with the requirements of Section 20-56 of the Denver Revised Municipal Code (the "**DRMC**"), the City implemented and completed a competitive selection process to identify qualified Contractors to perform both preconstruction and construction services for the Project. The Contractor was selected as the first ranked proposer to perform such services for the City as set forth in the City's Request for Qualifications (RFQ) dated November 30, 2017; and the Contractor's RFP Submittal dated January 4, 2018. In referencing these solicitations and submissions herein, the City and the Contractor acknowledge that the scope of the Project, as presented and addressed by these

documents, has materially evolved since the issuance of these documents and that some information presented will not be applicable to this Construction Contract or the Project.

**1.2 Budget.** The Contractor acknowledges and accepts that there are limited funds available to design and construct the Project. The Project construction budget (the “Budget”) is **ONE MILLION SEVEN HUNDRED SIXTY-FOUR THOUSAND DOLLARS AND ZERO CENTS (\$1,764,000.00)** and is subject to increase or decrease at the sole discretion of the Executive Director of Public Works. The Contract further acknowledges and accepts that the GMP Work must be completed within the construction budget. As part of this acknowledgment and acceptance, the Contractor shall at all times cooperate fully with the City and the Design Consultant to develop the Project and its various components for construction and ultimately construct the Project so as not to exceed the limited funds available in the Project Budget.

**1.3 Project Format.** In the performance of this Construction Contract, the Contractor acknowledges and accepts that scope and schedule are critical for Project delivery. Based on these considerations, the City has elected to utilize a Construction Manager/General Contractor (“CM/GC”) project delivery approach and will fast track the Project.

**1.3.1** The Contractor is familiar with this approach and understands that the CM/GC method is a specialized and rigorous delivery approach requiring maximum cooperation between all parties. As a consequence of the delivery approach, the Contractor acknowledges and accepts the following: (1) that the complete services to be rendered by the Contractor, the organizational and process inter-relationships governing construction and the construction cost, schedule and sequencing are either in the developmental stage or have not yet been fully defined; and (2) that portions of the Project could have their design completed as separate phases.

**1.3.2** In preparing and submitting the GMP Proposal, the Contractor understands, confirms and agrees that its responsibility under this CM/GC approach is to construct the Project in accordance with the Contract Documents.

**1.3.3** Subject to any allowed contingency provided for in Section 1.5, the Contractor further acknowledges and agrees the GMP fully accounts for any risks associated with failing to consider the design intent reasonably inferable from the Contract Documents. The Contractor has documented in the Basis of the GMP Proposal and provided or will provide to the City any and all clarifications regarding the design intent, including the intended level of quality of the Project. No GMP increase or extension of the Contract Time will be allowed to account for any assumption, exclusion and clarification the Contractor failed to document or for any other item of Work covered by the Contract Documents that the Contractor failed to account for in its GMP.

**1.4 Allowances.** The allowances set forth in the GMP Proposal have been accepted by the Project Manager. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the City may direct, but the Contractor shall not be required to employ any persons or entities against which the Contractor may make reasonable objection. The Contractor may also supply allowances for those items the Contractor and the Project Manager mutually determine require an allowance. **Exhibit L** (GMP Proposal) sets forth all allowances applicable to the Work. Unless otherwise provided for in the Contract Documents:

**1.4.1** Materials and equipment under an allowance shall be selected promptly by the City to avoid delay in the Work;

**1.4.2** Allowances shall cover the cost to the Contractor of materials and equipment delivered at the Project site and all required taxes, less applicable trade discounts;

**1.4.3** Contractor's costs for unloading and handling at the Project site, labor, installation costs, and other expenses contemplated for the stated allowance amounts are included in the allowances. However, Contractor's home office overhead and profit for all allowance items are included in the Contractor's Fee and are not in the allowance; and

**1.4.4** Whenever costs are more than or less than the allowances, the GMP shall be adjusted accordingly by change order. The amount of the change order shall reflect the difference between actual costs and the allowances. If actual costs exceed allowances, the change order shall include Fee on the difference in accordance with allowable Contractor Fee under the Construction Contract.

**1.5** **Contingency.**

**1.5.1 Construction Contingency Amount.** The GMP will include a construction contingency in an amount equal to a lump sum of **THIRTY-FIVE THOUSAND TWO HUNDRED EIGHTY DOLLARS AND ZERO CENTS (35,280.00)** ("GMP Contingency") for the entire scope of the GMP Work

**1.5.2 Contingency Accounting.** The GMP Proposal is not a line item GMP. During the course of the Work, some GMP line items may exceed the estimated amounts and others may under run the estimated amounts shown in the GMP Proposal without impacting the overall GMP. The Contractor may charge to the Contingency any costs which are properly reimbursable as Cost of the Work, but not the basis for a Change Order. These costs may include costs attributable to errors and omissions by the Contractor; costs to correct defective, nonconforming or damaged work; costs generated from clarification of the Contract Documents; costs for code changes or code upgrades required by governmental agencies which are not otherwise the basis for a change order; overtime and acceleration costs to meet contract schedule; and costs, including legal fees, for contractual disputes, with parties other than the City. The Contingency shall be increased to the extent that there are underruns in budget items included in the GMP. The Contractor shall notify the Project Manager, in writing, of each such charge to or credit of the contingency prior to taking such action and shall provide a periodic reconciliation of contingency credits and expenditures in a format acceptable to the Project Manager.

**1.5.3 Contingency Management.** The Contractor acknowledges that, subject to available funding, it is the desire of the City to incorporate as many additional Work items into the Work as reasonable or otherwise increase the Work to be performed by the Contractor to enhance the Project. The Contractor agrees to accept a mutually agreeable reduction of the contingency whenever the City and the Contractor reasonably agree that the Project risk is substantially decreased and such agreement shall not be unreasonably withheld.

**1.6 Design Consultant.** The "**Design Consultant**" or "**Designer**" as used herein shall mean the legally approved professional architect/engineer, or group or association or professional corporation or joint venture of such approved professional architects, engineers and/or consultants, who have contracted with the City to accomplish the architectural, engineering and other design and related technical services necessary to complete the Project. The Project Design Consultant is: gkkworks. In case of termination of the Design Consultant, the City will appoint a Design Consultant whose status under the Construction Contract shall be the same as that of the former Design Consultant.

**1.7 User Agency.** The “User Agency” as used herein shall mean the City agency currently responsible for the operation and maintenance of the Project. The User Agency is the City and County of Denver Department of Public Works.

**1.8 Construction Team.** The Contractor, the City, and the Design Consultant, called the “Construction Team,” shall work together to complete the Project. The Contractor shall provide leadership to the Construction Team on all matters relating to Construction.

## **2.0 CONTRACT DOCUMENTS:**

**2.1** It is agreed by the parties hereto that the following list of instruments, drawings and documents which are attached hereto, bound herewith or incorporated herein by reference constitute and shall be referred to as the “Contract Documents” and all of said instruments, drawings and documents taken together as a whole constitute the Contract and Agreement between the parties hereto, and they are as fully a part of this Contract and Agreement as if they were set out verbatim and in full herein. The Contract Documents represent the entire and complete integration of all understandings between the City and the Contractor and supersedes all prior negotiations, representations or agreements. No prior or contemporaneous addition, deletion or other amendment hereto shall have any force or effect whatsoever, unless embodied herein in writing. No subsequent novation, renewal, addition, deletion or other amendment hereto shall have any force or effect unless embodied in a written amendatory or other agreement or change order properly executed by the parties.

This CMGC Construction Contract

Advertisement of Notice of Invitation for Qualification, dated November 30, 2017 (incorporated herein by reference)

Contractor Response to RFQ, dated January 4, 2018 (incorporated by reference)

General Contract Conditions (incorporated by reference; table of contents attached as **Exhibit A**)

Special Contract Conditions (attached as **Exhibit B**)

Preconstruction Services Agreement, dated August 9, 2018 (incorporated by reference as **Exhibit C**)

Equal Employment Opportunity Provisions (attached as **Exhibit D**)

Prevailing Wage Rate Schedule(s) (attached as **Exhibit E**)

Performance and Payment Bond (attached as **Exhibit F**)

Final/Partial Lien Release Form (attached as **Exhibit G**)

Notice to Proceed Form (attached as **Exhibit H**)

Contractor’s Certification of Payment Form (attached as **Exhibit I**)

Final Receipt Form (attached as **Exhibit J**)

Contract Drawings (incorporated herein by reference as **Exhibit K**)

Equipment Rental Rates (to be later attached as **Exhibit L**)

Billing Rates for Salaried Personnel (attached as **Exhibit L**)

GMP Proposal (attached as **Exhibit L**)

Certificate of Insurance (attached as **Exhibit M**)

**2.2** If anything in the Contract Documents is inconsistent with this Construction Contract, this Construction Contract will govern. The order of precedence of the Contract Documents shall be as follows:

**2.2.1** this Construction Contract, as may be modified by amendment or change orders;

**2.2.2** the Special Conditions

**2.2.3** the General Contract Conditions;

**2.2.4** the Basis of the GMP Work Proposal,

**2.2.5** the Contract Drawings; and

**2.2.6** all other Exhibits, whether attached to this Construction Contract, incorporated by reference or later added by Change Order.

**2.3** The intent of the Contract Documents is to include all terms, conditions, work items and services necessary or required for the proper execution and completion of the Work. The Contract Documents are complementary, and what is required by any one shall be binding as if required by all. Work items or services not covered in the Contract Documents will be required unless they are not consistent with the Contract Documents and are not inferable from the Contract Documents as being necessary to produce the result intended by the Contract Documents. Words and abbreviations that have well known technical or trade meanings are used in the Contract Documents in accordance with such recognized meaning.

**2.4** Where reference is made in this Construction Contract to a provision of the General Conditions or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

### **3.0 SCOPE OF WORK:**

**3.1 Completion Obligation.** The Contractor shall execute the Project described in the Contract Documents, except to the extent specifically indicated in the Contract Documents as the responsibility of others. The Contractor agrees to commence and undertake the performance of the Work under this Construction Contract within ten (10) days of the date of issuance of a Notice to Proceed in substantially the form attached as **Exhibit H** and agrees to substantially complete said Work within the Contract Time and fully complete said Work in accordance with the Contract Documents. The Contractor may complete the Project earlier than the date for substantial completion established by the Contract Time, but any claim by the Contractor based on delay shall be based upon the date for substantial completion established by the Contract Time and not on an earlier projected completion date that the Contractor may propose.

**3.2 Scope of Work.** The entire Scope of Work shall include the following:

**3.2.1 Preconstruction Phase Services.** The Preconstruction Services are comprised of all those services, obligations and responsibilities set forth in the Preconstruction Services Agreement, incorporated

herein by this reference as **Exhibit C**. In order to expedite Project completion, the Parties entered into the Preconstruction Agreement to perform Preconstruction Services, in anticipation of the start of the Construction Phase of the Project. In accordance with the terms of the Preconstruction Agreement, compensation for the performance of such services is based on a lump sum fee for services. For the duration of this Construction Contract, the Contractor shall continue to perform any further Preconstruction Services required by the Project as part of its obligations under this Construction Contract as a Cost of the Work with no increase to the GMP.

**3.2.2 Construction Services.** The Construction Phase Services shall include the furnishing of all construction administration, management, supervision and coordination experience and expertise, as well as all construction services, work effort, labor, tools, supplies, manufactured components, equipment, materials, and everything else necessary and required to complete the construction of the Project on time and within budget; while satisfying the City’s longstanding commitment to quality, efficiency, value, innovation, partnering, responsiveness to agency and community needs and compliance with all applicable regulatory requirements in the performance of general public improvements. Compensation for the Construction Phase Services shall be in accordance with the terms and conditions of this Construction Contract.

**3.2.2.1 GMP Scope of Work.** The Contractor shall perform all Construction Services, as set forth in the GMP Proposal, which is attached as **Exhibit L**.

**3.2.3 The Work.** The terms “Scope of Work” or “Work” as used herein shall mean all Construction Services required by or reasonably inferable from the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor’s obligations. The Work shall constitute the whole of the Project.

**3.3 Acknowledgement of Scope of Work.** The Contractor expressly recognizes and acknowledges that this Project must be completed within the time and fiscal constraints as set forth throughout this Construction Contract.

**3.3.1** The Contractor further represents to the City that by executing this Construction Contract, it has been fully informed of and has thoroughly reviewed the following: the objectives of the Project; the work effort of the Design Consultant performed to date for the Project; all of the Contract Documents attached to this Construction Contract or incorporated by reference; the City’s general time and budget constraints and contingencies applicable to the Budget; and all of the Work required by the Contractor by the Contract Documents. Based upon this thorough review and analysis and recognizing that the contract for design services is between the City and the Designer, the Contractor nonetheless represents to the City that it will provide or perform all of the necessary Work within the requirements of the Contract Documents.

**3.3.2** Also by execution of this Construction Contract, the Contractor covenants and represents that the Contractor has visited the site of the Project (the “Site”) and has had sufficient time and opportunity to independently examine and is sufficiently familiar with: the Site, the character and nature of the Site layout and materials, the character and nature of all Site constraints, restrictions and limitations, and limitations on ingress, egress and construction staging and performance; and the local conditions under which the Work is to be performed, including weather conditions and any other factors which may impact the Work. The Contractor further represents that it has taken into consideration and correlated these direct observations, examinations and investigations with the requirements of the Contract Documents and in the pricing of the Work, the formulation of the GMP, the Contractors Fee and in preparing all Exhibits.

**3.3.3** Also by execution of this Construction Contract, the Contractor represents that it has reviewed and is familiar with the City's general expectations and scheduling assumptions regarding the completion of the Project and opening of the completed facility and that, given the Scope of Work, these scheduling assumptions are reasonable and achievable. The Contractor further represents that it will take into consideration and correlate these assumptions and constraints with the requirements of the Contract Documents and in the pricing of the Work, the GMP and the Contractor's Fee.

**3.3.4** Finally, the Contractor represents that it has reviewed the 100% Design Drawings, accepts the terms and requirements thereof and affirmatively states that the Project, as expressed by the design documents and the Project requirements and constraints as modified by value engineering suggestions, budget adjustments and cost cutting measures suggested by the Contractor as of August 29, 2018 is a reasonable and constructible Project, incorporating a reasonable and workable delivery approach, schedule and budget.

#### **4.0 RELATIONSHIP OF THE PARTIES:**

**4.1** The parties intend herein to establish a relationship wherein the City relies upon the integrity and fidelity of the Contractor to complete the Project within the time and budget constraints set forth in this Construction Contract and in a manner which satisfies the City's longstanding commitment to quality, efficiency, value, innovation, partnering, responsiveness to agency and community needs and compliance with all applicable regulatory requirements in the performance of general public improvements.

**4.2** The Contractor accepts the relationship of trust and confidence established by this Construction Contract with the City. The Contractor further agrees to utilize the Contractor's best skills, efforts, and judgment in furthering the interests of the City regarding the Project; to furnish at all times an adequate supply of qualified and competent workers and quality materials; and to perform the work in the best, most expeditious, and economical manner. Further, the Contractor agrees to furnish efficient business administration, construction management and superintendence and to use its best efforts to complete the Work in an expeditious and economical manner, consistent with the interests of the City.

**4.3** The City will have a separate agreement with the Design Consultant to design the Project and to provide construction contract administration services necessary to ensure that the Work conforms to the Contract Documents. Both the Contractor and the Design Consultant shall be given direction by the City, or the City's designated and authorized representative(s). The Contract Documents shall not be deemed to create any contractual relationship between the Design Consultant and the Contractor or any separate contractors, subcontractors of any tier or suppliers on the Project. The relationship between the Contractor and the Design Consultant is intended to be cooperative and proactive, with both participating on the same team with the City.

**4.4** The Contractor shall accept the designated and authorized representatives of the City identified in the Contract Documents and perform its obligations toward and in response to such representatives in the same manner it would toward and in response to the City, pursuant to such designation and authorization.

**4.5** **City Delegation of Authority.** With reference to G.C. 212, CITY'S CONTRACT ADMINISTRATION LINE OF AUTHORITY, the Manager delegates to the City Engineer the authority necessary to undertake the responsibilities identified as the responsibilities of the Deputy Manager under this Construction Contract. The City Engineer hereby designates as Project Manager with authority to handle the day to day administration of this Construction Contract, the following personnel:

**Department of Public Works Project Manager**

**Telephone**

**Email**

Michael Young

720-913-4523 michael.young@denvergov.org

**5.0 COORDINATION AND COOPERATION:**

**5.1** The Contractor agrees to cooperate and coordinate fully with the City in its performance of the Work to meet or exceed the City's time and budgetary objectives and limitations, while maintaining the City's longstanding commitment to quality, efficiency, value, innovation, partnering, responsiveness to agency and community needs and compliance with all applicable regulatory requirements in the construction of general public improvements.

**5.2** The Contractor shall, as a continuing work item under this Construction Contract, facilitate coordination, communication and cooperation regarding its performance hereunder between the City's Department of Public Works ("Public Works"), the Project Manager, the Design Consultant, the User Agency, other City consultants and any affiliated entities. In addition, the Contractor shall coordinate its efforts under this Construction Contract with all involved governmental and regulatory entities.

**5.3** The Contractor shall be responsible for taking accurate and comprehensive minutes at all Construction meetings attended by the Contractor regarding the Project. Those minutes shall be prepared in a format approved by the Project Manager and issued to all attendees, as well as those other parties designated by the City, no later than three working days after the meeting. Unless approved in advance in writing by the Project Manager and to the greatest extent practicable, Project meetings with the City shall be conducted in the City and County of Denver, Colorado.

**5.4** Nothing contained in the Contract Documents shall be deemed to give any third party any claim or right of action against the City, the Design Consultant or the Contractor that does not otherwise exist without regard to the Contract Documents.

**5.5** The Contractor shall use its best efforts and take all necessary precautions to protect and prevent damage and/or disruption to all City facilities and equipment, and shall coordinate all ingress and egress requirements with appropriate persons and agencies.

**6.0 CONTRACT TIME, SUBSTANTIAL COMPLETION AND LIQUIDATED DAMAGES:**

**6.1 Substantial Completion.** The term "Substantial Completion" shall mean 222 calendar days from the date set forth in the Notice to Proceed.

**6.2 Construction Time.** The term "Construction Time" is defined as the total number of days between the date of the Notice to Proceed with Construction and the date on which Substantial Completion of all Work must be completed by the Contractor. The Construction Time shall be: **222 Calendar Days.**

**6.3 Final Completion.** Final Completion of the Work occurs following Substantial Completion when all punch list items are completed and the Contractor has provided the City with a Final Lien Release Form (which may be contingent upon receipt of Final Payment) (in the form of **Exhibit G**). The term "Final Completion" is defined in the General Conditions.

**6.4 Liquidated Damages.** The parties recognize and agree that time is of the essence of this Contract. In the event that the Work is not Substantially Complete within the Construction Time, as that time may be extended for delays for which an extension of time is permitted under the terms of the Contract Documents, the City and the Contractor acknowledge and agree, after a full discussion of the implications of this section, that it would be impractical and extremely difficult to estimate the damages (including, by way of example but without limitation, direct and indirect, incidental, special and consequential damages) which the City might incur for failure of the Contractor to timely achieve Substantial Completion within either the Construction Time. Therefore, the City and the Contractor have determined that a reasonable estimate of the total detriment that the City would suffer in the event that the Contractor so defaults and the Project is not Substantially Complete within the Construction Time, as extended as permitted herein, is and shall be, in the event of said default and failure, as the sole and exclusive remedy (whether at law or in equity) of the City for this delay, and not as a penalty, the amount per day stated below that the Work shall remain not Substantially Complete after the Construction Time, as applicable, including extensions, has elapsed. It is understood and agreed that the City reserves all of its other rights and remedies for any other or different breach or default of this Construction Contract by Contractor, or for any other cause of action.

Liquidated Damages Table

Amount Per Day	Substantial Completion	\$1000.00
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**7.0 SUBCONTRACTS AND OTHER AGREEMENTS:**

**7.1 Subcontractor Selection.** The Contractor recognizes and accepts that the subcontractor and supplier selection and contracting procedures specified herein are intended to promote pricing or buyout of the Work which is fair and reasonable and, to the greatest extent practicable, is based on fair and open competition. As such, all Work, except for Work or Services included in the Contractor’s Fee, the Contractor’s General Conditions or Work performed by the Contractor with the prior written approval of the Project Manager (“Self-Performed Work”) shall be procured based upon competitive bids awarded to the lowest, responsive and qualified bidder and subcontracted to “Subcontractors” and “Suppliers,” which may include Contractor Self-Performed Work under Section 7.1, in accordance with **Exhibit N/A** and in compliance with the General Conditions, attached hereto and incorporated herein as **Exhibit A**. Each Subcontractor and Supplier selection shall be reviewed by the City and the City reserves the right to reject any Subcontractor or Supplier in accordance with the terms and conditions of the General Conditions or in the event the City determines that the selection was not made after a competitive bid. Upon request of the Contractor, the City may waive the competitive bid requirement of this Section with the express written approval of the Project Manager.

**7.2 Self-Performed Work.**

**7.2.1** Upon prior written approval of the Project Manager, the Contractor may compete for designated Subcontractor or Supplier Work packages. Should the Contractor submit a proposal for any such package, such proposal shall be submitted directly to the Project Manager prior to any proposal deadline and all bid or selection requirements specified in **Exhibit N/A** shall apply to proposal or bid opening and evaluation. The Project Manager shall review with the Contractor all bids submitted where the Contractor has submitted a bid and shall make the final award after consultation with the Contractor. The City must approve any Self-Performed Work award to the Contractor. The Contractor shall perform for the Contractor's lump sum bid amount on the basis of a Stipulated Lump Sum Subcontract, which shall also be subject to City review and written approval of the Project Manager prior to commencement of any Self-Performed Work, but shall not be subject to the cost of work limitations of the Contract Documents.

7.2.2 No Self Performed Work is currently anticipated for this project.

7.3 **Subcontract Forms.** All subcontracts will be between the Contractor and the selected Subcontractors or Suppliers. The form of each subcontract shall be furnished to the City for review and acceptance as to form, which acceptance shall not be unreasonably withheld. All subcontracts shall require that all Subcontractors or Suppliers of any tier performing Work accept and agree to be bound by the terms and conditions of the Contract Documents and to assume toward the Contractor all obligations and responsibilities the Contractor, by the Contract Documents, assumes toward the City. All subcontracts shall preserve and protect the rights of the City under the Contract Documents with respect to the Work to be performed by the Subcontractor so that the subcontracting thereof shall not prejudice these rights.

7.4 **Substitution.** The Contractor shall make no substitution for a Subcontractor or Supplier previously selected without the prior written approval of the Project Manager and such approval shall not be unreasonable withheld.

7.5 **Responsibility.** The Contractor shall be responsible to the City for the acts and omissions of its agents and employees, Subcontractors and Suppliers of any tier, and their agents and employees performing Work under this Construction Contract.

## 8.0 COMPENSATION.

8.1 **Cost of the Work.** The term Cost of the Work shall consist of costs necessarily incurred in the proper performance of the Work for the Project as delineated below which shall be paid by the City to the Contractor. Cost of the Work shall not include any Fee of the Contractor. Any allowable mark-up by the Contractor is included in the Contractor's Fee. Cost of the Work shall consist of the following Contractor incurred items set forth below:

8.1.1 Cost of wages paid for labor in the performance of the Work at the site or with the City's agreement at offsite workshops, which shall as a minimum be in accordance with the prevailing wage rates established by the City and County of Denver for construction projects, as set out in DRMC Section 20-76, and in effect at the time that the GMP is established. In the event the prevailing wage rates are increased in accordance with DRMC Section 20-76, on the anniversary date of this Construction Contract, these increases shall also be included as a cost of the work. Costs paid or incurred by the Contractor shall include actual wages for the Contractor's own personnel (including overtime premiums as applicable), taxes, insurance, contributions, assessments and benefits required by law or collective bargaining agreements and for personnel not covered by such agreements, customary benefits and the Contractor's company policy such as sick leave, individual and dependent medical and health benefits, disability insurance, holidays, craft training fund, vacation, pension, and, as applicable, 401K contributions. The City and the Contractor agree that the wages and burden for the personnel referenced in this paragraph and paragraphs 8.1.17 and 8.1.18 shall be charged as a Cost of the Work at not less than the stipulated fixed rates set forth on Prevailing Wage Rate Schedule, attached as **Exhibit E**, or as appropriate charges at the stipulated fixed rates set forth on the Billing Rates for Salaried Personnel attached as **Exhibit L**.

8.1.2 Cost of contributions, assessments or taxes for such items as unemployment compensation and social security, insofar as such cost is based on wages, salaries or other remuneration paid pursuant to Section 8.1.1.

8.1.3 Cost of mock-ups and testing, as may be previously approved by the Project Manager.

**8.1.4** Cost of all materials, supplies and equipment incorporated in the Work, including costs of transportation thereof.

**8.1.5** Payments properly made by the Contractor to Subcontractors and Suppliers under Project subcontracts for performance of portions of the Work including insurance required by this Contract and bond premiums incurred.

**8.1.6** Payments actually made for architects, engineers and other consultants providing services to the Contractor reasonably required to perform the work, unless such services are to be provided to the Owner by the Design Consultant or other City-Retained Consultants (as defined in the Design Consultant's Agreement for Professional Design Services).

**8.1.7** Cost, including transportation, inspection, handling, storage and maintenance, of all temporary facilities and all materials, supplies, equipment and hand tools not owned by the workmen that are consumed in the performance of the Work on the Project. The Contractor shall negotiate with the City the salvage value of all items purchased and used on the Project but not consumed, damaged, lost or stolen at the completion of the work, crediting any proceeds against the Cost of the Work. If the Contractor and the City cannot agree on the salvage value of the above items then said items shall remain the property of the City and the Contractor shall give no credit to the Cost of the Work. The Contractor may institute a voluntary recycling program.

**8.1.8** Actual rental charges of all necessary machinery and equipment, exclusive of hand tools, used at the Site, whether rented from the Contractor (at rental rates approved by City and specified on **Exhibit L**) or others, including equipment owned by the Contractor that is assigned to salaried staff and charged to the Project and costs of fuel, oil, insurance, maintenance and minor repairs and replacements, transportation, installation, dismantling and removal thereof. The City and the Contractor agree that the rates for the rented equipment shall be charged as a Cost of Work at the stipulated fixed rates set forth on the Equipment Rental Rate Schedule, attached as **Exhibit L**.

**8.1.9** The cost of the premiums for all bonds and Builder's Risk insurance that the Contractor is required to procure by this Construction Contract. The costs of the premiums for all other insurance that the Contractor is required to procure by this Construction Contract or that are deemed necessary by the Contractor with the City's written approval shall be charged as a Cost of the Work at the stipulated fixed percentage of 1.28% of the Cost of Work, and all deductibles that are attributable to this Construction Contract, including equipment insurance deductibles.

**8.1.10** Applicable sales, use or similar taxes related to the direct performance of the Work and for which the Contractor is liable, imposed by any governmental authority.

**8.1.11** Permits, fees, licenses, costs of all tests, commissioning costs, inspections and approvals, as may be required by the Contract Documents or applicable laws, ordinances or public authority for the performance of the work (except for inspection and testing performed by the City, at its cost).

**8.1.12** Actual costs of reproduction, telegrams, facsimile transmissions, mobile phones, long distance telephone calls, telephone service at the Site, postage and express delivery charges, and reasonable petty cash expenses of the site office in connection with the Work.

**8.1.13** Cost of removal of all debris from the Site.

**8.1.14** Costs for temporary and permanent power, lighting, heat, chilled drinking water, sewer and water services as required to complete the Work at the Site, and costs for snow removal as required.

**8.1.15** Cost incurred by the Contractor in repairing or correcting defective, damaged or nonconforming work, provided that such defective, damaged or nonconforming work was beyond the control of the Contractor, Subcontractors, or Suppliers, or caused by the ordinary mistakes or inadvertence, and not the negligence of the Contractor's or any Subcontractor's or Supplier's supervisory personnel. If the costs associated with such defective, damaged or nonconforming work are recoverable from insurance or Subcontractors or Suppliers, the Contractor shall exercise its best efforts to obtain recovery from the appropriate source and credit the Cost of the Work if recovery is obtained.

**8.1.16** Costs incurred due to any emergency affecting the safety of persons and property and related to the Work unless otherwise covered by insurance or reimbursable from a Subcontractor or Supplier, or unless such costs are due to the fault or negligence of the Contractor or a Subcontractor or Supplier of any tier.

**8.1.17** Wages or salaries of the Contractor's supervisory and administrative personnel when stationed at the site, and when stationed off-site and working on the Project in accordance with the staffing and salary schedule set forth in **Exhibit L**, including vacation time, in accordance with the Contractor's company policy, accrued and taken during the performance of the Work. This includes estimators, safety personnel, quality control personnel and their assistants.

**8.1.18** Wages or salaries of the Contractor's supervisory or administrative personnel engaged at factories, workshops or on the road, in expediting the production or transportation of materials or equipment required for the Work, but only for that portion of their time required for the Work in accordance with the staffing and salary schedule set forth in **Exhibit L**.

**8.1.19** With prior written approval of the Project Manager, that portion of the reasonable travel and subsistence expenses of the Contractor's personnel incurred while traveling in discharge of duties connected with the Work.

**8.1.20** Fees of testing laboratories for tests required by the Contract Documents.

**8.1.21** Legal, mediation and arbitration costs other than those arising from disputes between the City and the Contractor reasonably incurred by the Contractor in the performance of the Work and with the City's prior written permission of the Project Manager.

**8.1.22** Other costs incurred in the performance of the Work if and to the extent approved in advance in writing by the City.

**8.1.23** Costs associated with the implementation of any established company safety program, which costs shall be subject to City's reasonable approval.

**8.1.24** Contractor's General Conditions expenses as identified in **Exhibit A**. These expenses include rented or purchased materials and equipment used by the Contractor at the Project site office in connection with the Work.

**8.1.25** Cost of warranty repairs, to the extent not covered by a subcontract or purchase agreement (provided that the Contractor shall use its best efforts to enforce the warranties received from subcontractors, suppliers and vendors). These costs include the Contractor's administrative staff associated with supervision and management of the warranty repairs.

**8.1.26** Reasonable data processing costs related to the work, including data line service, internet charges, software costs and licenses fees.

**8.1.27** All costs and fees incurred in the performance of work and approved for payment under the Preconstruction Services Agreement (**Exhibit C**).

**8.1.28** Deposits for materials, design of manufactured items and supplied items is the responsibility of the contractor. Reimbursements will be made once the item is installed and accepted by the Project Manager.

**8.2** **Costs Not To Be Reimbursed.** Cost of the Work shall not include expenditures made for any of the following:

**8.2.1** Salary of any officer of the Contractor.

**8.2.2** Salary of the Contractor's employees stationed at the Contractor's main office not working on the Project.

**8.2.3** Overhead, profit and general expenses of any kind except as included in the Contractor's Fee.

**8.2.4** The capital expenses of the Contractor, including interest on capital employed for the work.

**8.2.5** Expenses of the Contractor's principal office and offices, other than the Site office.

**8.2.6** Costs incurred by the Contractor in situations where such costs may be covered by insurance or recoverable from a Subcontractor or Supplier, if the Contractor failed to use its best efforts to obtain such insurance proceeds or recovery from the responsible Subcontractor(s) or Supplier(s).

**8.2.7** Expenses incurred for relocation and temporary living expenses of personnel required for the Work, or when such relocation is for the convenience of the Contractor.

**8.2.8** Any cost that would cause the GMP to be exceeded.

**8.2.9** Any costs not specifically included in the Cost of the Work, Section 8.1.

**8.2.10** Costs of retesting non-conforming Work.

**8.3** **Contractor's Fee.** The "Contractor's Fee" (the "Fee") to be paid to the Contractor and included in the GMP shall be a lump sum of **ONE HUNDRED FIFTY-EIGHT THOUSAND SEVEN HUNDRED SIXTY DOLLARS AND ZERO CENTS (\$158,760.00)**, payable in progress installments pursuant to a mutually agreeable schedule of progress installments.

**8.4** **Guaranteed Maximum Price.**

**8.4.1** **Guaranteed Maximum Price.** The GMP is incorporated herein as **Exhibit L**, subject to adjustments as provided in the Contract Documents.

**8.4.2** The Guaranteed Maximum Price consists of the sum of (i) the estimated Cost of the Work; and (ii) the Fee. The Contractor has presented, and the City has accepted the Guaranteed Maximum Price and Basis of the GMP Proposal attached hereto as **Exhibit L**. The Parties specifically agree that the City shall not be subject to any cost, charge or fee under this Agreement that is not specified above.

**8.5** **Savings.** In the event that the actual Cost of the Work plus the Fee shall be less than the GMP, the resulting savings shall inure One Hundred Percent (100%) to the City. The Contractor shall distribute

such savings to the City by Change Order that either reduces the GMP or implements enhancements or additions to the Project requested by the City.

**8.6 Construction Contract Amount and Funding.** In accordance with the terms of this Construction Contract, the maximum Construction Contract Amount to be paid by the City to the Contractor under this Agreement shall not exceed **ONE MILLION SEVEN HUNDRED SIXTY-FOUR THOUSAND DOLLARS AND ZERO CENTS (\$1,764,000.00)**. The Contractor guarantees and warrants that the Project will be completed by its performance hereunder for the GMP amount. In no event will the City's liability exceed the maximum Construction Contract Amount, as adjusted by duly authorized change order in accordance with this Construction Contract. The parties specifically agree that any performance by the Contractor hereunder shall not subject the City to any cost, charge or fee not specified above.

**9.0 DISPUTE RESOLUTION:**

It is the express intention of the parties to this Construction Contract that all disputes of any nature whatsoever regarding the Construction Contract including, but not limited to, any claims for compensation or damages arising out of breach or default under this Construction Contract, shall be resolved by administrative hearing pursuant to the provisions of Section 56-106, DRMC or, with respect to appropriate issues involving Small Business Enterprise contracting, by Section 28-33, DRMC. The Contractor expressly agrees that this dispute resolution process is the sole and only dispute resolution mechanism that will be recognized and employed by the parties for any claims put forward by the Contractor, notwithstanding any other claimed theory of entitlement on the part of the Contractor or its Subcontractors or Suppliers.

**10.0 ADDITIONAL PROVISIONS:**

**10.1 No Discrimination in Employment.** In connection with the performance of work under this Agreement, the Contractor may not refuse to hire, discharge, promote or demote, or discriminate in matters of compensation against any person otherwise qualified, solely because of race, color, religion, national origin, gender, age, military status, sexual orientation, gender identity or gender expression, marital status, or physical or mental disability. The Contractor shall insert the foregoing provision in all subcontracts.

**10.2 Insurance.** In addition to the requirements and obligations set forth in Title 16, the Contractor shall comply with the insurance requirements set forth in **Exhibit B**.

**10.3 Title to the Work.** The parties agree that the City shall have title to all components and aspects of the Project which are in place and title to all materials for which any payment has been made to the Contractor hereunder.

**10.4 Compliance with Minority/Women Owned Business Enterprise Requirements.** This Agreement is subject to Article III, Divisions 1 and 3 of Chapter 28, Denver Revised Municipal Code (D.R.M.C.), designated as Sections 28-31 to 28-36 and 28-52 to 28-90 D.R.M.C. (the "M/WBE Ordinance") and any Rules or Regulations promulgated pursuant thereto. However, Division of Small Business Opportunity has waived goals for this project. The City encourages MBE and WBE participation when available.

**10.5 Compliance with Wage Rate Requirements.**

**10.5.1** Contractor shall comply with, and agrees to be bound by, all requirements, conditions and City determinations regarding the Payment of Prevailing Wages Ordinance, Sections 20-76 through 20-79, D.R.M.C. including, but not limited to, the requirement that every covered worker working on a City owned or leased building or on City-owned land shall be paid no less than the prevailing wages and fringe benefits in effect on the date the bid or request for proposal was advertised. In the event a request for bids, or a request for proposal, was not advertised, Contractor shall pay every covered worker no less than the prevailing wages and fringe benefits in effect on the date funds for the contract were encumbered. A copy of the applicable prevailing wage rate schedule is attached as **Exhibit E** and incorporated herein by reference.

Date bid or request for qualifications/proposals was advertised November 30, 2017.

**10.5.2** Prevailing wage and fringe rates will adjust on, and only on, the anniversary of the date the Contract was fully executed. Unless expressly provided for in this Agreement, Contractor will receive no additional compensation for increases in prevailing wages or fringe benefits.

**10.5.3** Contractor shall provide the Auditor with a list of all subcontractors providing any services under the contract.

**10.5.4** Contractor shall provide the Auditor with electronically-certified payroll records for all covered workers employed under the contract.

**10.5.5** Contractor shall prominently post at the work site the current prevailing wage and fringe benefit rates. The posting must inform workers that any complaints regarding the payment of prevailing wages or fringe benefits may be submitted to the Denver Auditor by calling 720-913-5000 or emailing [auditor@denvergov.org](mailto:auditor@denvergov.org).

**10.5.6** If Contractor fails to pay workers as required by the Prevailing Wage Ordinance, Contractor will not be paid until documentation of payment satisfactory to the Auditor has been provided. The City may, by written notice, suspend or terminate work if Contractor fails to pay required wages and fringe benefits. A copy of the applicable prevailing wage rate schedule is attached as **Exhibit E**.

**10.6** **Applicability of Laws.** This Contract and Agreement between the Contractor and the City shall be deemed to have been made in the City and County of Denver, State of Colorado and shall be subject to, governed by and interpreted and construed in accordance with the laws of the State of Colorado and the Charter, the Revised Municipal Code, Rules, Regulations, Executive Orders and fiscal rules of the City. As such, the Contractor shall at all times comply with the provisions of the Charter, Revised Municipal Code, Rules, Regulations, Executive Orders and fiscal rules of the City, and those of the State of Colorado and Federal Laws and Rules and Regulations, which in any manner limit, control or apply to the actions or operations of the Contractor, any Subcontractors, employees, agents or servants of the Contractor engaged in the Work or affecting the materials and equipment used in the performance of the Work, as the same may be, from time to time, promulgated, revised or amended. The Charter and Revised Municipal Code of the City, as the same may be amended from time to time, are hereby expressly incorporated into this Construction Contract as if fully set out herein by this reference.

**10.7** **Appropriation.** Notwithstanding any other term, provision, or condition herein, all payment obligations under this Construction Contract shall be limited to the funds appropriated or otherwise made available by the Denver City Council and paid into the Treasury of the City. As of the date of this Construction Contract, **ONE MILLION SEVEN HUNDRED SIXTY-FOUR THOUSAND DOLLARS AND ZERO CENTS (\$1,764,000.00)** have been appropriated for this Construction Contract. The Manager of Public Works, upon reasonable written request, will advise the Contractor in

writing of the total amount of appropriated and encumbered funds that are or remain available for payment to the Contractor.

**10.8** The issuance of any form of order or directive by the City which would cause the aggregate amount payable to the Contractor to exceed the amount appropriated for the Work to be performed in accordance with the Contract Documents is expressly prohibited. In no event shall the issuance of any change order or other form of order or directive by the City be considered valid or binding if it requires additional compensable Work to be performed, which Work will cause the aggregate amount payable for such Work to exceed the amount appropriated and encumbered for the Work, unless and until such time as the Contractor has been advised in writing by the Manager of Public Works that a lawful appropriation sufficient to cover the entire cost of such additional Work has been made. It shall be the responsibility of the Contractor to verify that the amounts already appropriated for the Work are sufficient to cover the entire cost of such Work, and any Work undertaken or performed in excess of the amount appropriated is undertaken or performed in violation of the terms of this Agreement, without the proper authorization for such Work, and at the Contractor's own risk and sole expense.

**10.9 Approvals.** In the event this contract calls for the payment by the City of **FIVE HUNDRED THOUSAND DOLLARS AND ZERO CENTS (\$500,000.00)** or more, approval by the City Council of the City and County of Denver, acting by ordinance, in accordance with Section 3.2.6 of the Charter of the City and County of Denver, is and shall be an express condition precedent to the lawful and binding execution and effect and performance of this contract.

**10.10 Assignment Strictly Prohibited.** The Contractor shall not assign or otherwise transfer, in whole or in part, any of its rights, benefits, claims, obligations, duties or entitlement to monies owed or which may become due under this Construction Contract, except upon the prior written consent and approval of the Executive Director to such assignment.

**10.11 Conflict of Interest.** The parties agree that no official, officer or employee of the City shall have any personal or beneficial interest whatsoever in the services or property described herein and the City further agrees not to hire or contract for services with any official, officer or employee of the City or any other person which would be in violation of the Denver Revised Municipal Code Chapter 2, Article IV, Code of Ethics, or Denver City Charter provisions 1.2.9 and 1.2.12.

**10.12 Taxes, Charges and Penalties.** Except as provided in the City's Prompt Payment ordinance, codified at DRMC Sections 20-107, 20-108 and 20-109, the City shall not be liable for the payment of any taxes, late charges, interest or penalties of any nature arising out of this Construction Contract.

**10.13 Waiver of C.R.S. 13-20-802 et. seq.** The Contractor specifically waives all the provisions of Part 8 of Article 20 of Title 13, Colorado Revised Statutes regarding defects in the Work under this Construction Contract.

**10.14 Proprietary or Confidential Information.**

**10.14.1 City Information:** The Contractor understands and agrees that, in performance of this Construction Contract, the Contractor may have access to private or confidential information that may be owned or controlled by the City and that such information may contain proprietary or confidential details, the disclosure of which to third parties may be damaging to the City. The Contractor agrees that all information disclosed by the City to the Contractor shall be held in confidence and used only in performance of the Construction Contract. The Contractor shall exercise the same standard of care to protect such information as a reasonably prudent Contractor would to protect its own proprietary data.

**10.14.2 Contractor Information:** The parties understand that all the material provided or produced under this Construction Contract may be subject to the Colorado Open Records Act, C.R.S. 24-72-201, et seq., and that in the event of a request to the City for disclosure of such information, the City shall advise the Contractor of such request in order to give the Contractor the opportunity to object to the disclosure of any of its proprietary or confidential material. In the event of the filing of a lawsuit to compel such disclosure, the City will tender all such material to the court for judicial determination of the issue of disclosure and the Contractor agrees to intervene in such lawsuit to protect and assert its claims of privilege against disclosure of such material. The Contractor further agrees to defend, indemnify and save and hold harmless the City, its officers, agents and employees, from any claim, damages, expense, loss or costs arising out of the Contractor's intervention to protect and assert its claims of privilege against disclosure under this Section including, but not limited to, prompt reimbursement to the City of all reasonable attorney fees, costs and damages that the City may incur directly or may be ordered to pay by such court.

**10.15 Status of Contractor.** It is understood and agreed that the status of the Contractor shall be that of an independent contractor retained on a contractual basis to perform work or services for limited periods of time, and it is not intended, nor shall it be construed, that the Contractor, or any member of its staff or any consultant, is an employee or officer of the City for any purpose whatsoever.

**10.16 Rights and Remedies Not Waived.** No payment or failure to act under the Construction Contract by the City shall constitute a waiver of any breach of covenant or default which may then exist on the part of the Contractor. No assent, expressed or implied, by either party to any breach of the Construction Contract shall be held to be a waiver of any default or other breach.

**10.17 Notices.** Any notices, demands, or other communications required or permitted to be given by any provision of this Construction Contract shall be given in writing, delivered personally or sent by registered mail, postage prepaid and return receipt requested, addressed to the parties at the addresses set forth herein or at such other address as either party may hereafter or from time to time designate by written notice to the other party given in accordance herewith. Notice shall be considered received on the day on which such notice is actually received by the party to whom it is addressed, or the third (3rd) day after such notice is mailed, whichever is earlier. Unless changed in writing, such notices shall be mailed to:

If to the Contractor:

Hensel Phelps Construction Co.  
420 Sixth Avenue  
Greeley, Colorado 80631

If to the City:

Executive Director of Public Works  
Department of Public Works  
City and County of Denver  
201 West Colfax, Department 608  
Denver, Colorado 80202

With a copy to:

City Attorney  
City and County of Denver

201 West Colfax, Department 1207  
Denver, Colorado 80202

**10.18 Survival of Certain Provisions.** The parties understand and agree that all terms, conditions and covenants of this Construction Contract, together with the exhibits and attachments hereto, if any, any or all of which, by reasonable implication, contemplate continued performance or compliance beyond the expiration or termination of this Construction Contract (by expiration of the term or otherwise), shall survive such expiration or termination and shall continue to be enforceable as provided herein. Without limiting the generality of the foregoing, the Contractor's obligations for the provision of insurance, for indemnity to the City and for preserving confidentiality of trade secrets and other information shall survive for a period equal to any and all relevant statutes of limitation, plus the time necessary to fully resolve any claims, matters, or actions begun within that period.

**10.19 Contract Binding.** It is agreed that this Construction Contract shall be binding on and inure to the benefit of the parties hereto, their heirs, executors, administrators, successors and duly authorized assigns.

**10.20 Paragraph Headings.** The captions and headings set forth herein are for convenience of reference only and shall not be construed so as to define or limit the terms and provisions hereof.

**10.21 Severability.** It is understood and agreed by the parties hereto that, if any part, term, or provision of this Construction Contract, except for the provisions of this Construction Contract requiring prior appropriation and limiting the total amount to be paid by the City, is by the courts held to be illegal or in conflict with any law of the State of Colorado, the validity of the remaining portions or provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Construction Contract did not contain the particular part, term or provision held to be invalid.

**[SIGNATURE PAGES FOLLOW]**

**Contract Control Number:**

IN WITNESS WHEREOF, the parties have set their hands and affixed their seals at Denver, Colorado as of

SEAL

**CITY AND COUNTY OF DENVER**

ATTEST:

By \_\_\_\_\_

\_\_\_\_\_

APPROVED AS TO FORM:

REGISTERED AND COUNTERSIGNED:

By \_\_\_\_\_

By \_\_\_\_\_

By \_\_\_\_\_



**Contract Control Number:** PWADM-201845871-00

**Contractor Name:** HENSEL PHELPS CONSTRUCTION CO.

By: \_\_\_\_\_

Name: Edwin Glen Miller  
(please print)

Title: Vice-President  
(please print)

**ATTEST: [if required]**

By: \_\_\_\_\_

Name: \_\_\_\_\_  
(please print)

Title: \_\_\_\_\_  
(please print)



**Exhibit A  
General Contract Conditions  
2011 Edition**

**CITY AND COUNTY OF DENVER  
DEPARTMENT OF PUBLIC WORKS**

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**EXHIBIT B**  
**SPECIAL CONTRACT CONDITIONS**

**CITY AND COUNTY OF DENVER**  
**DEPARTMENT OF PUBLIC WORKS**

**SC-1 CONSTRUCTION SPECIFICATIONS**

Except as amended herein, all Work performed under the terms of this Contract shall be governed by the applicable provisions of the following latest editions:

*Standard Specifications for Construction, GENERAL CONTRACT CONDITIONS, City and County of Denver* (The Index for which is bound herein and commonly referred to as the "Yellow Book") (2011 Edition)

*Manual on Uniform Traffic Control Devices for Streets & Highways* (MUTCD)

*Building Code of the City and County of Denver*

**National Fire Protection** Association Standards (As referenced in the Building Code of the City and County of Denver)

The aforementioned documents are available for review at the Capital Projects Management Office, 201 W. Colfax Ave., Dept. 506, (5<sup>th</sup> floor), Denver, CO 80202. *The Standard Specifications for Construction, GENERAL CONTRACT CONDITIONS, City and County of Denver, and the Standards and Details for the City and County of Denver* are available online at:

<http://www.denvergov.org/Portals/480/documents/2011%20DENVER%20GENERAL%20CONTRACT%20CONDITIONS.pdf>

<http://www.denvergov.org/rightofwayservices/RightofWayServices/ConstructionInspection/RightofWayConstructionInspection/StandardsandDetails/TransportationStandardsandDetails/tabid/442463/Default.aspx>

<http://www.denvergov.org/wastewatermanagement/WastewaterManagement/EngineeringandPermits/StandardsandDetails/tabid/438018/Default.aspx>

The *Manual on Uniform Traffic Control Devices for Streets & Highways* is available for review as stated above, or can be viewed at the Federal Highway Administration Website at: [www.fhwa.dot.gov](http://www.fhwa.dot.gov), where you will also find purchase information.

**SC-2 CITY DELEGATION OF AUTHORITY**

With reference to General Contract Condition 109, DEPUTY MANAGER, General Contract Condition 206, ENGINEERING DIVISION and General Contract Condition 214, CITY'S

CONTRACT ADMINISTRATION LINE OF AUTHORITY, the Manager hereby designates the City Engineer as the City official responsible for those certain actions and decisions designated as the responsibility of the Deputy Manager under the General Conditions and delegates to the City Engineer the authority necessary to undertake those responsibilities under this Contract. The Director shall have supervisory responsibility over the Project Manager. Additionally, Contractor questions concerning the Plans and Technical Specifications shall be directed to:

**Denver Department of Public Works / Engineering Division,**

Project Manager

Michael Young, Public Works/ Infrastructure Project Management

Consultant

Cannon Design (Formerly GKK)

**SC-3 CONTRACT AMOUNT; BID PRICE, GUARANTEED MAXIMUM PRICE**

General Condition 103, CONTRACT AMOUNT, is hereby deleted in its entirety and replaced with the following:

"Contract Amount," "Bid Price," "Bid Amount," or "Maximum Contract Amount" means the Guaranteed Maximum Price ("GMP") under the Contract.

In the General Conditions, the phrases "provided to the City at no cost," "at no cost to the City," "cost . . . shall be borne by the Contractor," "costs shall be reimbursed by the Contractor," "at the expense of the Contractor," "Contractor shall bear any and all costs," and "Contractor shall bear any and all additional costs," mean that the costs in question are to be included as a Cost of the Work without any increase to the Guaranteed Maximum Price. Also, whenever a General Condition states that the Contractor shall be required to take any action, or responsible for any action or thing, it means that such requirements and responsibilities are included as a Cost of the Work without any increase to the Guaranteed Maximum Price, unless there is a specific statement to the contrary as to any such requirement or responsibility.

**SC-4 TIME OF BIDDING; TIME OF CONTRACTING**

In the General Conditions, the words "time of bidding," "bidding," and the like, shall mean the time when the Contract is signed.

**SC-5 CONTRACT DOCUMENTS**

General Condition 104 CONTRACT DOCUMENTS is hereby deleted in its entirety and replaced with the following:

"The Contract Documents" consist of the documents which are listed in the Contract Form."

**SC-6 CONTRACT TIME**

General Condition 105 CONTRACT TIME is hereby deleted in its entirety and replaced with the following:

"Contract Time" is the time specified in the Contract within which the Contractor is required to substantially complete the Work. Substantial Completion shall occur prior to Final Completion. The Contract Documents may require completion on or before a certain specified date.

**SC-7 DEPUTY MANAGER/CITY ENGINEER**

General condition 109 DEPUTY MANAGER is hereby deleted in its entirety and replaced with the following:

The "Deputy Manager" means the official who reports directly to the Manager and exercises supervisory responsibility in the City agency defined in Title 2 herein that is responsible for the Project. The Manager hereby designates the City Engineer as the Deputy Manager for purposes of this Contract. The City Engineer shall have responsibility for this Project and shall undertake all duties, responsibilities, rights and authority, including specific actions and decisions, delegated to the Deputy Manager under the various terms and conditions of this Contract.

**SC-8 SUBCONTRACTOR**

General Condition 118, SUBCONTRACTOR, is hereby amended by adding a new final sentence to read as follows:

"Subcontractor" may also mean the Contractor pursuant to a subcontract for lump-sum self-performed work, as authorized in the Contract Form.

**SC-9 WORK**

General Condition 121 WORK is hereby deleted in its entirety and replaced with the following:

The terms "Scope of Work" or "Work" as used herein shall mean all Preconstruction and Construction Phase services required by or inferable from the Contract Documents, whether completed or partially completed, and includes all other labor, management, administration, supervision, materials, supplies, manufactured components, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations under the Contract.

**SC-10 WORKING HOURS AND SCHEDULE**

General Condition 306 WORKING HOURS AND SCHEDULE is hereby deleted in its entirety and replaced with the following:

1. Contractor acknowledges that the Work is to take place within the secured portion of the courthouse. Work shall take place at night while the facility is not open for normal operations and closed to the public unless the Contractor receives prior written approval from the Project Manager.
- 2.. Work shall normally not be done on Saturdays, Sundays, City observed holidays, or outside of the working hours which may be specified in the Special Conditions, except for such work as may be necessary for proper

care, maintenance, and protection of Work already done, or in cases when the Work would be endangered or when hazard to life or property would result The Contractor shall comply with Denver’s noise control ordinance during all working hours.

3. If the Contractor believes it may be necessary to work on Saturdays, Sundays, holidays, city furlough days, or outside of the working hours specified in the Special Condition, the Contractor shall make prior arrangements with the Project Manager and receive written approval at least two working days before such work period so that proper inspection and engineering services can be provided. Such approval may be revoked by the Project Manager if the Contractor fails to maintain adequate equipment and lighting at night for the proper prosecution, control and inspection of the Work. If Work is done outside of approved working hours, and the Project Manager has not assigned inspectors to the Work, the Work performed during those periods of time may be declared defective solely on the grounds that it was not properly inspected.
4. The Contractor shall schedule and coordinate the performance of all of its Subcontractors and Suppliers, including their use of the Work site. The Contractor shall keep the Subcontractors and Suppliers informed of the Project construction schedule to enable the Subcontractors and Suppliers to plan and perform their work properly.
5. The Contractor shall submit, with the GMP Proposal, a construction schedule which shall provide for the expeditious and practicable execution of the Work. Such construction schedule shall be in a Critical Path Method (CPM) format or such other format approved by the Project Manager. This Schedule shall be considered, upon City acceptance, the baseline schedule for the Project. A Critical Path Method schedule shall be required in any event for any Contractor Change Request pursuant to G.C. 1103.4 and any resulting claim. The receipt of the schedule by the Project Manager shall in no way constitute acceptance of the Contractor's anticipated schedule of construction activities. The schedule will be reviewed for comment by the Project Manager. The Project Manager’s review and comment on the schedule shall not constitute approval or acceptance thereof by the City.
6. The Critical Path Method schedule shall provide reasonable detail as described in the Technical Specifications and shall include a time scaled network and computer printout. Additionally, float or slack is defined as the amount of time between the early start date and the late start date, or the early finish date and the late finish date, of any activities in the schedule. Float or slack is not time for the exclusive use or benefit of either the Contractor or the City.
7. The Contractor shall, once a month, submit a progress report and an updated schedule in a form acceptable to the Project Manager.

**SC-11 SUBCONTRACTOR ACCEPTANCE**

General Condition 502, SUBCONTRACTOR ACCEPTANCE, is hereby deleted in its entirety and replaced by the following:

1. Except as provided in the City's Small Business Enterprise (SBE), Disadvantaged Business Enterprise (DBE), or Minority and Women Business Enterprise (M/WBE) contracting requirements, the City recognizes that prior to bidding, the bidder may not have been able to negotiate for all portions of the Work which the bidder proposes to subcontract. The City will, therefore, permit the successful bidder to propose additional Subcontractor(s) at any time during the Contract period provided, however, that any limitation on subcontracting has not been exceeded, and that all such SBE, DBE, or M/WBE requirements are adhered to, including, if applicable, the Contractor's SBE or M/WBE Compliance Plan. If the proposed Subcontractor(s) are acceptable and the City, by letter to the Contractor, approves of the Subcontractor(s), the Contractor may enter into agreements with these parties. If any proposed Subcontractor(s) are not acceptable to the City, the Contractor must submit for City approval the names of substitute Subcontractors.
  
2. Each Subcontractor which the Contractor expects to perform Work must be accepted in writing by the Project Manager before the Subcontractor begins work. The acceptance or rejection of any proposed Subcontractor shall be at the Project Manager's sole discretion. The reasons the Project Manager may use for not accepting a Subcontractor include, but are not limited to, the following:
  - A. Default on a contract within the last five (5) years.
  - B. Default on a contract which required that a surety complete the contract under payment or performance bonds issued by the surety.
  - C. Debarment within the last five (5) years by a public entity or any organization which has formal debarment proceedings.
  - D. Significant or repeated violations of Federal Safety Regulations (OSHA).
  - E. Failure to have the specific qualifications listed in the Contract Documents for the work that the Subcontractor will perform.
  - F. Failure to have the required City or Colorado licenses to perform the work described in the subcontract.
  - G. Failure to pay workers the proper wage and benefits or to pay suppliers or subcontractors with reasonable promptness within the last five (5) years.
  - H. Conviction, plea of nolo contendere, entry into a formal agreement admitting guilt or entry of a plea of guilty or otherwise admitting culpability to criminal offenses of bribery, kickbacks, collusive bidding, bid-rigging, anti-trust, fraud, undue influence, theft, racketeering, extortion or any offense of a similar nature in connection with Subcontractor's business, on the part of Subcontractor's principal owners, officers, or employees, within the last five (5) years.
  - I. Failure to pay taxes or fees to the City.

- J. Evidence that the Subcontractor was selected by the Contractor through the process of bid shopping, dishonesty or buyout.
- 3. The Contractor shall submit a statement signed by an officer or principal of the Contractor certifying that the Contractor has investigated the qualifications and background of each proposed Subcontractor and certifying under oath that, to the best of his or her knowledge, none of the bases for rejection listed above exist. In lieu of this certification, the Contractor may identify, for each proposed Subcontractor, any of the issues listed above applicable to that Subcontractor and attach to that statement a list of all judicial and administrative proceedings in the last five (5) years in which any proposed Subcontractor is or was a party, the proceedings involving any of the issues listed above or in which any proposed Subcontractor filed for bankruptcy.
- 4. This Title 5 does not create, and shall not be interpreted as creating, any contractual relationship or privity of contract between the City and any Subcontractor. The acceptance or rejection of a proposed Subcontractor shall not create in that Subcontractor a right to any subcontract nor shall said acceptance or rejection relieve the Contractor of its responsibilities for the work of any Subcontractor.

**SC-12 PAYMENT PROCEDURE**

The application for payment shall be submitted through Textura® Corporations Construction Management Website. Contractor recognizes and agrees that it shall be required to use the Textura Construction Payment Management System for this Project. Contractor further agrees that, to the fullest extent possible within the CPM System, the City shall be entitled to all non-Confidential records, reports, data and other information related to the project that are available to Contractor through the CPM System, including, but not limited to, information related to Contractor and subcontractor billings. To that end, Contractor agrees that it will activate any available settings within the CPM System that are necessary to grant the City access to such non-Confidential information related to the contract and the project. Applications for payment shall be based on the Contract Unit Prices or the approved Schedule of Values described in GC 903.1

In accordance with General Contract Condition 902, PAYMENT PROCEDURE, the party(ies) responsible for review of all Pay Applications shall be:

<u>Agency/Firm</u>	<u>Name</u>	<u>Telephone</u>
Public Works/ Infrastructure Project Management	Michael Young	720-913-4523

In accordance with General Contract Condition 906, APPLICATIONS FOR PAYMENT, each Application submitted shall include the following:

- 1. The estimate of Work completed shall be based on the approved schedule of values or unit prices, as applicable, and the percent of the Work complete.
- 2. Each Application for Payment shall include each and every independent subcontractor’s payroll information including pay dates and pay amounts.
- 3. The Contractor shall also submit to the Auditor and other appropriate officials of the City in a timely fashion, information required by General Contract Condition 1004, REPORTING WAGES PAID.

In accordance with General Contract condition 907, RELEASES AND CONTRACTORS CERTIFICATION OF PAYMENT, Applications for Payment must be accompanied by completed Partial or Final Claim Release Form, as appropriate, from EACH subcontractor and supplier, **AND/OR** the Contractors' Certification of Payment Form. The forms, Final/Partial Release and Certificate of Payment (Subcontractor/Supplier) and the Contractor's Certification of Payment, both of which must be used are attached.

### **SC-13 SCHEDULE OF VALUES FOR LUMP SUM SUBCONTRACTS**

Special Condition 903, SCHEDULE OF VALUES FOR LUMP SUM CONTRACTS, is hereby deleted in its entirety and replaced by the following:

1. The Contractor shall furnish to the Project Manager, for review and approval, a Schedule of Values for lump sum subcontracts, in such detail as the Project Manager shall request, no later than thirty (30) Days prior to the issuance of the first pay application. The Schedule of Values shall show the amount included for each principal category of work and shall be in proper balance. No pay application shall be submitted until the submitted Schedule of Values is approved in writing by the Project Manager.
2. Should the City issue a Change Order that decreases or increases the Contract Amount, the Schedule of Values shall be modified to reflect the amount of such decrease or increase and resubmitted to the Project Manager at least fifteen (15) Days prior to the pay application reflecting such increase or decrease.

### **SC-14 APPLICATIONS FOR PAYMENT**

General Condition 906, APPLICATIONS FOR PAYMENT, is hereby deleted in its entirety and replaced by the following:

1. Each complete application shall contain a list of Subcontractor and material invoices. If requested by the City, the Contractor will furnish the City with invoices shown on the lists which accompany any application for payment.
2. Application for payment shall be based on approved Cost of the Work items incurred, completed and/or certified by the Contractor. The application shall specify the Cost of the Work so certified as having been incurred by the Contractor for Work performed during the preceding period. The Contractor's Fee shall be paid based on the actual Cost of Work items incurred. Each application for payment shall also be accompanied by a written schedule of values which sets out the Cost of the Work for the Project together with the Contractor's accounting of the percentage of completion of each line item of Cost of the Work of which the City is liable to pay the Contractor.
3. The Contractor shall certify in writing with each application for payment that to its knowledge the Project will be completed at a cost within the Guaranteed Maximum Price, as modified by change orders, and shall identify with reasonable particularity any circumstances which could result in the total cost to the Contractor (including Fee) in completing the Project exceeding the Guaranteed Maximum Price.

4. Reserved
5. Each application for payment for materials or equipment stored on or off the Project site shall be accompanied by bills of sale to establish the City's title to such material or equipment free and clear of liens and encumbrances; evidence of property insurance covering such materials or equipment; evidence, as to material and equipment stored off the Project site, that the same have been properly labeled as the City's property and segregated from the vendor's other inventory; and, if required by the City, contracts and financing statements sufficient to create a security interest in favor of the City in materials or equipment stored off the Project site which remain in the possession of the vendor of such materials or equipment.
6. Each progress payment application shall show each Subcontractor or Supplier participating in the Work completed during the previous progress period and the dollar amount of such participation. The Contractor will assure that the Subcontractors and/or Suppliers are filing for and are being paid for only the value of materials and services delivered and performed upon or incurred for the Project and that the Subcontractors and/or Suppliers are not over-billing for the effort performed. The Contractor shall, prior to or with the submission of each application for payment, furnish to the City proper evidence accounting for the distribution to Subcontractors and/or Suppliers of funds received under prior applications together with proper releases and waiver, in form and content acceptable to the City, obtained in connection therewith.
7. If the Contractor disputes a Subcontractor's or Supplier's entitlement to a portion of the previous progress payment, the Contractor shall submit to the City copies of any written communication from the Contractor to such Subcontractor or Supplier explaining the Contractor's determination not to render payment to such Subcontractor or Supplier, together with proof of service of such written communication upon such Subcontractor or Supplier.
8. Each application for payment shall be signed. Such signed application for payment shall constitute a representation by the Contractor to the City that the Work has progressed to the point indicated; that the quality of the Work covered by the estimate is in accordance with the Contract Documents; that each obligation covered by the payment application has been properly incurred, is a proper charge and has not been the basis of any previous application (except as otherwise noted); that the money received as a result of the application will be used to discharge the Contractor's obligations under the Contract; and that the Contractor is entitled to payment in the amount requested. The Project Manager or the Design Consultant, as appropriate, must also verify and certify the estimate of Work completed prior to any acceptance by the City.
9. By submitting an application for payment, the Contractor warrants that: (i) the title to the Work covered by an application for payment will pass to the City upon receipt of payment by the Contractor; (ii) the Work covered by previous payment applications is free and clear of liens, claims, security interests or encumbrances, hereinafter referred to as "liens", except for any interest created by retainage; and (iii) no Work covered by an application for payment is subject to an agreement

under which an interest therein or an encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or any other person or entity.

10. The Contractor shall not include in its application for payment any billing for defective Work or for work performed by Subcontractors or Suppliers if it does not intend to pay the Subcontractors or Suppliers for such work.
11. Approval of an application for payment of Work completed or actual payment by the City shall not foreclose the right of the City to examine the books and records of the Contractor to determine the correctness and accuracy of any item.
12. Should the City decline or fail to approve for payment any items of the Contractor's Fee, the Cost of the Work, or any other item shown on an application for payment, the City shall notify the Contractor in writing, setting forth the reasons for such action. The City shall pay that portion of each payment application which is not disapproved in writing by the City.
13. No progress payment or partial or entire use or occupancy of the Project by the City shall constitute an acceptance of Work not in accordance with the Contract Documents.

#### **SC-15 DISCOUNTS, REBATES AND REFUNDS**

Cash discounts obtained on payments made by the Contractor shall accrue to the City if (1) before making the payment, the Contractor included them in an Application for Payment and received payment therefore from the City, or (2) the City has deposited funds with the Contractor with which to make payments; otherwise, cash discounts shall accrue to the Contractor. Trade discounts, rebates, refunds and amounts received from sales of surplus materials and equipment shall accrue to the City, and the Contractor shall make provisions so that they can be secured. Amounts which accrue to the City herein shall be credited to the City as a deduction from the Cost of the Work.

#### **SC-16 ADJUSTMENT OF CONTRACT AMOUNT**

General Condition 1104, ADJUSTMENT TO CONTRACT AMOUNT, is hereby deleted in its entirety and replaced by the following:

1. Contract Amount Adjustments. All adjustments to the Contract Amount shall be determined by using one or more of the following methods:
  - A. A negotiated lump sum. If requested by the City, the Contractor shall promptly provide itemized and sufficient substantiating data, including calculations, measurements, cost records, production rates, equipment types and capacity, labor costs by craft and other information which the City may reasonably require the Contractor to produce in order to permit the City to evaluate any lump sum Contractor Change Request. In pricing such proposals, the Contractor shall include estimates of the type of costs described in G.C. 1104.2.
  - B. Unit prices (as stated in the Contract Documents or subsequently agreed upon) multiplied by final verified quantities of work performed;

- C. Costs as determined in a manner previously agreed upon by the parties, which include markups, that do not exceed those set forth in G.C. 1104.2 below; or
- D. Time and Material costs as determined in the manner described in G.C. 1104.2, Calculation of the Contract Adjustment. These amounts may be reduced where necessary to take into account the cost of Base Contract Work, Work included in approved Change Orders, Work described in other Field Order/Change Directives, idle time for workers and/or equipment when Work could have been performed in other locations or when the number of workers or amount of equipment provided exceeded the number or amount required to perform the Work, unsatisfactory Work, or Work which may be or was performed concurrently with the changed Work and which cannot be easily segregated from the changed Work .

2. Calculation of the Contract Adjustment. In no event shall the charge or credit to the City associated with any change exceed the sum of the following:

- A. Direct Labor The actual net, direct increase or decrease in the cost of the Contractor's labor. Such cost shall include only the cost associated with the workers who actually perform the changed Work. The cost of supervision, management and field or office overhead shall not be included or calculated as a direct labor cost. For shop work, the direct labor cost shall include only those workers who work directly on the item being manufactured or the actual operators of the equipment being used to handle the items being manufactured.
- B. Labor Burden. Contractor's actual costs for worker's compensation and liability insurance, payroll taxes, social security and employees' fringe benefits (including employer paid health insurance) imposed on the basis of payrolls. This burden must reflect the variability of some burdens, ie social security. The burden shall be itemized and include all small tools and miscellaneous supplies. The total labor burden for such small tools shall not exceed two percent (2%) of the Direct Labor cost.
- C. Direct Material, Supplies, Installed Equipment. The actual net, direct cost of materials, supplies and equipment incorporated into or consumed by the Work. If actual costs are not available, this cost shall be the lowest commercially available price including all discounts and rebates and all applicable taxes. Such cost shall be based on buying the material, supplies and equipment in the largest practical quantity to receive quantity discounts.
- D. Equipment Costs. Without markup or operator, the lesser of (i) the actual net cost to the Contractor of owned or rented equipment, other than small tools; or (ii) the rental rate for such equipment as determined by using the following method(s):
  - (1) Equipment rental rates listed in the appropriate rental rate book currently in use by the Colorado Department of Transportation. If

an item of equipment does not appear in the rental rate book currently in use by the Colorado Department of Transportation, the rental rates published by the Associated Equipment Dealers may be used as a basis for negotiating a rental rate for a particular piece of equipment. The Contractor shall provide all information necessary to determine the appropriate rental rate at the time the equipment is brought on the job. This shall include, but not be limited to, type, description, make, year, model, series, serial number, fuel type, transmission, wheel combination, GVW, capacity and equipment owner.

- (2) Rental equipment costs shall be determined using actual invoiced rates, less all discounts for basic equipment rental.
- (3) Mobilization/demobilization costs will be paid if the equipment is mobilized exclusively for Work described in a Change Order. If the equipment is also used on Base Contract Work, no mobilization or demobilization cost will be paid. Mobilization/demobilization costs will be based on using the least expensive means to mobilize or demobilize Equipment shall be obtained from the nearest available source. When the least expensive methods are used, the costs shown in the actual invoice will be the basis for pricing.

E. Mark Up For Overhead And Profit.

- (1) The Contractor's Fee on the calculated change of Cost of Work shall be the only amount added to such calculated cost of Work to as markup and profit to the Contractor, including any fee on applicable Work self-performed by the Contractor.
- (2) A Subcontractor of any tier who actually performs the Work shall be entitled to a markup of twelve percent (12 %) on the actual costs for items A through D in GC 1104.2 above. Bonds and insurance are compensated at direct cost without markup.
- (3) A supervising Subcontractor (if any) shall be entitled to a three percent (3%) markup on the actual price charged to the Subcontractor by a Subcontractor of lower tier.
- (4) All of the Contractor's and Subcontractor's field and office overhead and supervision costs are included in the Fee and markups listed above.
- (5) Neither the Contractor nor Subcontractor of any tier, nor the City in the case of a credit, will apply or attempt to apply these percentage adjustments in a way which would pyramid either the cost or credit because of the involvement of a Subcontractor or sub-subcontractor. Written justification and approval shall be required for any percentages exceeding a total of fifteen percent (15%).

- F. Bonds, Insurance, Permits And Taxes. The actual increases or decreases in the cost of premiums for bonds and insurance, permit fees, and sales, use or similar taxes related to the Work. The Contractor shall not be entitled to a Fee for any such costs.
3. Totals as Equitable Adjustment. The Contractor agrees that the total of the above items constitute an equitable adjustment for any and all costs or damages resulting from a change.
4. No Equitable Adjustment for Obstruction by Contractor. No equitable adjustment shall be made as a result of costs resulting from any act, hindrance, obstacle, obstruction, interference or omission of the Contractor, its Subcontractors, Suppliers, or surety, or any other entity or individual acting on behalf of the Contractor.
5. Calculation of Certain Equitable Adjustments.
- A. In case of delay in completion of the entire Contract due to drawings, designs or specifications which are defective and for which the City is responsible, the equitable adjustment for delays or costs incurred prior to notification to the City of such defect shall only include the extra cost and time reasonably incurred by the Contractor in attempting to comply with the defective drawings, designs or specifications before the Contractor identified, or reasonably should have identified, such defect.
- B. An equitable adjustment shall not include increased costs for delay resulting from the Contractor's failure to continue performance during determination of any Contractor Change Request or claim.
6. Price Reductions for Defective Cost or Pricing Data. If it is later determined that pricing adjustments to the Contract were not correct due to incomplete or inaccurate pricing data by the Contractor or any Subcontractor or Supplier or that lower prices were reasonably available, the price shall be reduced accordingly and the Contract Amount modified by an appropriate Change Order.
7. Variation in Quantity of Unit Priced Items. Where the quantity of a unit-priced item in the Contract is an estimated quantity and the actual quantity of the unit-priced item varies more than twenty-five percent (25%) above or below the estimated quantity, and where this difference changes the total original Contract value by more than five percent (5%), an equitable adjustment in the Contract Amount may be made by Change Order. The equitable adjustment shall be based upon any increase or decrease in cost due solely to the variation above one hundred twenty-five percent (125%) or below seventy-five percent (75%) of the estimated quantity. If the quantity variation is such as to cause an increase in the time necessary for completing the Work, the Contractor may request, in writing, an extension of time in accordance with GC 1105.
8. Disposition of Excess or Obsolete Property. When the cost of materials, supplies, equipment or other personal property made obsolete or excess as a result of a delay

is included in the equitable adjustment, the Project Manager shall have the right to prescribe the manner of disposition of such property.

**SC-17 SURETY BONDS**

General Condition 1501, SURETY BONDS, is hereby deleted in its entirety and replaced by the following:

1. Payment and performance bonds must be issued by a corporate surety authorized to do business in the State of Colorado and approved by the Mayor, the Manager and the City Attorney.
2. Before the Contract is executed, the Contractor shall have furnished such surety bonds and appropriate Powers of Attorney as a guarantee of the faithful performance of the Contract and the payment of bills for labor and materials.
3. The Manager may direct, at his sole discretion, that the required payment and performance bonds be combined in a format approved by the City Attorney.
4. The Contractor shall provide a Consent of Surety for any duly executed Change Order that increases the Contract Amount, thereby increasing the penal sum of the bonds.
5. The form of the Performance and Payment Bond to be used by the Contractor is included in the Contract Documents.

**SC-18 CONSTRUCTION INSPECTION BY THE CITY**

General Condition 1701, CONSTRUCTION INSPECTION BY THE CITY, is modified as follows:

1. Persons who are employees of the City or who are under contract to the City or the City as lessee will be assigned to inspect and test the Work. These persons may perform any tests and observe the Work to determine whether or not designs, materials used, manufacturing and construction processes and methods applied, and equipment installed satisfy the requirements of the drawings and specifications, accepted Shop Drawings, Product Data and Samples, and the General Contractor's warranties and guarantees. The General Contractor shall permit these inspectors unlimited access to the Work and provide means of safe access to the Work, which cost shall be included as a Cost of the Work without any increase to the Guaranteed Maximum Price. In addition, General Contractor shall provide whatever access and means of access are needed to off-site facilities used to store or manufacture materials and equipment to be incorporated into the Work and shall respond to any other reasonable request to further the inspector's ability to observe or complete any tests. Such inspections shall not relieve the General Contractor of any of its quality control responsibilities or any other obligations under the Contract. All inspections and all tests conducted by the City are for the convenience and benefit of the City. These inspections and tests do not constitute acceptance of the materials or Work tested or inspected, and the City may reject or accept any Work or materials at any time prior to the inspections

pursuant to G.C. 2002, whether or not previous inspections or tests were conducted by the inspector or a City representative.

2. The Building Inspection Division will perform building code compliance inspections for structures designed for human occupancy. It is the General Contractor's responsibility to schedule and obtain these inspections. If a code compliance inspection results in identification of a condition which will be at variance to the Contract Documents, the General Contractor shall immediately notify the Project Manager and confirm such notification with formal correspondence no later than forty-eight (48) hours after the occurrence.
3. When any unit of government or political subdivision, utility or railroad corporation is to pay a portion of the cost of the Work, its respective representatives shall have the right to inspect the Work. This inspection shall not make any unit of government or political subdivision, utility or railroad corporation a party to the Contract, and shall not interfere with the rights of either party.

#### **SC-19 AUTHORITY OF INSPECTORS**

General Condition 1702, AUTHORITY OF INSPECTORS, is hereby deleted in its entirety and replaced by the following:

Inspectors assigned to the Work by the Project Manager are authorized to reject any Work, any materials, or any component of the Work which is not as required or specified in the Contract Documents. Such rejection will be confirmed by the Project Manager in writing to the Contractor. Inspections may extend to all or any part of the Work and to the preparation, fabrication or manufacture of the materials to be used. The inspector is not authorized to alter or waive the provisions of the Contract Documents, nor is the inspector authorized to issue instructions contrary to the provisions of the Contract Documents or to act as foreman for the Contractor.

#### **SC-20 TERMINATION OF CONTRACT FOR CONVENIENCE OF THE CITY**

General Condition 2202, TERMINATION OF CONTRACT FOR CONVENIENCE OF THE CITY, is hereby deleted in its entirety and replaced by the following:

1. The performance of Work under the Contract may be terminated without cause by the City in whole or in part whenever the Manager, in his sole discretion, shall determine that such termination is in the best interest and convenience of the City or whenever the City is prohibited from completing the Work for any reason. Such termination shall be effected by giving not less than three (3) Days' written notice to the Contractor specifying the extent to which performance of the Work is terminated and the date upon which such termination becomes effective.
2. Upon receipt of such notice of termination, the Contractor shall:
  - A. Stop work as specified in the notice;
  - B. Terminate all orders and subcontracts except as necessary to complete Work which is not terminated;

- C. If directed in writing by the Manager to do so, assign all right, title, and interest in subcontracts and materials in progress, in which case the City will have the right, in its discretion, to settle or pay any or all Claims arising out of the termination of such subcontracts;
  - D. Settle outstanding liabilities and claims with the approval of the Manager;
  - E. Complete performance of such part of the Work as has not been terminated; and
  - F. Take such other actions as may be necessary, or as may be directed by the City, for the protection and preservation of the property related to the Contract.
- 3. Except as provided herein, any inventory resulting from the termination of the Contract may, with written approval of the Manager, be sold or acquired by the Contractor under the conditions prescribed by and at prices approved by the City.
  - 4. Upon receipt of notice of such termination, the Contractor shall submit to the Project Manager a request for final payment, in a form and with certification prescribed by the City. Such request shall be submitted promptly but in no event later than sixty (60) Days from the effective date of termination, unless extended in writing by the Project Manager upon the written request of the Contractor within such sixty (60) Day period.
  - 5. The final payment to the Contractor after a termination for convenience shall be calculated by adding the following amounts:
    - (1) Any actual costs incurred by the Contractor since the last approved pay request that are reimbursable as a Cost of the Work plus the proportionate Fee on such costs;
    - (2) The actual costs incurred by the Contractor for terminating the Work and for protecting the Work in the manner, if any, directed by the City, plus the proportionate Fee on such costs; and
    - (3) The amount of retainage withheld by the City to date.
  - 6. The acceptance of final payment as calculated above shall constitute a waiver of all Claims by the Contractor except those previously made in accordance with G.C. 1301 which have been separately identified by the Contractor as unsettled in the final Project Application for Payment.
  - 7. The Manager may, from time to time, under such terms and conditions as the Manager may prescribe, authorize partial payments and payments against costs incurred by the Contractor for the terminated portion of the Contract, if it is estimated that the total of such payments will not exceed the amount to which the Contractor will be entitled. If the total of such payments is in excess of the amount to which the Contractor is entitled, the excess shall be payable by the Contractor to the City upon demand, together with interest computed pursuant to statute, for

the period from the date the excess payment is received by the Contractor to the date the excess is repaid to the City.

8. The settlement for the Work performed shall not relieve the Contractor or its surety from responsibility for defective Work and/or materials on the completed portion of the Work nor for labor and materials or any other items as guaranteed by the surety bond or bonds.
9. The City shall be given full access to all books, correspondence, records, electronic files and data bases, and other materials of the Contractor relating to the Contract in order to determine the amounts to be paid on account of the termination of the Contract under this G.C. 2202. The Contractor shall, as requested by the City, furnish clear copies of any such materials.
10. In the event the parties fail to agree in whole or in part on the amount or amounts to be paid to the Contractor in connection with the termination of work pursuant to this G.C. 2202, the Contractor may appeal the Project Manager's determination as to the amount owed in accordance with Title 13, except that, if the Contractor has failed to submit its request for payment within the time provided above and has failed to request an extension of such time, it shall have no such right of appeal.

**SC-21 SUBCONTRACTS**

In accordance with General Contract Condition 501, SUBCONTRACTS, no limit shall apply to that percentage of the Work, which may be sublet providing that the subcontractors receive prior approval in accordance with General Contract Condition 502, SUBCONTRACTOR ACCEPTANCE.

**SC-22 RESERVED**

**SC-23 DISPOSAL OF NON-HAZARDOUS WASTE AT DADS**

In accordance with the Landfill Agreement made between the City and Waste Management of Colorado, Inc., bidders will be required to haul dedicated loads (non-hazardous entire loads of waste) to the Denver-Arapahoe Disposal Site ("DADS") for disposal. DADS is located at Highway 30 and Hampden Avenue in Arapahoe County, Colorado. The City will pay all fees associated with such disposal but the bidder shall be responsible for the costs of transporting the loads. Non-hazardous waste is defined as those substances and materials not defined or classified as hazardous by the Colorado Hazardous Waste Commission pursuant to C.R.S. §25-15-207, as amended from time to time, and includes construction debris, soil and asbestos. Bidders shall not use Gun Club Road between I-70 and Mississippi Avenue as a means of access to DADS.

**SC-24 PROHIBITION ON USE OF CCA-TREATED WOOD PRODUCTS**

The use of any wood products pressure-treated with chromated copper arsenate (CCA) is prohibited. Examples of CCA-treated wood products include wood used in play structures, decks, picnic tables, landscaping timbers, fencing, patios, walkways and boardwalks.

**SC-25 WAIVER OF: PART 8 OF ARTICLE 20 OF TITLE 13, COLORADO REVISED STATUTES.**

The Contractor specifically waives all the provisions of Part 8 of Article 20 of Title 13, Colorado Revised Statutes regarding defects in the Work under this Construction Contract.

**SC-26 DEBARRED SUBCONTRACTORS PROHIBITED**

The Contractor is prohibited from hiring any subcontractor currently debarred by the City in accordance with section 20-77 of the Denver Revised Municipal Code.

**SC-27 ATTORNEY'S FEES**

Colorado Revised Statute 38-26-107 requires that in the event any person or company files a verified statement of amounts due and unpaid in connection with a claim for labor and materials supplied on this project, the City shall withhold from payments to the Contractor sufficient funds to insure the payment of any such claims. Should the City and County of Denver be made a party to any lawsuit to enforce such unpaid claims or any lawsuit arising out of or relating to such withheld funds, the Contractor agrees to pay to the City its costs and a reasonable attorney's fee which cost shall be included as a Cost of the Work.

Because the City Attorney Staff does not bill the City for legal services on an hourly basis, the Contractor agrees a reasonable fee shall be computed at the rate of one hundred dollars per hour of City Attorney time.

**SC-28 INSURANCE**

General Condition 1601 is hereby deleted in its entirety and replaced with the following:

**1. General Conditions:** Contractor agrees to secure, at or before the time of execution of this Agreement, the following insurance covering all operations, goods or services provided pursuant to this Agreement. Contractor shall keep the required insurance coverage in force at all times during the term of the Agreement, or any extension thereof, during any warranty period, and for eight (8) years after termination of the Agreement. The required insurance shall be underwritten by an insurer licensed or authorized to do business in Colorado and rated by A.M. Best Company as "A-"VIII or better. Each policy shall contain a valid provision or endorsement requiring notification to the City in the event any of the required policies be canceled or non-renewed before the expiration date thereof. Such written notice shall be sent to the parties identified in the Notices section of this Agreement. Such notice shall reference the City contract number listed on the signature page of this Agreement. Said notice shall be sent thirty (30) days prior to such cancellation or non-renewal unless due to non-payment of premiums for which notice shall be sent ten (10) days prior. If such written notice is unavailable from the insurer, contractor shall provide written notice of cancellation, non-renewal and any reduction in coverage to the parties identified in the Notices section by certified mail, return receipt requested within three (3) business days of such notice by its insurer(s) and referencing the City's contract number. If any policy is in excess of a deductible or self-insured retention, the City must be notified by the Contractor. Contractor shall be responsible for the payment of any deductible or self-insured retention. The insurance coverages specified in this Agreement are the minimum requirements, and these requirements do not lessen or limit the liability of the Contractor. The Contractor shall maintain, at its own expense, any additional kinds or amounts of insurance that it may deem necessary to cover its obligations and liabilities under this Agreement.

2. **Proof of Insurance:** Contractor shall provide a copy of this Agreement to its insurance agent or broker. Contractor may not commence services or work relating to the Agreement prior to placement of coverages required under this Agreement. Contractor certifies that the certificate of insurance attached as **Exhibit M**, preferably an ACORD certificate, complies with all insurance requirements of this Agreement. The City requests that the City's contract number be referenced on the Certificate. The City's acceptance of a certificate of insurance or other proof of insurance that does not comply with all insurance requirements set forth in this Agreement shall not act as a waiver of Contractor's breach of this Agreement or of any of the City's rights or remedies under this Agreement. The City's Risk Management Office may require additional proof of insurance, including but not limited to policies and endorsements.

3. **Additional Insureds:** For Commercial General Liability, Auto Liability and Contractors Pollution Liability, Contractor and subcontractor's insurer(s) shall name the City and County of Denver, its elected and appointed officials, employees and volunteers as additional insured.

4. **Waiver of Subrogation:** For all coverages required under this Agreement, Contractor's insurer shall waive subrogation rights against the City.

5. **Subcontractors and Subconsultants:** All subcontractors and subconsultants (including independent contractors, suppliers or other entities providing goods or services required by this Agreement) shall be subject to all of the requirements herein and shall procure and maintain the same coverages required of the Contractor. Contractor shall include all such subcontractors as additional insured under its policies (with the exception of Workers' Compensation) or shall ensure that all such subcontractors and subconsultants maintain the required coverages. Contractor agrees to provide proof of insurance for all such subcontractors and subconsultants upon request by the City.

6. **Workers' Compensation/Employer's Liability Insurance:** Contractor shall maintain the coverage as required by statute for each work location and shall maintain Employer's Liability insurance with limits of \$100,000 per occurrence for each bodily injury claim, \$100,000 per occurrence for each bodily injury caused by disease claim, and \$500,000 aggregate for all bodily injuries caused by disease claims. . If an exposure exists, the U.S. Longshore and Harborworkers Compensation Act endorsement shall be attached to the policy. Contractor expressly represents to the City, as a material representation upon which the City is relying in entering into this Agreement, that none of the Contractor's officers or employees who may be eligible under any statute or law to reject Workers' Compensation Insurance shall effect such rejection during any part of the term of this Agreement, and that any such rejections previously effected, have been revoked as of the date Contractor executes this Agreement.

7. **Commercial General Liability:** Contractor shall maintain a Commercial General Liability insurance policy with limits of \$1,000,000 for each occurrence, \$1,000,000 for each personal and advertising injury claim, \$2,000,000 products and completed operations aggregate, and \$2,000,000 policy aggregate.

8. **Business Automobile Liability:** Contractor shall maintain Business Automobile Liability, or its equivalent, with minimum limits of \$1,000,000 combined single limit applicable to all owned, hired and non-owned vehicles used in performing services under this Agreement. If transporting wastes, hazardous material, or regulated substances, Contractor shall carry a pollution coverage endorsement and an MCS 90 endorsement on their policy.

Transportation coverage under the Contractors Pollution Liability policy shall be an acceptable replacement for a pollution endorsement to the Business Automobile Liability policy.

**9. Excess/Umbrella Liability:** Contractor shall maintain excess liability limits of \$3,000,000. Coverage must be written on a “follow form” basis. Any combination of primary and excess coverage may be used to achieve required limits.

**10. Builders Risk or Installation Floater:** Contractor shall maintain limits equal to the completed value of the project. Coverage shall be written on an all risk, replacement cost basis including coverage for soft costs, flood and earth movement, if in a flood or quake zone, and, if applicable, equipment breakdown including testing. Contractor is responsible for payment of all policy deductibles. The City and County of Denver, Contractor, and sub-contractors shall be named insureds under the policy. Policy shall remain in force until acceptance of the project by the City.

**11. Contractors Pollution Liability:** Contractor shall maintain limits of \$1,000,000 per occurrence and \$2,000,000 policy aggregate. Policy to include bodily injury; property damage including loss of use of damaged property; defense costs including costs and expenses incurred in the investigation, defense or settlement of claims; and clean up costs. Policy shall include a severability of interest or separation of insured provision (no insured vs. insured exclusion) and a provision that coverage is primary and non-contributory with any other coverage or self-insurance maintained by the City.

**12. Additional Provisions:**

(a) For Commercial General Liability, Excess Liability and Contractors Pollution Liability the policies must provide the following:

- (i) That this Agreement is an Insured Contract under the policy;
- (ii) Defense costs are outside the limits of liability;
- (iii) A severability of interests or separation of insureds provision (no insured vs. insured exclusion); and
- (iv) A provision that coverage is primary and non-contributory with other coverage or self-insurance maintained by the City.

(b) For claims-made coverage:

- (i) The retroactive date must be on or before the contract date or the first date when any goods or services were provided to the City, whichever is earlier.

(c) Contractor shall advise the City in the event any general aggregate or other aggregate limits are reduced below the required per occurrence limits. At their own expense, and where such general aggregate or other aggregate limits have been reduced below the required per occurrence limit, the Contractor will procure such per occurrence limits and furnish a new certificate of insurance showing such coverage is in force.

## PRECONSTRUCTION SERVICES AGREEMENT

**THIS AGREEMENT** is made and entered into, effective as of the date set forth on the City's signature page below ("**Effective Date**"), by and between the **CITY AND COUNTY OF DENVER**, a municipal corporation of the State of Colorado ("**City**"), and **Hensel Phelps, Inc.**, a Colorado corporation, whose address is **420 Sixth Avenue, Greeley, Colorado, 80631** ("**Contractor**").

### RECITALS

1. The Lindsey-Flanigan Courthouse – Glass Guardrail Replacement Project consists of providing certain construction related services for the repairs to the Lindsey-Flanigan Courthouse located at 520 West Colfax Avenue, Denver, Colorado 80204.
2. In order to complete the Project in a timely, efficient and cost effective manner, the City desires to engage a qualified and experienced contractor to expeditiously perform preconstruction services including and without limitation, scheduling, cost estimating, constructability review, value engineering, construction packaging and sequencing, subcontractor canvassing and all other preconstruction services necessary to complete a satisfactory final design and construction pricing for the Project.
3. In addition to performing preconstruction services, the Contractor will deliver to the City a Guaranteed Maximum Price proposal ("**GMP Proposal**") and fixed Project completion schedule proposal (the "**Performance Period**" or "**Schedule**") by which the Contractor will agree to perform all of the construction services and other work required to complete the Project for a guaranteed maximum price.
4. In accordance with the requirements of 20-56 of the Denver Revised Municipal Code (the "**DRMC**"), the City advertised a Request for Qualifications (RFQ) dated August 17, 2017 and a Request for Proposal ("**RFP**") dated September 20, 2017, seeking qualified contractors to provide preconstruction and construction services for the Project.
5. The Contractor was selected as the first ranked proposer to perform such services for the City based on Contractor's Proposal dated January 4, 2018 and attached hereto as **Exhibit A**.
6. The City and Contractor now wish to enter into this Agreement to provide for the delivery of the Basic Services (as hereinafter defined) for the Project by the Contractor. The City may, in its sole discretion, elect to enter into a CM/GC Construction Contract with Contractor at a later date.
7. The Contractor represents that it has the present capacity and is experienced and qualified to perform the required Basic Services as provided for in this Agreement.
8. The Contractor will perform all such Basic Services as an independent contractor.

NOW, THEREFORE, in consideration of the mutual agreements contained herein, the parties agree as follows:

**1.0 PROJECT AND BUDGET:**

**1.1 The Project.**

**1.1.1** The "Project" includes the construction of Lindsey-Flanigan Courthouse – Glass Guardrail Replacement Project.

**1.1.2** The "Project Site", "Site" and "Limits of Construction for the Project" are:  
520 West Colfax Avenue, Denver, Colorado 80204.

**1.2 Project Format.** The terms, conditions and obligations for the Contractor's performance on this Project are contained herein or in documents referenced herein or attached hereto and shall be collectively referred to as the "Agreement." In the performance of this Agreement, the Contractor acknowledges and accepts that time is critical for Project delivery. The City has elected to utilize a Construction Manager/General Contractor ("CM/GC") Project delivery method. The Contractor is familiar with this approach and understands that the CM/GC method is a specialized and rigorous delivery approach requiring maximum cooperation between all parties. As a consequence of the delivery approach, the Contractor acknowledges and accepts the following: (1) that the complete services to be rendered by the Contractor, the organizational and process inter-relationships governing construction and the cost, schedule and sequencing of construction may not yet have fully been defined; (2) that portions of the Project could have their design completed as separate packages and under construction before other portions of the Project are fully designed; and (3) that the Contractor's continuing performance on this Project is contingent upon the Contractor formulating, as the Project design progresses, and submitting an acceptable GMP (or multiple GMP packages) and Performance Period proposal (the "GMP Proposal") for the complete construction of the Project.

**1.3 Budget.** The Contractor acknowledges that there are limited funds available to design and construct the Project. The City's construction budget for this Project is: **ONE MILLION EIGHT HUNDRED AND TWENTY THOUSAND DOLLARS AND ZERO CENTS (\$1,820,000.00)** (the "Project Budget") and is subject to increase or decrease at the sole discretion of the Manager of Public Works, prior to establishing a GMP for the Construction Services Phase of the Project.

**2.0 ENGAGEMENT AND COORDINATION:**

**2.1 Engagement.** The City engages the Contractor with respect to the furnishing of preconstruction services in connection with the design and construction of the Project and the Contractor accepts such engagement upon, subject to and in accordance with the terms, conditions and provisions of this Agreement.

**2.2 Executive Director of Public Works.** The City's Executive Director of Public Works ("Manager" or "Executive Director") is the City's representative responsible for authorizing and approving the work performed under this Agreement. The Manager hereby designates the City Engineer as the Manager's authorized representative for the purpose of designating a Project Manager, issuing a written Notice to Proceed and administering, coordinating, reviewing and approving the work performed and services provided by the Contractor under this Agreement. The Project Manager shall be designated by the City Engineer and shall report to the City Engineer or

designee. The Project Manager shall be responsible for the day-to-day administration, coordination and approval of services provided and work performed by the Contractor, except for those approvals identified in this Agreement as requiring Manager or City Engineer approval. The Manager expressly reserves the right to designate another authorized representative to perform on the Manager's behalf by written notice to the Contractor. The Contractor acknowledges and accepts that only the Executive Director of Public Works and the representatives designated herein have the authority to authorize or direct services or work under this Agreement. The Safety Department ("User Agency"), is the City agency responsible for the maintenance of the facility and the City's expending authority for the Project.

**2.3 Relationship.** The Contractor accepts the relationship of trust and confidence established between the Contractor and the City by this Agreement and shall furnish its best skill and judgment and cooperate with the Executive Director and the designees, including the City Engineer and the Project Manager, representatives of the Mayor's Office, User Agency and the other City consultants and contractors in furthering the interests of the City throughout the duration of this Agreement.

**2.4 Design Consultant.** The City has a separate agreement with the Design Consultant Team to design the Project and to provide limited design support during the construction. Both the Contractor and the Design Consultants shall be given direction by the City, or the City's designated and authorized representatives. The relationship between the Contractor and the Design Consultant is intended to be cooperative and proactive, both participating on the same team with the City.

**2.5 Construction Team.** The Contractor, the City and the Design Consultant Team (the "Construction Team") shall cooperate to complete the design and provide preconstruction services. The Contractor shall provide leadership to the Construction Team on matters relating to construction.

**2.6 Coordination and Cooperation.**

**2.6.1** The Contractor agrees to cooperate fully with the City and the Designer in the design aspects of the Project to keep within the City monetary and time limitations.

**2.6.2** With the exception of those notices that must be directed to the Manager, all written communication by the Contractor to or with the City shall be forwarded through the Project Manager. In addition, all communication from the City to or with the Contractor shall be forwarded through the Project Manager. All written communication between the Contractor and the Design Consultant, other City representatives, the User Agency, City consultants or any governmental entity or third party will require that copies or notice thereof will be provided by the Contractor to the Project Manager.

**2.6.3** The Contractor shall, as a continuing work item under this Agreement, facilitate communications regarding its performance hereunder between the City's Department of Public Works, the Project Manager, the User Agency, other City consultants and any affiliated entities. In addition, the Contractor shall conduct its efforts under this Agreement with all involved entities including the Department of Public Works, the User Agency, other City representatives, other involved City agencies and any involved government and regulatory entities. The Contractor shall document all Contractor conducted meetings and work sessions and distribute minutes or notes of such meetings to the Project Manager, in a format approved by the Project Manager.

**2.6.4** The City acknowledges that Contractor is providing preconstruction services and with the exception providing final drawings and structural calculations for the glass railing design as described in Southwest Metalsmiths proposal dated March 29, 2018 is not providing design services in connection with the Project. Contractor is not the Design Consultant.

**3.0 REPRESENTATIONS:** The Contractor represents and covenants to the City that:

**3.1** The Contractor's members shall include adequate personnel qualified and experienced in the construction of facilities similar to the Project in time constraints, complexity and cost.

**3.2** The Contractor will thoroughly review and will become fully familiar with the Project scope, requirements and constraints including: (1) the goals and objectives of the Project; (2) User Agency needs and requirements; (3) the Design Consultants' work effort to date, agreement and any referenced documents; (4) the schematic design drawings and specifications and any associated information or materials; (5) the Project site (the "Site"), observable local conditions and all related limitations and constraints; and (6) its budget assumptions and scheduling constraints, as follows:

The Contractor accepts the same and affirmatively states that the Project, as expressed by the Project scope, requirements, and constraints at the time of execution of this Agreement, is a reasonable and constructible conceptual Project, incorporating a reasonable and workable delivery approach and schedule. Further the Contractor will promptly notify the City in the event the Project, as developed during the preconstruction portion of the project, is not reasonable or constructible, given the schedule, budget, and other Project requirements.

**3.3** The Contractor agrees that all of the services and work performed by the Contractor under this Agreement shall be performed in accordance with the standards of care, skill and diligence provided by competent professionals who perform services of a similar nature to the services described in this Agreement.

**4.0 PERSONNEL:**

**4.1** Those persons listed in **Exhibit B** are the principals and employees of the Contractor (the "Key Personnel") and the City desires that they be and remain assigned to the Project.

**4.2** It is the intent of the parties hereto that all Key Personnel be engaged to perform their specialty for all such services required by this Agreement, and that the Contractor's and any subcontractor Key Personnel be retained for the duration of this Agreement to the extent practicable and to the extent that such services maximize the quality of work performed hereunder.

**4.3** If any of the Key Personnel become unavailable for reasons beyond the control of the Contractor, then the Contractor, subject to the Manager's approval, shall promptly appoint a replacement. The Contractor shall provide the Project Manager with complete information on each replacement, including a current resume, and shall have the opportunity to interview any such replacement.

**4.4** If during the term of this Agreement, the Manager determines that the performance of approved Key Personnel for the Contractor or a subcontractor is not acceptable, the Project Manager shall notify the Contractor and give the Contractor a reasonable period of time to correct such performance. Thereafter, the Manager may require the Contractor to reassign or replace such Key Personnel. If the Manager notifies the Contractor that certain of its Key Personnel or those of a subcontractor should be replaced, the Contractor will use reasonable efforts to replace and require its subcontractor to replace them within ten (10) days from the date of the Manager's notice.

4.5 Neither the Contractor nor any subcontractor shall have interests which are in conflict with interests of the City, including connection with or to the sale or promotion of equipment or material which may be used on the Project, and the Contractor shall make written inquiry of all of its subcontractors concerning the existence of or potential for such conflict. In unusual circumstances, and at the City's sole discretion, the City may grant a written waiver for the particular consultant or subcontractor.

**5.0 BASIC SERVICES:** The Contractor's Basic Services performed under this Agreement shall include all services and work effort required: (1) to assist the Design Consultant by providing preconstruction services so that the Design Consultant can provide a complete and constructible "Project Design;" (2) provide final drawings and structural calculations for the glass railing design as described in Southwest Metalsmiths proposal dated March 29, 2018 to the Design Consultant (3) assist the Design Consultant in maintaining the Budget. Such required Basic Services will include, without limitation, cost estimating, bid schedule refinement and project schedule verification, constructability review, value engineering and development of deductive and additive alternates, scheduling, construction sequencing and bid packaging, bidding, subcontracting, and all other preconstruction services necessary to complete a satisfactory final design and construction pricing for the Project. Contractor's Basic Services under this agreement includes all services and work set forth in **Exhibit A**. All of the duties, obligations, services and work specified in the terms, provisions and conditions of this Agreement as well as all other preconstruction services normally and customarily performed by a Construction Manager on a Project of this size and nature shall comprise the Contractor's "Basic Services."

**6.0 COMPENSATION:** In accordance with the terms and conditions of this Agreement, the City agrees to pay and the Contractor agrees to accept, as full and complete compensation for all services required by this Agreement to complete the Basic Services, the following compensation:

**6.1 Basic Services.** The Contractor's Basic Services shall consist of all preconstruction and related work and services set forth in Article 5 and **Exhibit A**. The Contractor shall be compensated for all such services performed on a lump sum basis. The maximum amount payable for all Basic Services shall be the lump sum amount of **NINETY-NINE THOUSAND SIX HUNDRED AND THIRTY-SEVEN DOLLARS AND ZERO CENTS (\$99,637.00)**. Compensation shall be paid to the Contractor monthly, based upon pay applications and progress reports accepted and approved by the Project Manager. Upon successful completion of Pre-Construction Services, the City may in its sole discretion elect to execute a CM/GC Construction Contract with Contractor.

**6.2 Reimbursable Expenses.** All expenses shall be included in the basic services fee and will not be separately reimbursed hereunder.

**6.3 Maximum Contract Amount.** The "Maximum Contract Amount" to be paid by the City to the Contractor under this Agreement shall not exceed the sum of **NINETY-NINE THOUSAND SIX HUNDRED AND THIRTY-SEVEN DOLLARS AND ZERO CENTS (\$99,637.00)**.

**6.4 Funding.** It is expressly understood and agreed by the Contractor that the Contractor is undertaking this performance for a "not to exceed," maximum fee for the Project. It is further understood and agreed by the Contractor that the total obligation of the City for all or any part of its payment obligations hereunder, whether direct or contingent, shall in no event extend beyond payment of the lesser of the amounts duly and lawfully encumbered for the purposes of the

Agreement or the Maximum Contract Amount set forth above. The City has, as of the date first set forth above, duly and lawfully encumbered the sum of **NINETY-NINE THOUSAND SIX HUNDRED AND THIRTY-SEVEN DOLLARS AND ZERO CENTS (\$99,637.00)** for the purposes of this Agreement. With respect to all such performance and funding, the Contractor understands and agrees that the provision of any services which would cause the total amount payable to Contractor to exceed the amount of previously encumbered funds, is strictly prohibited. In the event the continuation of services by the Contractor would cause the amount payable to Contractor to exceed the amount payable under Sections 6.1 and 6.2, the Contractor agrees to give the Project Manager at least four (4) weeks' written notice of the exhaustion of available funds. In the event additional funds are not made available within such four (4) week period, the Contractor agrees to stop providing services until such time as additional funds are made available and encumbered for the purposes of this Agreement. It shall be the responsibility of the Contractor to verify that the amounts already encumbered are sufficient to cover the entire cost of such work. Work or services performed in excess of the amount encumbered or outside the scope of authorized work or services is undertaken or performed in violation of the terms of this Agreement and, as such, at the Contractor's own risk and sole cost and expense.

**6.5 Payment of Invoices.** The Contractor shall prepare and submit to the Project Manager project reports and monthly invoices of all amounts due the Contractor for the preceding period with time records (payment will be made based upon percentage complete) under the provisions of this Article. The Manager or appointed designee will review and either approve or disapprove in whole or in part each properly completed invoice prior to submission for payment by the City. The Manager or appointed designee shall promptly notify the Contractor, in writing, of the basis for any partial or complete disapproval and return any submitted documentation, as required. No charges shall be incurred under this Agreement and no payments shall come due to the Contractor until such time as the City has confirmed to its satisfaction that the work and services have been performed in accordance with the terms and conditions of this Agreement.

**6.6 Withholdings and Final Payment.** The City may withhold, in its sole discretion, payment to the Contractor of any sum or a portion of any sum invoiced for failure or refusal of the Contractor to reasonably satisfy or comply with any material obligation, term, condition or requirement of this Agreement and may deduct, such other amounts as provided for elsewhere in this Agreement. Prior to withholding, however, the City shall provide the Contractor with five (5) days notice of any such failure or refusal and an opportunity to commence to cure and diligently pursue correction. All sums withheld pursuant to this paragraph shall be released only upon a showing, satisfactory to the Manager, that the failure or refusal resulting in the withholding has been removed, resolved, or cured by the Contractor.

**7.0 TERM AND TERMINATION:**

**7.1 Term.** The Term of this Agreement shall commence on March 1, 2018 and expire on March 1, 2019 unless sooner terminated as provided in this Agreement.

**7.2 Termination for Default for Nonperformance.** Failure or refusal of the Contractor to perform any material obligation under this Agreement shall constitute default. In the event of any default, in addition to any other remedy available to the City, after providing ten (10) days' prior written notice of and opportunity to commence a cure such default and diligently pursue correction, this Agreement may be terminated by the City if such default is not cured to the satisfaction of the City. No new performance under the Agreement will be undertaken after the

date of receipt of any notice of termination (the effective date of termination). In the event of such termination, the Contractor will be paid for those services satisfactorily performed in accordance with the requirements of this Agreement up to the effective date of termination. Such termination shall not waive any other legal remedies available to the City.

**7.3 Termination for Default for Bankruptcy.** In the event that either party shall cease conducting business in the normal course, become insolvent, make a general assignment for the benefit of creditors, suffer or permit the appointment of a receiver for its business or assets or shall avail itself of, or become subject to, any proceeding under the Federal Bankruptcy Act or any other statute of any state relating to insolvency or the protection of rights of creditors then, at the option of the other party, this Agreement shall terminate and be of no further force and effect, and any property or rights of such other party, tangible or intangible, shall forthwith be returned to it.

**7.4 Termination for Default for Criminal Conduct.** The City may, by written Notice of Default to the Contractor, terminate the whole or any part of this Agreement in the event the Contractor or any of its officers are convicted, plead nolo contendere, or enter into a formal agreement for deferred prosecution or sentencing, in which they admit guilt, enter a plea of guilty, or otherwise admit culpability to criminal offenses of bribery, kickbacks, collusive bidding, bid-rigging, antitrust, fraud, undue influence, theft, racketeering, extortion, violation of the Racketeer Influenced and Corrupt Organizations Act (R.I.C.O.) or substantially similar state statute or any offense of a similar nature, in connection with the Contractor's business.

**7.5 Termination for Convenience of City.** The City may terminate this Agreement for the City's convenience and without cause at any time by giving the Contractor ten (10) days' written notice of such termination. In the event of such termination, the Contractor shall cease performance under this Agreement upon receipt of such written notice of termination and the Contractor will be paid only for its costs incurred in accordance with the provisions of this Agreement, up to the date of termination specified in the notice of termination.

**7.6 Recovery of Termination Costs Strictly Precluded.** Except for reasonable, actual termination costs, the City shall not be liable for any costs incurred by the Contractor after the effective date of termination. Such non-recoverable costs shall include, but are not limited to anticipated profits, post-termination employee salaries, post-termination administrative expenses, or any other damages, costs or expenses which are not authorized under this Article. Following such termination, the Contractor will submit a final invoice to the City for the amount which represents the compensation actually due and owing for the Contractor performance prior to the effective date of termination and for which the Contractor has not previously been compensated. Upon approval and payment of this final invoice by the City, the City shall be under no further obligation to the Contractor for payment under this Agreement and all other claims shall be waived.

## **8.0 INSURANCE AND INDEMNITY:**

### **8.1 Insurance.**

**8.1.1 General Conditions.** Contractor agrees to secure, at or before the time of execution of this Agreement, the following insurance covering all operations, goods or services provided pursuant to this Agreement. Contractor shall keep the required insurance coverage in force at all times during the term of the Agreement, or any extension thereof, during any warranty period, and for three (3) years after termination of the Agreement. The required insurance shall be underwritten by an insurer licensed or authorized to do business in Colorado and rated by A.M.

Best Company as "A-"VIII or better. Each policy shall contain a valid provision or endorsement requiring notification to the City in the event any of the required policies be canceled or non-renewed before the expiration date thereof. Such written notice shall be sent to the parties identified in the Notices section of this Agreement. Such notice shall reference the City contract number listed on the signature page of this Agreement. Said notice shall be sent thirty (30) days prior to such cancellation or non-renewal unless due to non-payment of premiums for which notice shall be sent ten (10) days prior. If such written notice is unavailable from the insurer, contractor shall provide written notice of cancellation, non-renewal and any reduction in coverage to the parties identified in the Notices section by certified mail, return receipt requested within three (3) business days of such notice by its insurer(s) and referencing the City's contract number. If any policy is in excess of a deductible or self-insured retention, the City must be notified by the Contractor. Contractor shall be responsible for the payment of any deductible or self-insured retention. The insurance coverages specified in this Agreement are the minimum requirements, and these requirements do not lessen or limit the liability of the Contractor. The Contractor shall maintain, at its own expense, any additional kinds or amounts of insurance that it may deem necessary to cover its obligations and liabilities under this Agreement.

**8.1.2 Proof of Insurance.** Contractor shall provide a copy of this Agreement to its insurance agent or broker. Contractor may not commence services or work relating to the Agreement prior to placement of coverages required under this Agreement. Contractor certifies that the certificate of insurance attached as **Exhibit C**, preferably an ACORD certificate, complies with all insurance requirements of this Agreement. The City requests that the City's contract number be referenced on the Certificate. The City's acceptance of a certificate of insurance or other proof of insurance that does not comply with all insurance requirements set forth in this Agreement shall not act as a waiver of Contractor's breach of this Agreement or of any of the City's rights or remedies under this Agreement. The City's Risk Management Office may require additional proof of insurance, including but not limited to policies and endorsements.

**8.1.3 Additional Insureds.** For Commercial General Liability and Auto Liability, Contractor and subcontractor's insurer(s) shall name the City and County of Denver, its elected and appointed officials, employees and volunteers as additional insured.

**8.1.4 Waiver of Subrogation.** For all coverages required under this Agreement, Contractor's insurer shall waive subrogation rights against the City.

**8.1.5 Subcontractors.** All subcontractors and subconsultants (including independent contractors, suppliers or other entities providing goods or services required by this Agreement) shall be subject to all of the requirements herein and shall procure and maintain the same coverages required of the Contractor. Contractor shall include all such subcontractors as additional insured under its policies (with the exception of Workers' Compensation) or shall ensure that all such subcontractors and subconsultants maintain the required coverages. Contractor agrees to provide proof of insurance for all such subcontractors and subconsultants upon request by the City.

**8.1.6 Workers' Compensation/Employer's Liability Insurance.** Contractor shall maintain the coverage as required by statute for each work location and shall maintain Employer's Liability insurance with limits of \$100,000 per occurrence for each bodily injury claim, \$100,000 per occurrence for each bodily injury caused by disease claim, and \$500,000 aggregate for all bodily injuries caused by disease claims. Contractor expressly represents to the City, as a

material representation upon which the City is relying in entering into this Agreement, that none of the Contractor's officers or employees who may be eligible under any statute or law to reject Workers' Compensation Insurance shall effect such rejection during any part of the term of this Agreement, and that any such rejections previously effected, have been revoked as of the date Contractor executes this Agreement.

**8.1.7 Commercial General Liability.** Contractor shall maintain a Commercial General Liability insurance policy with limits of \$1,000,000 for each occurrence, \$1,000,000 for each personal and advertising injury claim, \$2,000,000 products and completed operations aggregate, and \$2,000,000 policy aggregate.

**8.1.8 Business Automobile Liability.** Contractor shall maintain Business Automobile Liability with limits of \$1,000,000 combined single limit applicable to all owned, hired and non-owned vehicles used in performing services under this Agreement.

**8.1.9 Additional Provisions.**

**8.1.9.1** For Commercial General Liability and Excess Liability, the policies must provide the following:

- a. That this Agreement is an Insured Contract under the policy;
- b. Defense costs are outside the limits of liability;
- c. A severability of interests or separation of insureds provision (no insured vs. insured exclusion); and;
- d. A provision that coverage is non-contributory with other coverage or self-insurance provided by the City.

**8.1.9.2** For claims-made coverage: The retroactive date must be on or before the contract date or the first date when any goods or services were provided to the City, whichever is earlier.

**8.1.9.3** Contractor shall advise the City in the event any general aggregate or other aggregate limits are reduced below the required per occurrence limits. At their own expense, and where such general aggregate or other aggregate limits have been reduced below the required per occurrence limit, the Contractor will procure such per occurrence limits and furnish a new certificate of insurance showing such coverage is in force.

**8.2 Indemnification.**

**8.2.1** To the fullest extent permitted by law, the Contractor hereby agrees to defend, indemnify, reimburse and hold harmless City, its appointed and elected officials, agents and employees for, from and against all liabilities, claims, judgments, suits or demands for damages to persons or property arising out of, resulting from, or related to the work performed under this Agreement that are due to the negligence or fault of the Contractor or the Contractor's agents, representatives, subcontractors, or suppliers ("Claims"). This indemnity shall be interpreted in the broadest possible manner consistent with the applicable law to indemnify the City.

**8.2.2** Contractor's duty to defend and indemnify City shall arise at the time written notice of the Claim is first provided to City regardless of whether suit has been filed and even if Contractor is not named as a Defendant.

**8.2.3** Contractor will defend any and all Claims which may be brought or threatened against City and will pay on behalf of City any expenses incurred by reason of such Claims including, but not limited to, court costs and attorney fees incurred in defending and investigating such Claims or seeking to enforce this indemnity obligation. Such payments on behalf of City shall be in addition to any other legal remedies available to City and shall not be considered City's exclusive remedy.

**8.2.4** Insurance coverage requirements specified in this Agreement shall in no way lessen or limit the liability of the Contractor under the terms of this indemnification obligation. The Contractor shall obtain, at its own expense, any additional insurance that it deems necessary for the City's protection.

**8.2.5** This defense and indemnification obligation shall survive the expiration or termination of this Agreement.

**9.0 STANDARD OF CARE:** The Contractor agrees that all of the work performed and services rendered by the Contractor and its subconsultants under this Agreement shall be performed in accordance with the standards of care, skill and diligence provided by competent professionals who perform work or render services of a similar nature to the work or services described in this Agreement.

**10.0 COMPLIANCE WITH LAWS AND REGULATIONS:**

**10.1 Laws and Regulations.** The Contractor shall be responsible for the compliance of all activities undertaken by it pursuant to this Agreement with all applicable laws and regulations, including without limitation the Americans with Disabilities Act, 42 U.S.C. §§ 12101 et seq. In the performance of its services, the Contractor shall assist the Design Consultant(s) as may be necessary to obtain required building permits. The Contractor further agrees to perform all services for the Project in strict compliance with all applicable laws, statutes, codes, ordinances, rules and regulations, and industry standards in effect at the time of the execution of this Agreement until all services called for under this Agreement have been completed and accepted by the City. Notwithstanding the foregoing, the City agrees that it is not the Contractor's responsibility to assure that the drawings and specifications are in accordance with applicable laws, statutes, ordinances, building codes, rules and regulations.

**10.2 Governmental Authorities.** The Contractor shall perform all of its duties, obligations and services, hereunder in a manner that complies with the City's directions to the Contractor and/or the City's obligations under law to consult with, solicit advice from and involve in the City's decision-making process, all applicable governmental or quasi-governmental authorities having jurisdiction over the Project and the surrounding area, including, but not limited to, the State of Colorado and any agency or department thereof, and the City and County of Denver, and any agency or department thereof.

**10.3 No Discrimination In Employment.** In connection with the performance of work under this Agreement, the Contractor may not refuse to hire, discharge, promote or demote, or discriminate in matters of compensation against any person otherwise qualified, solely because of race, color, religion, national origin, gender, age, military status, sexual orientation, gender identity or gender expression, marital status, or physical or mental disability. The Contractor shall insert the foregoing provision in all subcontracts.

**10.4 Licensing Requirements.** The Contractor shall comply, at its own expense, with all laws and regulations, including, but not limited to, licensing requirements pertaining to its professional status and that of its employees, partners, associates, consultants under subcontract and others employed to render the services called for by this Agreement.

**10.5 Certification under § 8-17.5-102, C.R.S.**

**10.5.1** This Agreement is subject to Division 5 of Article IV of Chapter 20 of the Denver Revised Municipal Code, and any amendments (the "Certification Ordinance").

**10.5.2** The Contractor certifies that:

**10.5.2.1** At the time of its execution of this Agreement, it does not knowingly employ or contract with an illegal alien who will perform work under this Agreement.

**10.5.2.2** It will participate in the E-Verify Program, as defined in § 8-17.5-101(3.7), C.R.S., to confirm the employment eligibility of all employees who are newly hired for employment to perform work under this Agreement.

**10.5.3** The Contractor also agrees and represents that:

**10.5.3.1** It shall not knowingly employ or contract with an illegal alien to perform work under the Agreement.

**10.5.3.2** It shall not enter into a contract with a subcontractor that fails to certify to the Contractor that it shall not knowingly employ or contract with an illegal alien to perform work under the Agreement.

**10.5.3.3** It has confirmed the employment eligibility of all employees who are newly hired for employment to perform work under this Agreement, through participation in either the E-Verify Program.

**10.5.3.4** It is prohibited from using the E-Verify Program procedures to undertake pre-employment screening of job applicants while performing its obligations under the Agreement, and that otherwise requires the Contractor to comply with any and all federal requirements related to use of the E-Verify Program including, by way of example, all program requirements related to employee notification and preservation of employee rights.

**10.5.3.5** If it obtains actual knowledge that a subconsultant or subcontractor performing work under the Agreement knowingly employs or contracts with an illegal alien, it will notify such subconsultant or subcontractor and the City within three (3) days. The Contractor will also then terminate such subconsultant or subcontractor if within three (3) days after such notice the subconsultant or subcontractor does not stop employing or contracting with the illegal alien, unless during such three-day period the subconsultant or subcontractor provides information to establish that the subconsultant or subcontractor has not knowingly employed or contracted with an illegal alien.

**10.5.3.6** It will comply with any reasonable request made in the course of an investigation by the Colorado Department of Labor and Employment under authority of § 8-17.5-102(5), C.R.S., or the City Auditor, under authority of D.R.M.C. 20-90.3.

**11.0 OWNERSHIP OF DOCUMENTS; CONFIDENTIAL INFORMATION:**

**11.1 Ownership of Documents.** The data used in compiling, and the results of, any tests, surveys or inspections at the Site, as well as all photographs, drawings, specifications, studies, audits, reports, models and other items of like kind prepared by the Contractor, its employees and consultants, excluding proprietary systems such as estimating programs, shall be the property of the City whether the Project for which they are made is executed or not, but the Contractor shall be permitted to retain reproducible copies of all of the foregoing documents for the information and reference, and the originals of all of the foregoing documents including all electronic format copies shall be delivered to the City promptly upon completion thereof. All work products prepared by the Contractor under this Agreement, when delivered to and accepted by the Manager, shall become the property of the City and the City shall have unlimited ownership rights. Further, the Contractor agrees to allow the City to review any of the procedures used in performing the work and services hereunder, and to make available for inspection the field notes and other documents used in the preparation for and performance of any of the services and work performed hereunder. With respect thereto, the Contractor agrees to and does hereby grant to the City an exclusive royalty-free license to all data which the Contractor may cover by copyright.

**11.2 City Information.** The Contractor understands and agrees that, in performance of this Agreement, the Contractor may have access to private or confidential information which may be owned or controlled by the City and that such information may contain proprietary or confidential details, the disclosure of which to third parties may be damaging to the City. The Contractor agrees that all information disclosed by the City to the Contractor shall be held in confidence and used only in performance of the Agreement. The Contractor shall exercise the same standard of care to protect such information as a reasonably prudent Contractor would to protect its own proprietary data.

**11.3 Contractor Information.** The parties understand that all the material provided or produced under this Agreement may be subject to the Colorado Open Records Act, C.R.S. 24-72-201, et seq., and that in the event of a request to the City for disclosure of such information, the City shall advise the Contractor of such request in order to give the Contractor the opportunity to object to the disclosure of any of its proprietary or confidential material. In the event of the filing of a lawsuit to compel such disclosure, the City will tender all such material to the court for judicial determination of the issue of disclosure and the Contractor agrees to intervene in such lawsuit to protect and assert its claims of privilege against disclosure of such material. The Contractor further agrees to defend, indemnify and save and hold harmless the City, its officers, agents and employees, from any claim, damages, expense, loss or costs arising out of the Contractor's intervention to protect and assert its claims of privilege against disclosure under this Section including, but not limited to, prompt reimbursement to the City of all reasonable attorney fees, costs and damages that the City may incur directly or may be ordered to pay by such court.

**11.4 Patent, Copyright and Trade Secret Indemnity.** Notwithstanding any other provision hereof, the Contractor shall save, defend and hold harmless the City from all loss, damage, or liability for, or by reason of, any actual or alleged infringement of any United States Patent, Copyright, or Trade Secret disclosure arising out of the Contractor's performance under this Agreement.

**12.0 CONTRACTOR'S ACCOUNTING RECORDS:** Records of the Contractor's direct personnel, consultant and reimbursable expenses pertaining to this Project and records of accounts between the City and the Contractor shall be kept on a generally accepted accounting basis and shall be available to the representatives of the City, including the Auditor of the City, or his

authorized representative within the City, at mutually convenient times for three (3) years after the final payment under this Agreement.

**13.0 SUPPLEMENTAL DOCUMENTS:** The following documents are attached hereto and/or incorporated herein and made a part of this Agreement:

**Exhibit A – Proposal/Scope of Work.**

**Exhibit B – Key Personnel.**

**Exhibit C - ACORD Certificate of Insurance.**

**14.0 TIME IS OF THE ESSENCE:** The parties agree that in the performance of the terms, conditions and requirements of this Agreement by the Contractor, time is of the essence.

**15.0 DISPUTES:** All disputes of any nature whatsoever regarding the Agreement, including but not limited to those involving damages or time extensions for delay, equitable adjustments, or other claims for compensation by the Contractor, including but not limited to disputes going to the breach or default of this Agreement, shall be exclusively resolved by administrative hearing pursuant to the provisions of D.R.M.C. Section 56-106, or, with respect to appropriate issues involving minority and women business enterprise contracting, by D.R.M.C. Section 28-33. For the purposes of this Agreement, the Manager, with respect to Section 56-106, DRMC disputes, and the Director of the Division of Small Business Opportunity, with respect to Section 28-33, DRMC disputes, have independently determined that the City's best interests are served by designating as the hearing officer a person retained for that purpose by contract under Charter Section A2.3-10. The Contractor expressly agrees that this dispute resolution process is the only dispute resolution mechanism that will be recognized by the parties for any claims put forward by the Contractor, notwithstanding any other claimed theory of entitlement on the part of the Contractor or its subcontractors or other consultants.

**16.0 MISCELLANEOUS PROVISIONS:**

**16.1 Taxes and Licenses.** The Contractor shall promptly pay, when they are due, all taxes, excises, license fees and permit fees of whatever nature applicable to the work and services which it performs under this Agreement, and shall take out and keep current all required municipal, county, state or federal licenses required to perform its services under this Agreement. The Contractor shall furnish the Manager, upon request, duplicate receipts or other satisfactory evidence showing or certifying to the proper payment of all required licenses and/or registrations and taxes. The Contractor shall promptly pay all owed bills, debts and obligations it incurs performing work under this Agreement and shall not allow any lien, verified claim, mortgage, judgment or execution to be filed against land, facilities or improvements owned or beneficially owned by the City as a result of such bills, debts or obligations.

**16.2 Status of Contractor.** The status of the Contractor shall be that of an independent contractor retained on a contractual basis to perform preconstruction services for limited periods of time as described in Section 9.1.1.E(x) of the Charter of the City and it is not intended, nor shall it be construed, that the Contractor, or any member of its staff or any consultant, is an employee, officer or agent of the City under Chapter 18 of the Denver Revised Municipal Code or for any purpose whatsoever.



To the City: Executive Director of Public Works  
201 West Colfax Avenue, Dept. 608  
Denver, Colorado 80202

with a copy to: Project Manager  
Department of Public Works  
201 West Colfax Avenue, Dept. 506  
Denver, Colorado 80202

**16.11 Survival of Certain Contract Provisions.** All terms and conditions of this Agreement, together with the exhibits and attachments hereto, which, by reasonable implication, contemplate continued performance or compliance beyond the termination of this Agreement (by expiration of the term or otherwise), shall survive such termination and shall continue to be enforceable as provided herein. Without limiting the general applicability of the foregoing, the Contractor's obligations for the provision of insurance and to indemnify the City shall survive for a period equal to any and all relevant statutes of limitation, plus the time necessary to fully resolve any claims, matters, or actions begun within that period.

**16.12 Paragraph Headings.** The captions and headings set forth herein are for convenience of reference only and shall not be construed so as to define or limit the terms and provisions hereof.

**16.13 Severability.** If any provision, term, or part of this Agreement, except for the provisions of this Agreement requiring prior appropriation and limiting the total amount to be paid by the City, is held to be invalid, illegal, unenforceable, or in conflict with any law of the State of Colorado, the validity, legality, and enforceability of the remaining portions or provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Agreement did not contain the particular part, term or provision held to be invalid.

**16.14 Construction of Terms.** The language in this Agreement shall be construed according to its customary meaning within the building industry in the Denver metropolitan area. Whenever used, the singular numbers shall include the plural, and the plural the singular, and the use of any gender shall be applicable to all genders.

**16.15 Agreement as Complete Integration; Amendments.** This Agreement is intended as the complete integration of all understandings between the parties. No prior or contemporaneous addition, deletion or other amendment shall have any force or effect, unless embodied herein in writing. No subsequent novation, renewal, addition, deletion or other amendment hereto shall have any force or effect unless embodied in a written amendatory or other agreement executed by the parties and signed by the signatories to the original Agreement. This Agreement and any amendments shall be binding upon the parties, their successors and permitted assigns.

**16.17 Electronic Signatures and Electronic Records.** Contractor consents to the use of electronic signatures by the City. The Agreement, and any other documents requiring a signature hereunder, may be signed electronically by the City in the manner specified by the City. The Parties agree not to deny the legal effect or enforceability of the Agreement solely because it is in electronic form or because an electronic record was used in its formation. The Parties agree not to object to the admissibility of the Agreement in the form of an electronic record, or a paper copy

of an electronic document, or a paper copy of a document bearing an electronic signature, on the ground that it is an electronic record or electronic signature or that it is not in its original form or is not an original.

**[SIGNATURE PAGES FOLLOW]**

**Contract Control Number:** PWADM-201842270-00

**Contractor Name:** HENSEL PHELPS CONSTRUCTION COMPANY

IN WITNESS WHEREOF, the parties have set their hands and affixed their seals at Denver, Colorado as of August 09, 2018.



SEAL

**CITY AND COUNTY OF DENVER**

ATTEST:

Debra Johnson

Debra Johnson, Clerk and Recorder,  
Ex-Officio Clerk of the City and  
County of Denver

By Michael B. Hancock  
Michael B. Hancock, Mayor

APPROVED AS TO FORM:

Attorney for the City and County of  
Denver

REGISTERED AND COUNTERSIGNED:

By Beth Machann  
Beth Machann, City Controller

By Robert Wheeler  
Robert Wheeler, Assistant City  
Attorney

By Timothy M. O'Brien  
Timothy M. O'Brien, Auditor



Contract Control Number: PWADM-201842270-00

Contractor Name: HENSEL PHELPS CONSTRUCTION COMPANY



By: *Edwin Glen Miller*  
Digitally signed by Edwin  
Glen Miller  
Date: 2018.07.26  
15:32:17-06'00'

Name: Edwin Glen Miller  
(please print)

Title: Vice President  
(please print)

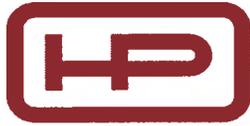
ATTEST: [if required]

By: *[Signature]*

Name: Lisa Gray  
(please print)

Title: Proposal Manager  
(please print)





**HENSEL PHELPS**

Plan. Build. Manage.

**EXHIBIT A**

**LFC - Glass Guardrail Replacement**

**Owner: City of Denver**

**Architect: gkkworks**

**Estimate Type: Preconstruction Proposal**

**Current Date: 11-Jun-2018**

**Plains District Office**  
420 Sixth Avenue (80631) P.O. Box O  
Greeley, CO, 80632-0710  
Phone: 970.352.6565  
Fax: 970.352.9311  
Estimator: RBS

**LFC - Glass Guardrail Replacement  
Preconstruction Proposal**

Owner: City of Denver  
Architect: gkkworks

Drawing Date: 28-Aug-2015  
Revision No: 00

PROJECT SECTOR: GROSS FLOOR AREA: SECONDARY UNIT OF MEASURE :		Sector A		Total		%
		Preconstruction		GSF Unit Costs		
		\$/GSF	AMOUNT	\$/GSF	AMOUNT	
SEC.	PARAMETER					
A10	PRECONSTRUCTION COSTS	{ 0.09 }	88,914	{ 0.09 }	88,914	89.24%
A1010	Preconstruction Staff	0.06	55,560	0.06	55,560	
A1020	Preconstruction Materials	0.03	25,338	0.03	25,338	
A1030	Subcontract Preconstruction Costs	0.01	8,016	0.01	8,016	
	Subtotal - Building and Site	0.09	88,914	0.09	88,914	89.24%
	<b>GENERAL CONDITIONS</b>					
Z1010	General Conditions	0.00	0	0.00	0	0.00%
Z1015	Vertical Hoisting	0.00	0	0.00	0	0.00%
	Subtotal - GENERAL CONDITIONS	0.00	0	0.00	0	0.00%
	<b>INDIRECTS &amp; RESERVES</b>					
Z1020	Contractor's Bonds	0.00	None	0.00	None	
Z1025	Subcontractor & Supplier Bonds	0.00	0	0.00	0	0.00%
Z1030	Builder's Risk Insurance	0.00	By Owner	0.00	By Owner	
Z1040	General Liability Insurance	0.00	540	0.00	540	0.54%
Z1050	Permits	0.00	0	0.00	0	0.00%
Z1070	A & E Design Costs	0.00	By Owner	0.00	By Owner	
Z1080	Professional Liability Insurance	0.00	By A/E	0.00	By A/E	
Z1090	Gross Receipts Tax	0.00	Not Req'd.	0.00	Not Req'd.	
Z1100	Utility Development & Tap Fees	0.00	By Owner	0.00	By Owner	
Z1110	Hazardous Material Abatement	0.00	By Owner	0.00	By Owner	
Z1120	Testing & Inspections	0.00	By Owner	0.00	By Owner	
Z1130	Escalation	0.00	None	0.00	None	
Z1140	Bidding & Construction Reserves	0.00	0	0.00	0	0.00%
Z1150	Preconstruction Costs	0.00	0	0.00	0	0.00%
Z1160	Textura	0.00	219	0.00	219	0.22%
Z1190	G & A - Corporate	0.00	2,491	0.00	2,491	2.50%
	Subtotal - INDIRECTS & RESERVES	0.00	3,250	0.00	3,250	3.26%
	<b>FEES</b>					
Z1060	Contractor's Fee	0.01	7,473	0.01	7,473	7.50%
	Subtotal - FEES	0.01	7,473	0.01	7,473	7.50%
	<b>TOTAL PRECONSTRUCTION COST</b>	<b>0.10</b>	<b>99,637</b>	<b>0.10</b>	<b>99,637</b>	<b>100.00%</b>
	<b>SECONDARY UNIT COST</b>	<b>996</b>	<b>EACH</b>	<b>996</b>	<b>EACH</b>	

The information contained in this estimate is the proprietary property of Hensel Phelps and may be used only by the authorized recipient. Any reproduction or other reuse of this estimate or portions thereof without the express consent of Hensel Phelps is strictly prohibited.



Estimator: RBS, Estimate Checker: CC  
Current Date: 11-Jun-2018

Workbook: DJC Preconstruction Proposal w Scaffold Cost 20180611.xdsm  
Boeckh's Data: City, State / Usage / Construction Type / 2000 / May - Jun 2018

**LFC - Glass Guardrail Replacement**  
**Back-Up Estimate Detail**

Owner: City of Denver  
 Architect: gdkworks

Drawing Date: N/A

Revision No: 00

	PARAMETER / ITEM OF WORK	FSR	USER 1	USER 2	USER 3	USER 4	QUANTITY	UNIT	\$/UNIT	TOTAL
	<b>A - Preconstruction</b>						( 1,000,000 GSF )			
1	<b>A10 - PRECONSTRUCTION COSTS</b>									
2	<b>A1010 - Preconstruction Staff</b>									
3	Project Executive - Chad Carlson						0	HOUR	150.00	0
4	Preconstruction / Project Manager - Robert Saucerman						240	HOUR	103.00	24,720
5	Estimator / Project Engineer - Patrick McInemey						240	HOUR	81.00	19,440
6	Superintendent - Kim Slusher						120	HOUR	95.00	11,400
7							-	-	-	0
8										
	<b>A1010 Subtotal</b>								0.06	58,560
9	<b>A1020 - Preconstruction Materials</b>									
10	Misc Materials						1	LSUM	5,000.00	5,000
11	Safway Scaffold Rental (February thru September)						8	MO	2,542.31	20,338
12							-	-	-	0
13							-	-	-	0
14							-	-	-	0
15										
	<b>A1020 Subtotal</b>								0.03	25,338
16	<b>A1030 - Subcontract Preconstruction Costs (Balance of SWM Precon Value)</b>									
17	CD Documents - SW Metalsmiths						1	LSUM	7,016.00	7,016
18	Final Design Structural Calculations - SW Metalsmiths						1	LSUM	Ind Above	0
19	U Channel Mock Up SW Metalsmiths, Manufactured Off Site & Delivered to Site						1	LSUM	1,000.00	1,000
20							-	-	-	0
21							-	-	-	0
22							-	-	-	0
23										
	<b>A1030 Subtotal</b>								0.01	8,016

### 3. KEY PERSONNEL

Hensel Phelps' organizational structure for the LFC is based on providing people who possess a positive attitude and a commitment to creating a long-term relationship with the client.

**Kurt W. Seeman, LEED AP** - Project Executive. Mr. Seeman is the senior executive who is ultimately responsible for the success of the Project. His primary role will be to assure that the Hensel Phelps team provides the highest quality services for the Project.

**Rex Johnston, LEED AP** - Project Manager. Mr. Johnston will be involved from preconstruction through Project Completion. He has worked closely with a variety of corporate clients on a wide range of project types under various contracting methods including design-assist, design-build, CM/GC, and fixed price.

#### Time Commitment

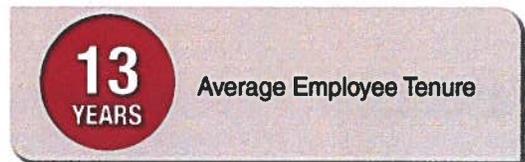


#### Experience Working Together

One of the unique characteristics of Hensel Phelps' workforce is the longevity of its employees. Hensel Phelps' retention rate is one of the highest in the industry wherein many of our employees stay with Hensel Phelps for the entirety of their working lives (please note the *Years of Experience* and *Years with Hensel Phelps* on the resumes of our proposed team).

#### How Does the Longevity of the Key Staff Effect Your Project?

The longevity of Hensel Phelps' staff tenure means that the proposed personnel have worked together on previous projects, and in some instances this includes more than a decade of working together. Therefore there is no learning curve in terms of personalities, working style, and group cohesion. Additionally, the proposed personnel have extensive experience working with the Hensel Phelps proprietary processes that make us a market leader.





**Kurt W. Seeman, LEED AP**

Project Executive

As Project Executive, Mr. Kurt Seeman is responsible to Hensel Phelps clients for providing the leadership and vision crucial to the success of each project assigned. Mr. Seeman assures that all client budgetary and quality goals are met through thorough financial planning and cost evaluations, aggressive schedule management, comprehensive resource planning, and employment of quality assurance monitoring systems. He is fully versed in all areas of estimating, purchasing, engineering, superintendency, and project management on both new construction programs and renovation projects.

Education

**B.S., Kansas State University; Construction Science and Management**

Certifications

**LEED AP**

Years of Experience

**20**

Years with Hensel Phelps

**20**

**RELEVANT EXPERIENCE**

**1144 15<sup>th</sup> Street Office Building, Denver, CO**

\$193,594,527 | 1,185,000 SF | 01.11.2018 | Commercial | Owner: 1144 Fifteenth Partners LLC (Hines) | Architect: Pickard and Chilton Architects, Inc. | CM at Risk (CM/GC)

**Denver Justice Center, Denver, CO**

\$296,789,114 | 758,000 SF | 06.01.2010 | Public | Owner: City and County of Denver | Architect: Klipp Architecture | CM at Risk (CM/GC)

**BATC AMC Expansion, Westminster, CO**

\$55,500,000 | 145,000 SF | 12.01.2018 | Advanced Technology | Owner: Ball Aerospace & Technologies Corporation | Architect: RNL Design | CM at Risk (CM/GC)

**Mountainview Operations Facility, Aurora, CO**

\$131,954,362 | 230,000 SF | 07.28.2015 | Public | Owner: US Army Corps of Engineers | Architect: Black & Veatch | Design-Bid-Build (Hard Bid)

**Lockheed GPS-3 Processing Facility Phase III, Littleton, CO**

\$30,201,945 | 149,718 SF | 10.24.2011 | Aerospace | Owner: Lockheed Martin Space Systems | Architect: Oz Architecture | Design-Bid-Build (Hard Bid)





### Rex Johnston, LEED Green Associate, DBIA

Project Manager

Mr. Rex Johnston will act as Hensel Phelps' Project Management Representative who responds to all requirements and concerns of the client. He has extensive experience in developing and monitoring project master schedules, estimating, job cost reports, and establishing and implementing effective communication procedures for all team components and working in a downtown and operational building.

Education

**B.S., Colorado State University; Construction Management**

Certifications

**LEED AP**

Years of Experience

**11**

Years with Hensel Phelps

**11**

### RELEVANT EXPERIENCE

#### 1144 15<sup>th</sup> Street Office Building, Denver, CO

\$193,594,527 | 1,185,000 SF | 01.11.2018 | Commercial | Owner: 1144 Fifteenth Partners LLC (Hines) | Architect: Pickard and Chilton Architects, Inc. | CM at Risk (CM/GC)

#### Lockheed GPS-3 Processing Facility Phase III, Littleton, Co

\$30,201,945 | 149,718 SF | 10.24.2011 | Aerospace | Owner: Lockheed Martin Space Systems | Architect: Oz Architecture | Design-Bid-Build (Hard Bid)

#### Fort Carson 13th Combat Aviation Brigade ASB Hangar, Fort Carson, CO

\$54,685,332 | 136,158 SF | 10.31.2014 | Public | Owner: US Army Corps of Engineers | Architect: JACOBS | Design-Build

#### Hilton San Diego Bayfront, San Diego, CA

\$241,937,222 | 1,007,118 SF | 11.24.2008 | Private | Owner: Hilton Hotel Corporation, ING Clarion Partners | Architect: JWDA | CM at Risk (CM/GC)





**CITY AND COUNTY OF DENVER  
DEPARTMENT OF PUBLIC WORKS  
ENGINEERING DIVISION**

**APPENDIX A**

**CITY AND COUNTY OF DENVER EQUAL OPPORTUNITY CLAUSE -  
ALL CONTRACTS**

1. The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex, age, national origin, religion, marital status, political opinion or affiliation, or mental or physical handicap. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, creed, color, sex, age, national origin, religion, marital status, political opinion or affiliation, or mental or physical handicap. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
2. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, sex, age, national origin, religion, marital status, political opinion or affiliation, or mental or physical handicap.
3. The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided, advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. Each Contractor will comply with all provisions of Article III, Division 2 of Chapter 28 of the Revised Municipal Code, and the rules, regulations, and relevant orders of the Manager and the Director.
5. The Contractor will furnish all information and reports required by Article III, Division 2 of Chapter 28 of the Revised Municipal Code, and by rules, regulations and orders of the Manager and Director or pursuant thereto, and will permit access to his books, records, and accounts by the Manager, Director, or their designee for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
6. In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further City contracts in accordance with procedures authorized in Article III, Division 2, Chapter 28 of the Revised Municipal Code, or by rules, regulations, or order of the Manager.
7. The Contractor will include Regulation 12, Paragraph 2 and the provisions of paragraphs (1) through (6) in every subcontract of purchase order unless exempted by rules, regulations, or orders of the Manager issued pursuant to Article III, Division 2, Chapter 28 of the Revised Municipal Code, so that such provisions will be binding on each subcontractor or supplier. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance.

The applicant further agrees to be bound by the above equal opportunity clauses with respect to its own employment practices when it participates in City contracts. The Contractor agrees to assist and cooperate actively with the Manager and the Director in obtaining compliance of subcontractors and suppliers with the equal opportunity clause and the rules, regulations and relevant orders of the Manager, and will furnish the Manager and the Director such information as they may require for the supervision of compliance, and will otherwise assist the Manager and Director in the discharge of the City's primary responsibility for securing compliance. The Contractor further agrees to refrain from entering into any contract or contract modification subject to Article III, Division 2

## EXHIBIT D

of Chapter 28 of the Revised Municipal Code with a contractor debarred from, or who has not demonstrated eligibility for, City contracts.

The Contractor will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the Manager and Director. In addition, the Contractor agrees that failure or refusal to comply with these undertakings the Manager may take any or all of the following actions:

- A. Cancellation, termination, or suspension in whole or in part of this contract.
- B. Refrain from extending any further assistance to the applicant under the program with respect to which the failure occurred until satisfactory assurance of future compliance has been received from such applicant.
- C. Refer the case to the City Attorney for appropriate legal proceedings.

**SUBCONTRACTS:** Each prime Contractor or Subcontractor shall include the equal opportunity clause in each of its subcontracts.

**CITY AND COUNTY OF DENVER  
DEPARTMENT OF PUBLIC WORKS  
ENGINEERING DIVISION**

**APPENDIX F**

**AFFIRMATIVE ACTION REQUIREMENTS**

**EQUAL EMPLOYMENT OPPORTUNITY**

For All Non-Exempt Construction Contracts to Be Awarded by the  
City and County of Denver, Department of Public Works.

**NOTICE**

EACH BIDDER, CONTRACTOR OR SUBCONTRACTOR (HEREINAFTER THE CONTRACTOR) MUST FULLY COMPLY WITH THE REQUIREMENTS OF THESE BID CONDITIONS AS TO EACH CONSTRUCTION TRADE IT INTENDS TO USE ON THIS CONSTRUCTION CONTRACT, AND ALL OTHER CONSTRUCTION WORK (BOTH CITY AND NON-CITY) IN THE DENVER AREA DURING THE PERFORMANCE OF THIS CONTRACT OR SUBCONTRACT. THE CONTRACTOR COMMITS ITSELF TO THE GOALS FOR MINORITY MANPOWER UTILIZATION, AS APPLICABLE, AND ALL OTHER REQUIREMENTS, TERMS AND CONDITION OF THESE BID CONDITIONS BY SUBMITTING A PROPERLY SIGNED BID.

THE CONTRACTOR SHALL APPOINT A COMPANY EXECUTIVE TO ASSUME THE RESPONSIBILITY FOR THE IMPLEMENTATION OF THE REQUIREMENTS, TERMS AND CONDITIONS OF THESE BID CONDITIONS.

/s/

Manager of Public Works  
City and County of Denver

**A. REQUIREMENTS - AN AFFIRMATIVE ACTION PLAN:**

Contractors shall be subject to the provisions and requirements of these bid conditions including the goals and timetables for minority\* and female utilization, and specific affirmative action steps set forth by the Office of Contract Compliance. The contractor's commitment to the goals for minority, and female utilization as required constitutes a commitment that it will make every good faith effort to meet such goals.

**1. GOALS AND TIMETABLES:**

The goals and timetables for minority and female participation, expressed in percentage terms for the contractor's aggregate workforce in each trade are as follows:

GOALS FOR MINORITY PARTICIPATION FOR EACH TRADE	FEMALE PARTICIPATION FOR EACH TRADE
From January 1, 1982 to Until Further Notice	From January 1, 1982 to Until Further Notice
21.7% - 23.5%	6.9%
GOALS FOR	

The goals for minority and female utilization above are expressed in terms of hours of training and employment as a proportion of the total number of hours to be worked by the contractor's aggregate workforce, which includes all supervisory personnel, in each trade, on all projects for the City and County of Denver during the performance of its contract (i.e., The period beginning with the first day of work on the City and County of Denver funded construction contract and ending with the last day of work).

The hours of minority and female employment and training must be substantially uniform throughout the length of the contract in each trade and minorities and females must be employed evenly on each of a contractor's projects. Therefore, the transfer of minority or female employees from contractor to contractor or from project to project for the purpose of meeting the contractor's goals shall be a violation of these Bid Conditions.

If the Contractor counts the nonworking hours of apprentices they must be employed by the Contractor during the training period; the Contractor must have made a commitment to employ apprentices at the completion of their training subject to the availability of employment opportunities; and the apprentices must be trained pursuant to training programs approved by the Bureau of Apprenticeship and Training.

\* "Minority" is defined as including, Blacks, Spanish Surname Americans, Asian-Americans, and American Indians, and includes both men and minority women.

**2. SPECIFIC AFFIRMATIVE ACTION STEPS:**

No contractor shall be found to be in noncompliance solely on account of its failure to meet its goals, but will be given an opportunity to demonstrate that the contractor has instituted all the specific affirmative action steps specified and has made every good faith effort to make these steps work toward the attainment of its goals within the timetables, all to the purpose of expanding minority and female utilization in its aggregate workforce. A contractor, who fails to comply with its obligation under the Equal Opportunity Clause of its contract and fails to achieve its commitments to the goals for minority and female utilization has the burden of proving that it has engaged in an Affirmative Action Program directed at increasing minority and female utilization and that such efforts were at least as extensive and as specific as the following:

- a. The Contractor should have notified minority and female organizations when employment opportunities were available and should have maintained records of the organization's response.
- b. The Contractor should have maintained a file of the names and addresses of each minority and female referred to it by any individual or organization and what action was taken with respect to each such referred individual, and if the individual was not employed by the Contractor, the reasons. If such individual was sent to the union hiring hall for referral and

not referred back by the union or if referred, not employed by the Contractor, the file should have documented this and their reasons.

- c. The Contractor should have promptly notified the Department of Public Works, and the Division of Small Business Opportunity when the union or unions with which the Contractor has collective bargaining agreements did not refer to the contractor a minority or female sent by the contractor, or when the Contractor has other information that the union referral process has impeded efforts to meet its goals.
- d. The Contractor should have disseminated its EEO policy within its organization by including it in any employee handbook or policy manual; by publicizing it in company newspapers and annual reports and by advertising such policy at reasonable intervals in union publications. The EEO policy should be further disseminated by conducting staff meetings to explain and discuss the policy; by posting of the policy; and by review of the policy with minority and female employees.
- e. The Contractor should have disseminated its EEO policy externally by informing and discussing it with all recruitment sources; by advertising in news media, specifically including minority and female news media; and by notifying and discussing it with all subcontractors.
- f. The Contractor should have made both specific and reasonably recurrent written and oral recruitment efforts. Such efforts should have been directed at minority and female organizations, schools with substantial minority and female enrollment, and minority and female recruitment and training organizations within the Contractor's recruitment area.
- g. The Contractor should have evidence available for inspection that all tests and other selection techniques used to select from among candidates for hire, transfer, promotion, training, or retention are being used in a manner that does not violate the OFCCP Testing Guidelines in 41 CFR Part 60-3.
- h. The Contractor should have made sure that seniority practices and job classifications do not have a discriminatory effect.
- i. The Contractor should have made certain that all facilities are not segregated by race.
- j. The Contractor should have continually monitored all personnel activities to ensure that its EEO policy was being carried out including the evaluation of minority and female employees for promotional opportunities on a quarterly basis and the encouragement of such employees to seek those opportunities.
- k. The Contractor should have solicited bids for subcontracts from available minority and female subcontractors engaged in the trades covered by these Bid Conditions, including circulation of minority and female contractor associations.

NOTE: The Director and the Division of Small Business Opportunity will provide technical assistance on questions pertaining to minority and female recruitment sources, minority and female community organizations, and minority and female news media upon receipt of a request for assistance from a contractor.

**3. NON - DISCRIMINATION:**

In no event may a contractor utilize the goals and affirmative action steps required in such a manner as to cause or result in discrimination against any person on account of race, color, religion, sex, marital status, national origin, age, mental or physical handicap, political opinion or affiliation.

**4. COMPLIANCE AND ENFORCEMENT:**

In all cases, the compliance of a contractor will be determined in accordance with its obligations under the terms of these Bid Conditions. All contractors performing or to perform work on projects subject to these Bid Conditions hereby agree to inform their subcontractors in writing of their respective obligations under the terms and requirements of these Bid Conditions, including the provisions relating to goals of minority and female employment and training.

**B. CONTRACTORS SUBJECT TO THESE BID CONDITIONS:**

In regard to these Bid Conditions, if the Contractor meets the goals set forth therein or can demonstrate that it has made every good faith effort to meet these goals, the Contractor shall be presumed to be in compliance with Article III, Division 2 of Chapter 28 of the Revised Municipal Code, the implementing regulations and its obligations under these Bid Conditions. In the event, no formal sanctions or proceedings leading toward sanctions shall be instituted unless the contracting or administering agency otherwise determines that the contractor is violating the Equal Opportunity Clause.

1. Where the Office of Contract Compliance finds that a contractor failed to comply with the requirements of Article III, Division 2 of Chapter 28 of the Revised Municipal Code or the implementing regulations and the obligations under these Bid Conditions, and so informs the Manager, the Manager shall take such action and impose such sanctions, which include suspension, termination, cancellation, and debarment, as may be appropriate under the Ordinance and its regulations. When the Manager proceeds with such formal action it has the burden of proving that the Contractor has not met the goals contained in these Bid Conditions. The Contractor's failure to meet its goals shall shift to it the requirement to come forward with evidence to show that it has met the good faith requirements of these Bid Conditions.
2. The pendency of such proceedings shall be taken into consideration by the Department of Public Works in determining whether such contractor can comply with the requirements of Article III, Division 2 of Chapter 28 of the Revised Municipal Code, and is therefore a "responsible prospective contractor".
3. The Division of Small Business Opportunity shall review the Contractor's employment practices during the performance of the contract. If the Division of Small Business Opportunity determines that the Contractor's Affirmative Action Plan is no longer an acceptable program, the Director shall notify the Manager.

**C. OBLIGATIONS APPLICABLE TO CONTRACTORS:**

It shall be no excuse that the union with which the Contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority or female employees. Discrimination in referral for employment, even if pursuant to provisions of a collective bargaining agreement, is prohibited by the National Labor Relations Act, as amended, Title VI of the Civil Rights Act of 1964, as amended, and Article III, Division 2 of Chapter 28 of the Revised Municipal Code. It is the policy of the Department of Public Works that contractors have a responsibility to provide equal employment opportunity, if they wish to participate in City and County of Denver contracts. To the extent they have delegated the responsibility for some of their employment practices to a labor organization and, as a result, are prevented from meeting their obligations pursuant to Article III, Division 2, Chapter 28 of the Revised Municipal Code, such Contractors cannot be considered to be in compliance with Article III, Division 2, Chapter 28 of the Revised Municipal Code, or its implementing rules and regulations.

**D. GENERAL REQUIREMENTS:**

Contractors are responsible for informing their subcontractors in writing regardless of tier, as to their respective obligations. Whenever a Contractor subcontracts a portion of work in any trade covered by these Bid Conditions, **it shall include these Bid Conditions in such subcontracts and each subcontractor shall be bound by these Bid Conditions to the full extent as if it were the prime contractor.** The Contractor shall not, however, be held accountable for the failure of its subcontractors to fulfill their obligations under these Bid Conditions. However, the prime contractor shall give notice to the Director of any refusal or failure of any subcontractor to fulfill the obligations under these Bid Conditions. A subcontractor's failure to comply will be treated in the same manner as such failure by a prime contractor.

## EXHIBIT D

1. Contractors hereby agree to refrain from entering into any contract or contract modification subject to Article III, Division 2, Chapter 28 of the Revised Municipal Code with a contractor debarred from, or who is determined not to be a "responsive" bidder for the City and County of Denver contracts pursuant to the Ordinance.
2. The Contractor shall carry out such sanctions and penalties for violation of these Bid Conditions and the Equal Opportunity Clause including suspension, termination and cancellation of existing subcontracts and debarment from future contracts as may be ordered by the Manager pursuant to Article III, Division 2, Chapter 28 of the Revised Municipal Code and its implementing regulations.
3. Nothing herein is intended to relieve any contractor during the term of its contract from compliance with Article III, Division 2, Chapter 28 of the Revised Municipal Code, and the Equal Opportunity Clause of its contract with respect to matters not covered in these Bid Conditions.
4. Contractors must keep such records and file such reports relating to the provisions of these Bid Conditions as shall be required by the Office of Contract Compliance.
5. Requests for exemptions from these Bid Conditions must be made in writing, with justification, to the Manager of Public Works, City and County Building, Room 379, Denver, Colorado 80202, and shall be forwarded through and with the endorsement of the Director.



TO: All Users of the City of Denver Prevailing Wage Schedules

FROM: Susan Keller, Human Resources Technician II

DATE: Wednesday, August 30, 2017

SUBJECT: Latest Change to Prevailing Wage Schedules

Please be advised, prevailing wage rates for some building, heavy, and highway construction trades have not been updated by the United States Department of Labor (DOL) since March 1, 2002. The Career Service Board, in their meeting held on April 21, 2011, approved the use of the attached supplemental wage rates until prevailing wage rates for these classifications of work are again published by the United States Department of Labor.

The attached Prevailing Wage Schedule is effective as of **Friday, August 18, 2017** and applies to the City and County of Denver for **BUILDING CONSTRUCTION PROJECTS** (does not include residential construction consisting of single family homes and apartments up to and including 4 stories) in accordance with the Denver Revised Municipal Code, Section 20-76(c).

General Wage Decision No. CO170030  
Superseded General Decision No. CO20160030  
Modification No. 12  
Publication Date: 8/18/17  
(4 pages)

Unless otherwise specified in this document, apprentices shall be permitted only if they are employed pursuant to, and individually registered in, a bona fide apprenticeship program registered with the U.S. Department of Labor (DOL). The employer and the individual apprentice must be registered in a program, which has received prior approval, by the DOL. Any employer, who employs an apprentice and is found to be in violation of this provision, shall be required to pay said apprentice the full journeyman scale.

For questions call (720) 913-5726.

Attachments as listed above.

EXHIBIT E

General Decision Number: CO170030 08/18/2017 CO30

Superseded General Decision Number: CO20160030

State: Colorado

Construction Type: Building

County: Denver County in Colorado.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.20 for calendar year 2017 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.20 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2017. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/06/2017
1	01/13/2017
2	01/27/2017
3	02/03/2017
4	04/07/2017
5	04/21/2017
6	05/19/2017
7	05/26/2017
8	06/02/2017
9	06/09/2017
10	07/21/2017
11	08/04/2017
12	08/18/2017

ASBE0028-002 07/01/2016

	Rates	Fringes
ASBESTOS WORKER/HEAT & FROST INSULATOR - MECHANICAL (Duct, Pipe & Mechanical System Insulation).....	\$ 29.73	13.93

CARP0055-002 11/01/2016

	Rates	Fringes
CARPENTER (Drywall Hanging		

EXHIBIT E

Only).....\$ 26.25 8.64

-----  
 CARP1607-001 06/01/2016

	Rates	Fringes
MILLWRIGHT.....	\$ 31.38	12.70

-----  
 ELEC0068-012 06/01/2017

	Rates	Fringes
ELECTRICIAN (Includes Low Voltage Wiring).....	\$ 34.70	14.97

-----  
 ELEV0025-001 01/01/2017

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 42.35	31.58

FOOTNOTE:

a. Vacation: 6%/under 5 years based on regular hourly rate for all hours worked. 8%/over 5 years based on regular hourly rate for all hours worked.

b. PAID HOLIDAYS: New Year's Day; Memorial Day; Independence Day; Labor Day; Veterans' Day; Thanksgiving Day; the Friday after Thanksgiving Day; and Christmas Day.

-----  
 ENGI0009-017 05/01/2017

	Rates	Fringes
POWER EQUIPMENT OPERATOR (Crane)		
141 tons and over.....	\$ 29.82	10.10
50 tons and under.....	\$ 27.75	10.10
51 to 90 tons.....	\$ 27.92	10.10
91 to 140 tons.....	\$ 28.55	10.10

-----  
 IRON0024-009 05/01/2017

	Rates	Fringes
IRONWORKER, ORNAMENTAL.....	\$ 26.30	12.25

-----  
 IRON0024-010 05/01/2017

	Rates	Fringes
IRONWORKER, STRUCTURAL.....	\$ 26.30	12.25

-----  
 \* PAIN0079-006 08/01/2017

	Rates	Fringes
--	-------	---------

EXHIBIT E

PAINTER (Brush, Roller and  
Spray; Excludes Drywall  
Finishing/Taping).....\$ 20.50 8.41

\* PAIN0079-007 08/01/2017

Rates Fringes

DRYWALL FINISHER/TAPER.....\$ 21.20 8.41

PAIN0419-001 07/01/2016

Rates Fringes

SOFT FLOOR LAYER (Vinyl and  
Carpet).....\$ 20.00 10.83

\* PAIN0930-002 07/01/2017

Rates Fringes

GLAZIER.....\$ 31.02 9.37

PLUM0003-009 06/01/2017

Rates Fringes

PLUMBER (Excludes HVAC Duct,  
Pipe and Unit Installation).....\$ 34.53 16.44

PLUM0208-008 06/01/2017

Rates Fringes

PIPEFITTER (Includes HVAC  
Pipe and Unit Installation;  
Excludes HVAC Duct  
Installation).....\$ 33.30 17.65

SFCO0669-002 04/01/2017

Rates Fringes

SPRINKLER FITTER (Fire  
Sprinklers).....\$ 36.73 20.47

SHEE0009-004 07/01/2017

Rates Fringes

SHEET METAL WORKER (Includes  
HVAC Duct Installation;  
Excludes HVAC Pipe and Unit  
Installation).....\$ 33.26 16.61

SUCO2013-006 07/31/2015

EXHIBIT E

	Rates	Fringes
BRICKLAYER.....	\$ 21.96	0.00
CARPENTER (Acoustical Ceiling Installation Only).....	\$ 22.40	4.85
CARPENTER (Metal Stud Installation Only).....	\$ 17.68	0.00
CARPENTER, Excludes Acoustical Ceiling Installation, Drywall Hanging, and Metal Stud Installation.....	\$ 21.09	6.31
CEMENT MASON/CONCRETE FINISHER....	\$ 20.09	7.03
LABORER: Common or General.....	\$ 14.49	5.22
LABORER: Mason Tender - Brick....	\$ 15.99	0.00
LABORER: Mason Tender - Cement/Concrete.....	\$ 16.00	0.00
LABORER: Pipelayer.....	\$ 16.96	3.68
OPERATOR: Backhoe/Excavator/Trackhoe.....	\$ 20.78	5.78
OPERATOR: Bobcat/Skid Steer/Skid Loader.....	\$ 19.10	3.89
OPERATOR: Grader/Blade.....	\$ 21.50	0.00
ROOFER.....	\$ 16.56	0.00
TRUCK DRIVER: Dump Truck.....	\$ 17.34	0.00
WATERPROOFER.....	\$ 12.71	0.00

---

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

**Office of Human Resources**  
**Supplemental rates**  
**(Specific to the Denver projects)**  
**Supp #101, Date: 11-28-2016**

<b><u>Classification</u></b>		<b><u>Base</u></b>	<b><u>Fringe</u></b>
Boilermakers		\$30.97	\$21.45
Iron Worker, Reinforcing		\$18.49	\$3.87
Journeyman Tile Setter		\$26.83	\$8.48
Laborers: Concrete Saw		\$13.89	-
Paper Hanger		\$20.15	\$6.91
Plasters		\$24.60	\$12.11
Plaster Tenders		\$10.79	-
Power Equipment Operators (Concrete Mixers):			
	Less than 1 yd	\$23.67	\$10.67
	1 yd and over	\$23.82	\$10.68
Power Equipment Operators:			
	Loader up to and incl 6 cu yd	\$23.67	\$10.67
	Motor Grader	\$23.97	\$10.70
	Roller	\$23.67	\$10.67
	Drillers	\$23.97	\$10.70
	Loaders over 6 cu yd	\$23.82	\$10.68
	Oilers	\$22.97	\$10.70
	Mechanic	\$18.48	
Tile Finisher-Floor Grinder- Base Grinder		\$20.87	\$8.42
Truck Drivers	Flatbed	\$19.14	\$10.07
	Semi	\$19.48	\$10.11

- Caulkers—Receive rate prescribed for craft performing operation to which caulking is incidental .i.e. glazier, painter, brick layer, cement mason.
- Use the “Carpenters, Excludes Acoustical Ceiling Installation, Drywall Hanging, and Metal Stud Installation” rates published by the Federal Davis-Bacon rates for batt insulation, pre-stress concrete and tilt up concrete walls.
- Use the “Laborer—Common”, for General Housekeeping, Demolition, Final Cleanup and Indoor Fence Installer.
- Trade classification workers cannot be classified as common laborers for performing incidental cleanup from the installation of their craft. Common Laborers perform final cleanup of the entire jobsite.
- Go to [www.denvergov.org/Auditor](http://www.denvergov.org/Auditor) to view the Prevailing Wage Clarification Document for a list of complete classifications used.

Exhibit F

**CITY AND COUNTY OF DENVER  
DEPARTMENT OF PUBLIC WORKS**

**PERFORMANCE AND PAYMENT BOND**

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned \_\_\_\_\_  
\_\_\_\_\_  
a corporation organized and existing under and by virtue of the laws of the State of \_\_\_\_\_,  
hereafter referred to as the "Contractor", and \_\_\_\_\_,  
a corporation organized and existing under and by virtue of the laws of the State of \_\_\_\_\_,  
and authorized to transact business in the State of Colorado, as Surety, are held and firmly bound unto the CITY AND  
COUNTY OF DENVER, a municipal corporation of the State of Colorado, hereinafter referred to as the "City", in the  
penal sum of **One Million Seven Hundred Sixty-Four Thousand Dollars and Zero Cents (\$1,764,000.00)**, lawful  
money of the United States of America, for the payment of which sum, well and truly to be made, we bind ourselves  
and our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents;

THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH THAT:

WHEREAS, the above bounden Contractor has entered into a written contract with the aforesaid City for furnishing  
all labor and tools, supplies, equipment, superintendence, materials and everything necessary for and required to do,  
perform and complete the construction of **CONTRACT NO. 201845210, Lindsey-Flanigan Courthouse—Glass  
Guardrail Replacement**, Denver, Colorado, and has bound itself to complete the project within the time or times  
specified or pay liquidated damages, all as designated, defined and described in the said Contract and Conditions  
thereof, and in accordance with the Plans and Technical Specifications therefore, a copy of said Contract being made  
a part hereof;

NOW, THEREFORE, if the said Contractor shall and will, in all particulars well and truly and faithfully observe,  
perform and abide by each and every Covenant, Condition and part of said Contract, and the Conditions, Technical  
Specifications, Plans, and other Contract Documents thereto attached, or by reference made a part thereof and any  
alterations in and additions thereto, according to the true intent and meaning in such case, then this obligation shall be  
and become null and void; otherwise, it shall remain in full force and effect;

PROVIDED FURTHER, that if the said Contractor shall satisfy all claims and demands incurred by the Contractor in  
the performance of said Contract, and shall fully indemnify and save harmless the City from all damages, claims,  
demands, expense and charge of every kind (including claims of patent infringement) arising from any act, omission,  
or neglect of said Contractor, its agents, or employees with relation to said work; and shall fully reimburse and repay  
to the City all costs, damages, and expenses which it may incur in making good any default based upon the failure of  
the Contractor to fulfill its obligation to furnish maintenance, repairs or replacements for the full guarantee period  
provided in the Contract Documents, then this obligation shall be null and void; otherwise it shall remain in full force  
and effect;

PROVIDED FURTHER, that if said Contractor shall at all times promptly make payments of all amounts lawfully  
due to all persons supplying or furnishing it or its subcontractors with labor and materials, rental machinery, tools or  
equipment used or performed in the prosecution of work provided for in the above Contract and that if the Contractor  
will indemnify and save harmless the City for the extent of any and all payments in connection with the carrying out  
of such Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect;

PROVIDED FURTHER, that if the said Contractor fails to duly pay for any labor, materials, team hire, sustenance,  
provisions, provender, gasoline, lubricating oils, fuel oils, grease, coal, or any other supplies or materials used or  
consumed by said Contractor or its subcontractors in performance of the work contracted to be done, or fails to pay  
any person who supplies rental machinery, tools or equipment, all amounts due as the result of the use of such  
machinery, tools or equipment in the prosecution of the work, the Surety will pay the same in any amount not  
exceeding the amount of this obligation, together with interest as provided by law;

# Exhibit F

PROVIDED FURTHER, that the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract, or to contracts with others in connection with this project, or the work to be performed thereunder, or the Technical Specifications and Plans accompanying the same, shall in any way affect its obligation on this bond and it does hereby waive notice of any change, extension of time, alteration or addition to the terms of the Contract, or contracts, or to the work, or to the Technical Specifications and Plans.

IN WITNESS WHEREOF, said Contractor and said Surety have executed these presents as of this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

Attest:

\_\_\_\_\_  
Secretary

\_\_\_\_\_  
**Contractor**

By: \_\_\_\_\_  
**President**

\_\_\_\_\_  
**Surety**

By: \_\_\_\_\_  
**Attorney-In-Fact**

(Accompany this bond with Attorney-in-Fact's authority from the Surety to execute bond, certified to include the date of the bond).

APPROVED AS TO FORM:  
Attorney for the City and County of Denver

By: \_\_\_\_\_  
**Assistant City Attorney**

APPROVED FOR THE CITY AND COUNTY OF  
DENVER

By: \_\_\_\_\_  
**MAYOR**

By: \_\_\_\_\_  
**EXEC. DIR. OF PUBLIC WORKS**

DEPARTMENT OF PUBLIC WORKS
Engineering Division

FINAL/PARTIAL RELEASE AND CERTIFICATE OF PAYMENT
(SUBCONTRACTOR/SUPPLIER)

(PROJECT NO. and NAME)

Date: \_\_\_\_\_, 20\_\_.

(NAME OF CONTRACTOR)

Subcontract #: \_\_\_\_\_.

(NAME OF SUBCONTRACTOR/SUPPLIER)

Subcontract Value: \$ \_\_\_\_\_.

Last Progress Payment: \$ \_\_\_\_\_.

Date: \_\_\_\_\_.

Total Paid to Date: \$ \_\_\_\_\_.

Date of Last Work: \_\_\_\_\_.

Check Applicable Box:
[ ] MBE [ ] WBE

The Undersigned hereby certifies that all costs, charges or expenses incurred by the undersigned or on behalf of the undersigned for any work, labor or services performed and for any materials, supplies or equipment provided on the above referenced Project or used in connection with the above referenced Subcontract (the "Work Effort") have been duly paid in full.

The Undersigned further certifies that each of the undersigned's subcontractors and suppliers that incurred or caused to be incurred, on their behalf, costs, charges or expenses in connection with the undersigned's Work Effort on the above referenced Project have been duly paid in full.

In consideration of \$\_\_\_\_\_ representing the Last Progress Payment referenced above and in further consideration of the Total Paid to Date, also referenced above, and other good and valuable consideration received and accepted by the undersigned this \_\_\_\_ day of \_\_\_\_\_, 20\_\_, the Undersigned hereby releases and discharges the City and County of Denver (the "City"), the above referenced City Project, the City's premises and property and the above referenced Contractor from all claims, liens, rights, liabilities, demands and obligations, whether known or unknown, of every nature arising out of or in connection with the performance of the work effort.

As additional consideration for the payments referenced above, the undersigned agrees to defend, indemnify and save and hold harmless the City, its officers, employees, agents and assigns and the above-referenced Contractor from and against all costs, losses, damages, causes of action, judgments under the subcontract and expenses arising out of or in connection with any claim or claims against the City or the Contractor which arise out of the Undersigned's performance of the Work Effort and which may be asserted by the Undersigned or any of its suppliers or subcontractors of any tier or any of their representatives, officers, agents, or employees.

It is acknowledged that this release is for the benefit of and may be relied upon by the City and the referenced Contractor.

The foregoing shall not relieve the undersigned of any obligation under the provisions of the Undersigned's subcontract, as the subcontract may have been amended, which by their nature survive completion of the Undersigned's work effort including, without limitation, warranties, guarantees, insurance requirements and indemnities.

STATE OF COLORADO ) ss.
CITY OF \_\_\_\_\_)

(Name of Subcontractor)

Signed and sworn before me this
day of \_\_\_\_\_, 20\_\_.

By: \_\_\_\_\_

Notary Public/Commissioner of Oaths
My Commission Expires

Title: \_\_\_\_\_



Current Date

**NOTICE TO PROCEED  
(SAMPLE)**

Name  
Company  
Street  
City/State/Zip

**CONTRACT NO. 201845210; LINDSEY FLANAGAN COURTHOUSE GUARDRAIL  
REPLACEMENT**

In accordance with General Contract Condition 302 of the Standard Specifications for Construction, General Contract Conditions, 2011 Edition, you are hereby authorized and directed to proceed on \_\_\_\_\_ with the work of constructing contract number 201845210, as set forth in detail in the contract documents for the City and County of Denver.

With a contract time of \_\_\_\_\_ calendar days, the project must be complete on or before \_\_\_\_\_.

If you have not already done so, you must submit your construction schedule, in accordance with General Contract Condition 306.2.B, to the Project Manager within 10 days. Additionally, you must submit your tax-exempt certificate, and copies of your subcontractors' certificates, in accordance with General Contract Condition 323.5, to the Project Manager as soon as possible. Failure to submit these certificates will delay processing of payment applications.

Sincerely,

Lesley B. Thomas  
City Engineer

cc:

Denver Public Works/Office of the Executive Director  
201 West Colfax Avenue, Dept 608 | Denver, CO 80202  
[www.denvergov.org/dpw](http://www.denvergov.org/dpw)  
p. 720.865.8630 | f. 720.865.8795





Certificate of Contract Release  
(SAMPLE)

Date

Name  
Company  
Street  
City/State/Zip

RE: Certificate of Contract Release for  
**201845210, LINDSEY-FLANIGAN COURTHOUSE GUARDRAIL REPLACEMENT**

Received this date of the City and County of Denver, as full and final payment of the cost of the improvements provided for in the foregoing contract, \_\_\_\_\_ dollars and \_\_\_\_\_ cents (\$\_\_\_\_\_), in cash, being the remainder of the full amount accruing to the undersigned by virtue of said contract; said cash also covering and including full payment for the cost of all extra work and material furnished by the undersigned in the construction of said improvements, and all incidentals thereto, and the undersigned hereby releases said City and County of Denver from any and all claims or demands whatsoever, regardless of how denominated, growing out of said contract.

And these presents are to certify that all persons performing work upon or furnishing materials for said improvements under the foregoing contract have been paid in full and this payment to be made is the last or final payment.

---

Contractor's Signature

Date Signed

If there are any questions, please contact me by telephone at (720) 913-XXXX. Please return this document via facsimile at (720) 913-1805 and mail to original to the above address.

Denver Public Works/Office of the Executive Director  
201 West Colfax Avenue, Dept 608 | Denver, CO 80202  
[www.denvergov.org/dpw](http://www.denvergov.org/dpw)  
p. 720.865.8630 | f. 720.865.8795

September 4, 2018

Michael Young  
Project Manager  
Denver Public Works  
Facilities Capital Projects Management  
201 West Colfax Ave, Dept. 506  
Denver, CO 80202

Re: Lindsey-Flanigan Courthouse Glass Guardrail Replacement

Mr. Young,

We have reviewed the information submitted for the replacement of the glass guardrail system at the Denver Justice Center. The information included shop drawings from Southwest Metalsmiths, Inc. dated 5/24/2018 and a package of calculations from GLR Engineers, PLLC dated 7/12/2018.

Our review has determined that the information provided is complete, comprehensive, and that the design intent has been maintained as directed by the Client and Owner. Southwest Metalsmiths shall add the required code information to the cover sheet of the drawings as well as the other information as noted per Cannon Design's review. If Southwest Metalsmiths has any questions regarding the mark-ups provided by Cannon Design, Southwest Metalsmiths shall notify Cannon Design prior to issuing the drawings to the City and County of Denver for permit.

A structural review of the drawings has also been completed and a summary of their review has been documented in a formal letter titled "DJCC.Handrail Replacement.ltr.jmk."

If you have any questions or need additional information, please call me at my contact information below.

Sincerely,

Jason Finnegan, AIA  
Vice President

**CANNONDESIGN**  
201 Broadway  
Denver, CO 80203  
720.644.4024  
CANNONDESIGN.COM





Denver

Abu Dhabi

Civil

Structural

Integrated Services

August 29, 2018

Jason Finnegan  
Cannon Design  
201 Broadway  
Denver, Colorado 80203

RE: Glass Handrail Replacement  
Denver Justice Center Courthouse

Jason:

We have reviewed the information submitted for the replacement glass hand rail system at the Denver Justice Center. The information included shop drawings from Southwest Metalsmiths, Inc. dated 5/24/2018 and a package of calculations from GLR Engineers, PLLC dated 7/12/2018.

Our review showed the information to be complete and comprehensive and we have no comments or take no exceptions to the submittals except for the following item.

The new glass railing components are approximately 1/8" thicker than the original railing construction and weigh approximately 25% more. Using this increase we reviewed the capacity of the existing stair superstructure supporting the handrail to determine if the increase in railing weight exceeds the safe capacity of the superstructure.

Our review shows the increase in handrail weight can be safely accommodated by the existing superstructure without reinforcement or other remedial work.

If you have any questions or need additional information please call me at my contact information below.

Sincerely,

**S. A. Miro, Inc.**



John M. Karlberg, P.E.  
Associate Principal

8/29/2018

**S. A. Miro, Inc.**  
4582 S. Ulster St. Pkwy, Ste 750  
Denver, Colorado 80237-2639  
Phone: 303-741-3737 / Fax 303-694-3134  
Direct: 720-407-1016 / Fax 720-407-1616  
jkarlberg@samiro.com www.samiro.com

JMK/jmk (DJCC.Handrail Replacement.ltr.jmk)

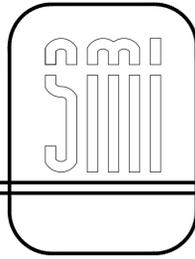
**LFC - Glass Guardrail Replacement**

Owner: City and County of Denver  
Architect: GKK

Drawing Date: N/A  
Revision No: 00

**Clarifications and Assumptions**

- 1 The following Assumptions and Clarifications are provided to convey the basis of the estimate and general approach taken by Hensel Phelps in the preparation of the estimate. The detailed estimate backup provided for each area of the project shall serve as a reference for all scope of work (work activity, assumed quantity and level of quality) which has been taken into account in this estimate. Work not specifically indicated in this detailed backup should be considered Not Included (NIC).
- 2 The estimate is based on five, eight hour workdays per week. All work will be performed at night.
- 3 The estimate does not include an cost associated with contaminated or hazardous materials, soil or water.
- 4 The estimate is based on Shop Drawings prepared by Southwest Metalsmiths.
- 5 The estimate includes an Allowance of \$5,800 for the replacement of Glass Panels in the Jail.
- 6 The estimate includes the rental of Scaffolding from September through the completion of the project.
- 7 The estimate includes access to the site through the main entrance of the Facility. Owner agrees to provide areas within the facility where materials and tools can be stored.
- 8 It is assumed that all materials will be either staged on site or be stored in an off site location. Owner agrees to payment of materials stored off site in a bonded warehouse.
- 9 The 12'-9" glass requires prepayment prior to fabrication. The value of this material is \$61,901. The cost of the glass is included in the cost of work and the finance charge for 90 days is included as a separate line item.
- 10 The estimate includes replacement of all rubber grommets and washers for the glass reinstallation.
- 11 The estimate includes Re-finishing of damaged stainless steel handrails and providing a "once over" for the like new appearance on all stainless steel handrails, and physically re-tightening of each point supported attachment on all glass.
- 12 The estimate includes temporary partitions to protect the public while the glass handrail has been removed.
- 13 This estimate does not include any special disposal requirements. Subcontractor will dispose of waste per all applicable Federal, State, and Local laws.
- 14 Preconstruction costs are not included in this GMP.
- 15 Contractor Contingency shown in this GMP is for use by the Contractor. It is understood that the Owner is carrying its own contingency for its use.
- 16 Schedule includes 222 calendar days from NTP to Substantial Completion. In order to meet the NTP start date the following activities need to be achieved:  
Executed Contract  
Building Permit  
Final Design Documents submitted for permit to City of Denver from GKK



SOUTHWEST METAL SMITHS

I N C O R P O R A T E D

# DENVER JUSTICE CENTER

## DENVER, COLORADO

### DRAWING INDEX

SHEET NO.	DESCRIPTION	DATE	REVISION
000	COVER SHEET – DRAWING INDEX	05/23/18	0
20	OVERALL PLAN VIEW – COURTHOUSE	05/23/18	0
201	ENLARGED PLAN VIEW STAIR 6	05/23/18	0
202	ENLARGED PLAN VIEW STAIR 6	05/23/18	0
203	ELEVATIONS – STAIR SIX	05/23/18	0
S203	ELEVATIONS – STAIR SIX – FAB	05/23/18	0
204	ELEVATIONS – STAIR SIX	05/23/18	0
S204	ELEVATIONS – STAIR SIX – FAB	05/23/18	0
205	ELEVATIONS – STAIR SIX	05/23/18	0
S205	ELEVATIONS – STAIR SIX – FAB	05/23/18	0
206	SECTIONS AND DETAILS – STAIR 6	05/23/18	0
207	DETAILS – STAIR 6	05/23/18	0
208	DETAILS – STAIR 6	05/23/18	0
209	DETAILS – STAIR 6	05/23/18	0
209A	DETAILS – STAIR 6	05/23/18	0
210	DETAILS – STAIR 6	05/23/18	0
211	GUARDRAIL AT STAIR LANDING	05/23/18	0
501	ENLARGED PLAN VIEW / SECTION WEST BRIDGE	05/23/18	0
502	ELEVATIONS – WEST BRIDGE	05/23/18	0
503	DETAILS – WEST BRIDGE	05/23/18	0

### GENERAL NOTES:

ABBREVIATION	DESCRIPTION
AFF	ABOVE FINISHED FLOOR
ALUM	ALUMINUM
APPV	APPROVER
ASSY	ASSEMBLY
CL	CENTER LINE
CMU	CONCRETE/BRICK WALL
CTRD	CENTERED
ELEV	ELEVATION
F.F.	FINISHED FLOOR
F.S.	FAR SIDE
F.W.E.C.	FLAT WELDED END CAP
MAT'L	MATERIAL
N.S.	NEAR SIDE
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
REV	REVISION
R.F.I.	REQUEST FOR INFORMATION
S.H.C.S.	SOCKET HEAD CAP SCREW
S.S.	STAINLESS STEEL
T.S.	TUBE STEEL
V.I.F.	VERIFY IN FIELD
△	DELTA



08/01/2018  
FOR STRUCTURAL ITEMS NOTED IN  
GLR ENGINEERS' CALCULATIONS ONLY

**NOTE:**  
ALL GLASS TO BE 11/16" TEMPERED CLEAR LAMINATE, WITH SENTRYGLAS INTERLAYER.

**MAKE UP:**  
3/8" CLEAR TEMPERED  
.070 SENTRYGLAS INTERLAYER  
1/4" CLEAR TEMPERED

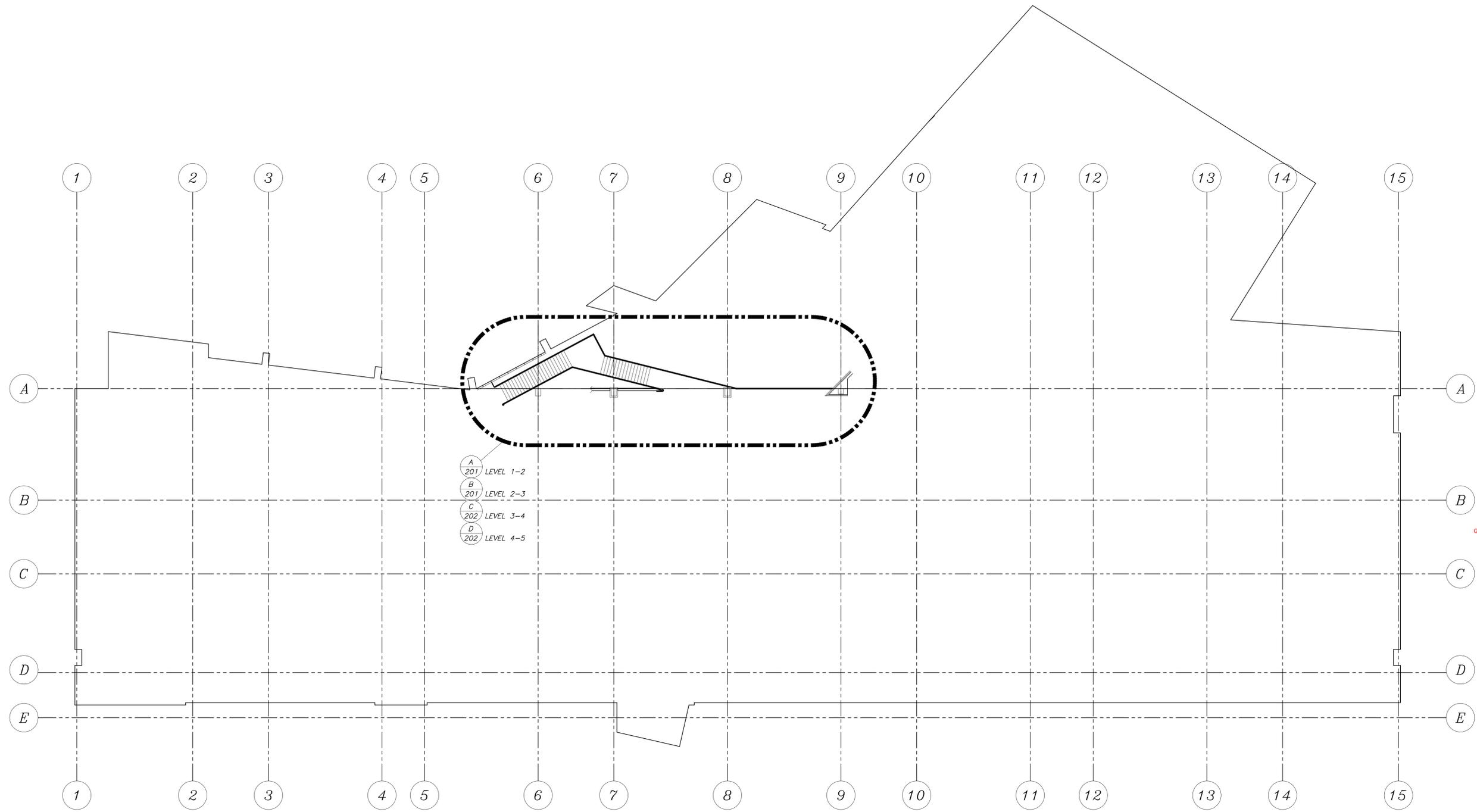
NO.	DATE	BY	REVISIONS
8			
7			
6			
5			
4			
3			
2			
1			

CUSTOMER:  
ARCHITECT: GKK  
CONTRACTOR: HANSEL PHELPS  
JOB NAME: DENVER JUSTICE CENTER  
COURTHOUSE  
LOCATION: DENVER, COLORADO

DRAWN: JTB CHK: SHEET # 000 SMI JOB NUMBER 10-0725  
DATE: 05/24/18 DATE: CAD FILE: 000.DWG

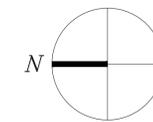
TITLE: COVER SHEET  
MATERIAL: FINISH:





08/01/2018  
FOR STRUCTURAL ITEMS NOTED IN  
GLR ENGINEERS' CALCULATIONS ONLY

**COURTHOUSE OVERALL PLAN**  
ARCH REF: A5/A-101A; A5/A-101B SCALE: 1/16" = 1'-0"



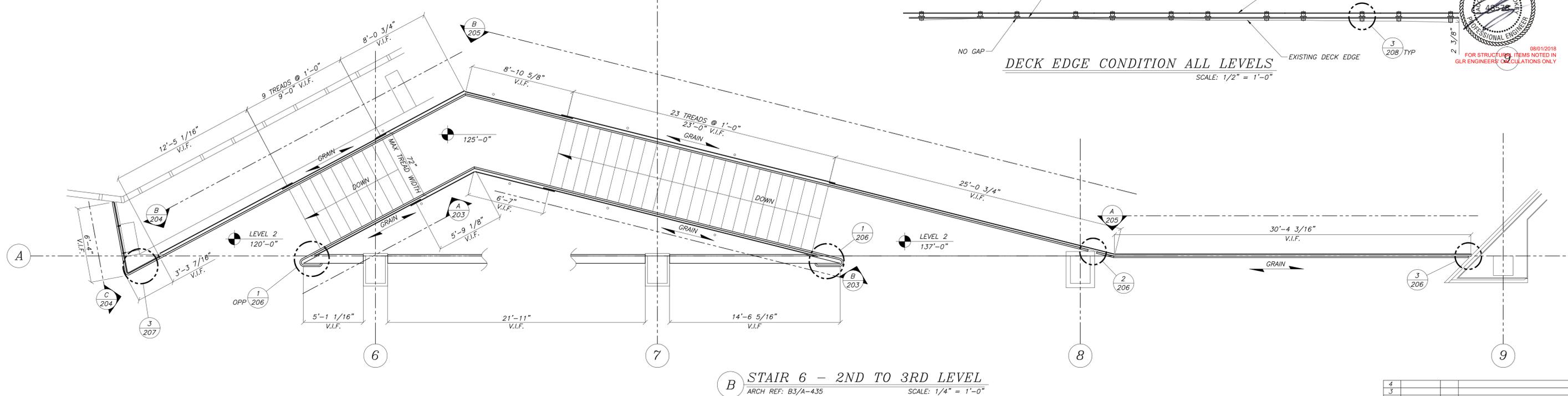
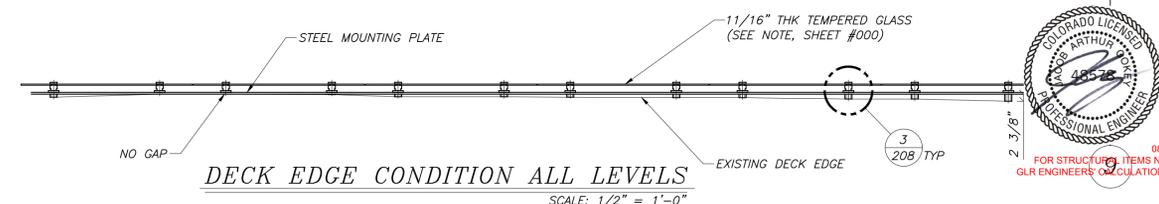
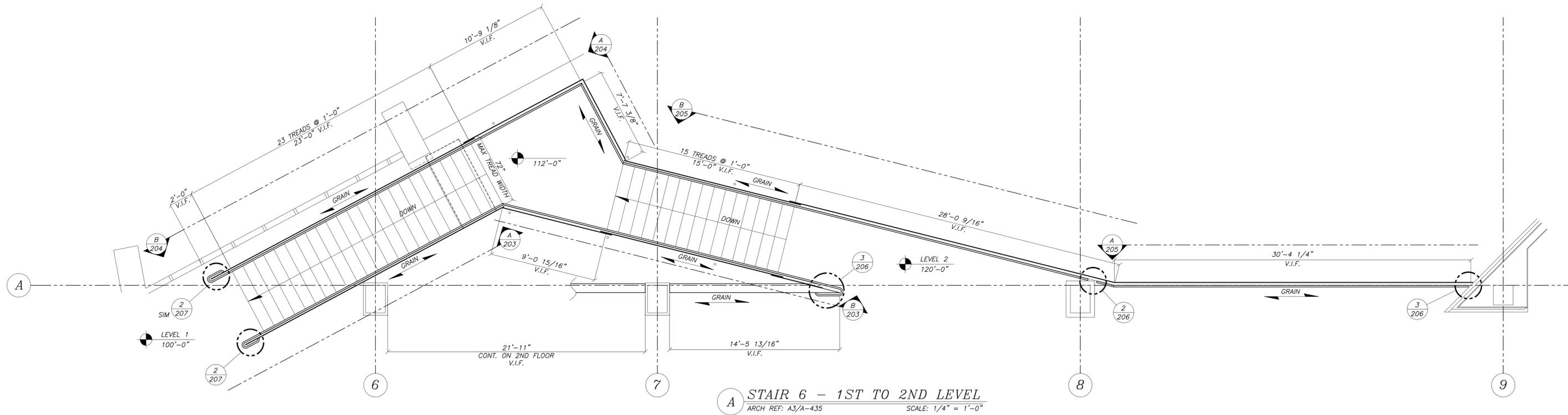
4			
3			
2			
1			
NO.	DATE	BY	REVISIONS
CUSTOMER:			
ARCHITECT: GKK			
CONTRACTOR: HANSEL PHELPS			
JOB NAME: DENVER JUSTICE CENTER			
LOCATION: DENVER, COLORADO			
DRAWN: JTB	CHKD:	SHEET #	SMI JOB NUMBER
DATE: 05/24/18	DATE:	20	10-0725
CAD FILE:			

TITLE: **OVERALL PLAN VIEW  
COURTHOUSE**

MATERIAL:

FINISH:



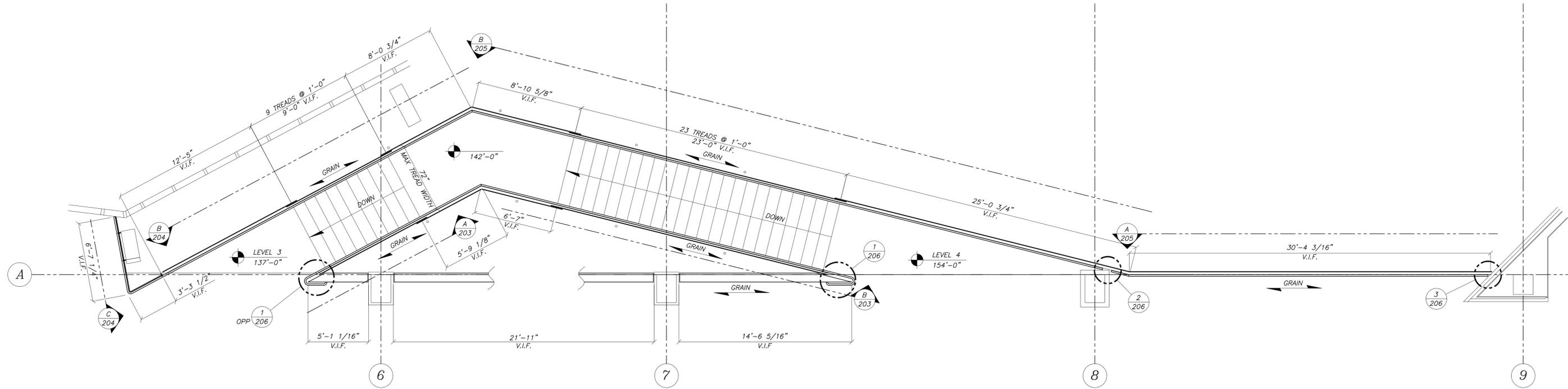


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3			
2			
1			
NO.	DATE	BY	REVISIONS
CUSTOMER:			
ARCHITECT:			
CONTRACTOR:			
JOB NAME:			
LOCATION:			
DRAWN:	JTB	CHK:	
DATE:	05/24/18	DATE:	
CAD FILE:		SHEET #	201
		SM JOB NUMBER	10-0725

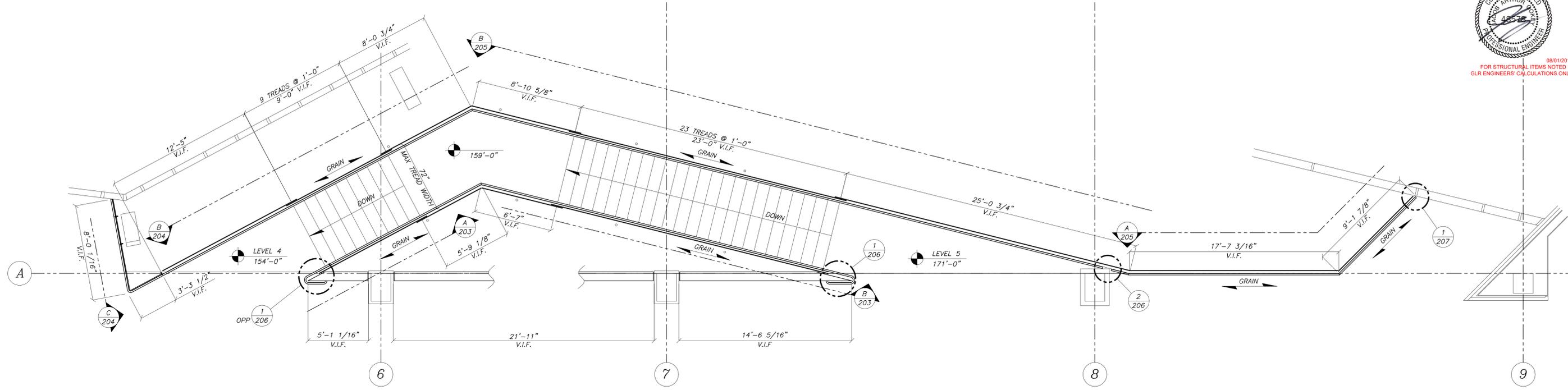
TITLE: ENLARGED PLAN VIEW STAIR 6  
COURTHOUSE

MATERIAL: FINISH:





**C** STAIR 6 - 3RD THRU 4TH LEVEL  
 ARCH REF: A3/A-435 SCALE: 1/4" = 1'-0"



**D** STAIR 6 - 4TH THRU 5TH LEVEL  
 ARCH REF: A3/A-435 SCALE: 1/4" = 1'-0"



FOR STRUCTURAL ITEMS NOTED IN  
 GLR ENGINEERS' CALCULATIONS ONLY

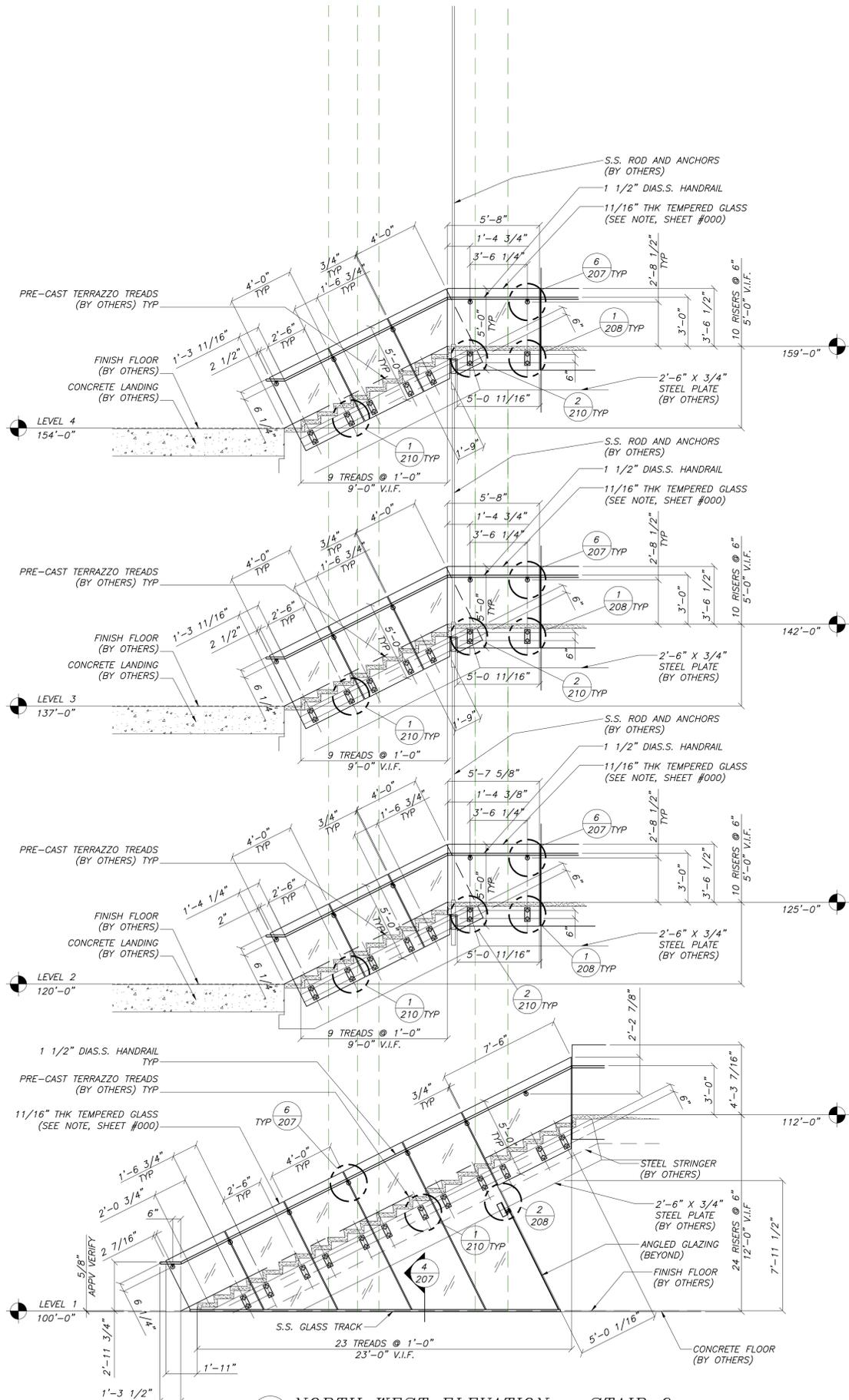
4			
3			
2			
1			
NO.	DATE	BY	REVISIONS
CUSTOMER:			
ARCHITECT:			
CONTRACTOR:			
JOB NAME:			
LOCATION:			
DRAWN:	JTB	CHK:	
DATE:	05/24/18	DATE:	
CAD FILE:		SHEET #	202
		SMI JOB NUMBER	10-0725

TITLE: ENLARGED PLAN VIEW  
 COURTHOUSE

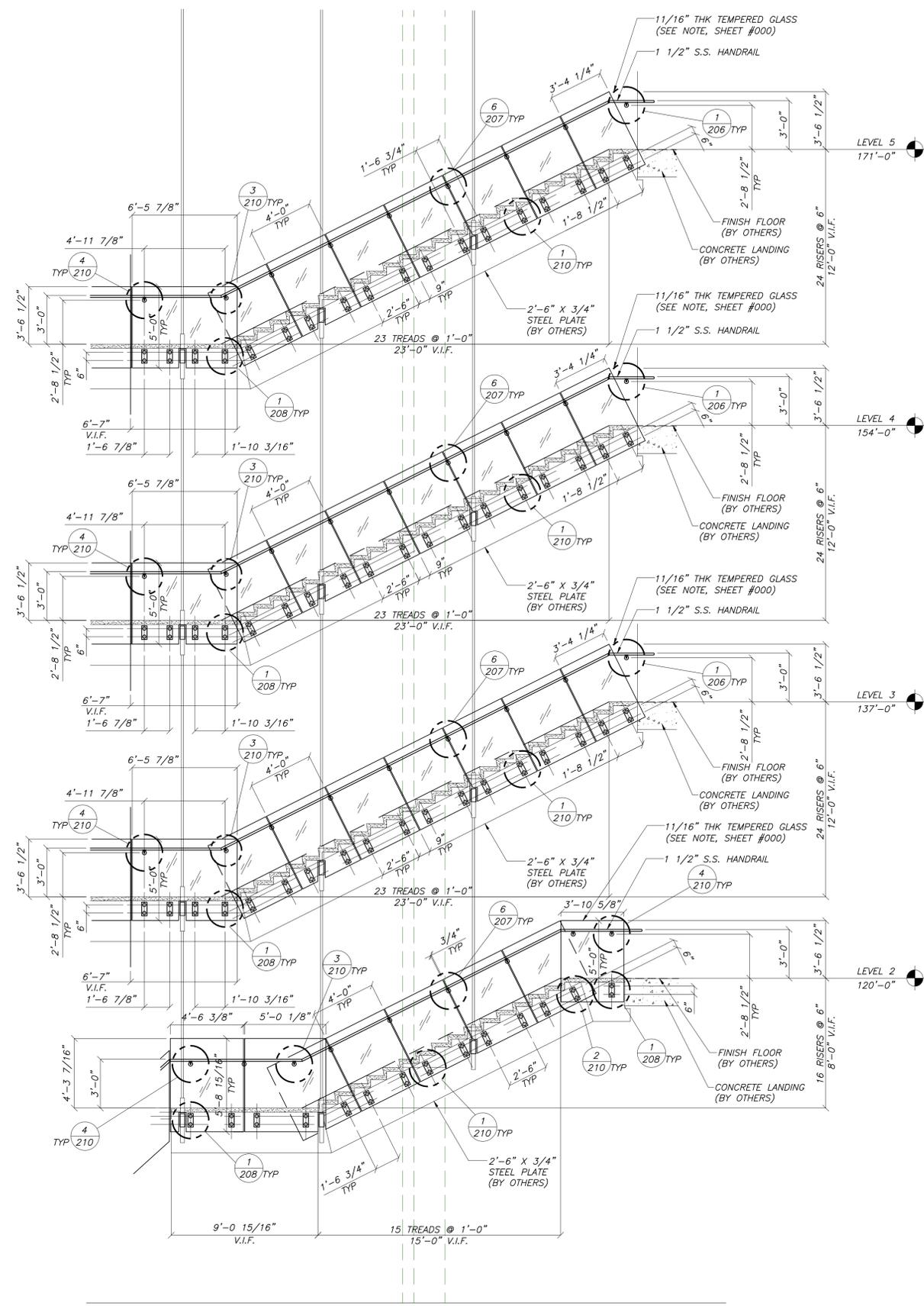
MATERIAL:

FINISH:





**A NORTH WEST ELEVATION - STAIR 6**  
 ARCH REF: SCALE: 1/4" = 1'-0"



**B SOUTH WEST ELEVATION - STAIR 6**  
 ARCH REF: SCALE: 1/4" = 1'-0"



FOR STRUCTURAL ITEMS NOTED IN GLR ENGINEERS' CALCULATIONS ONLY

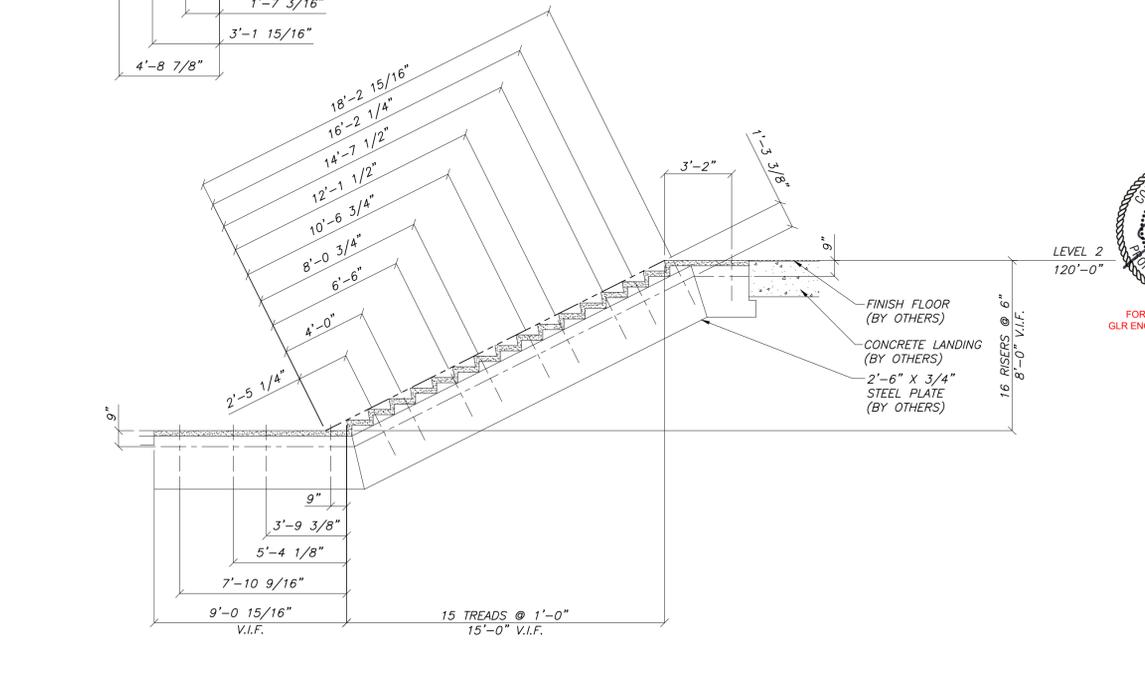
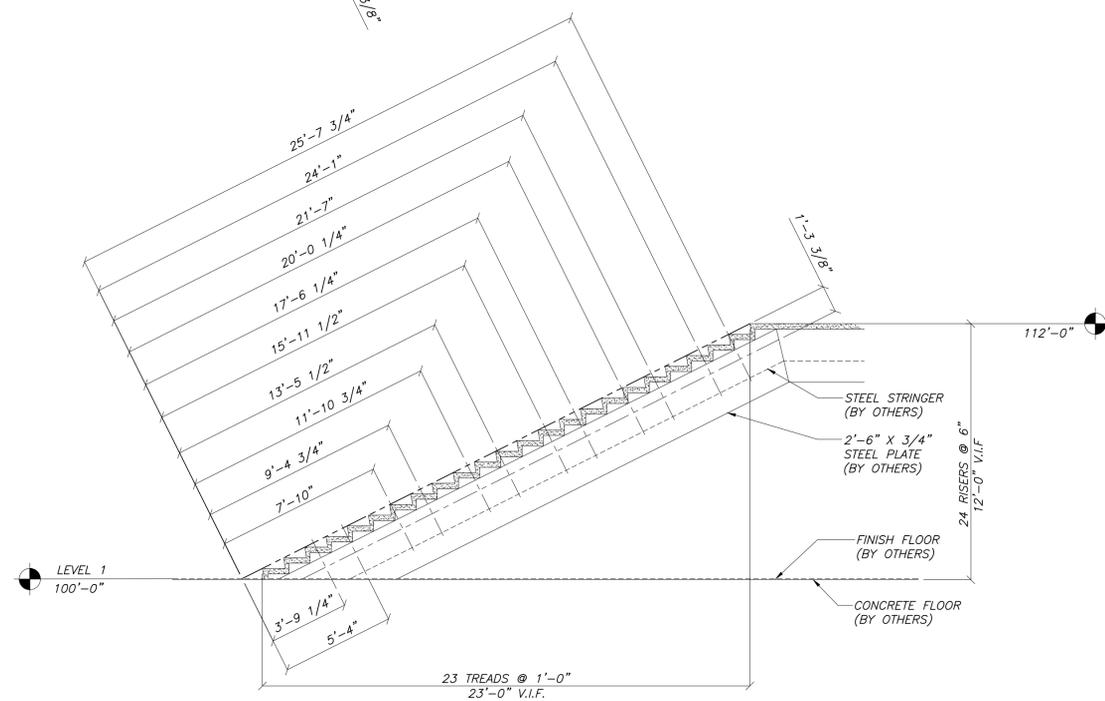
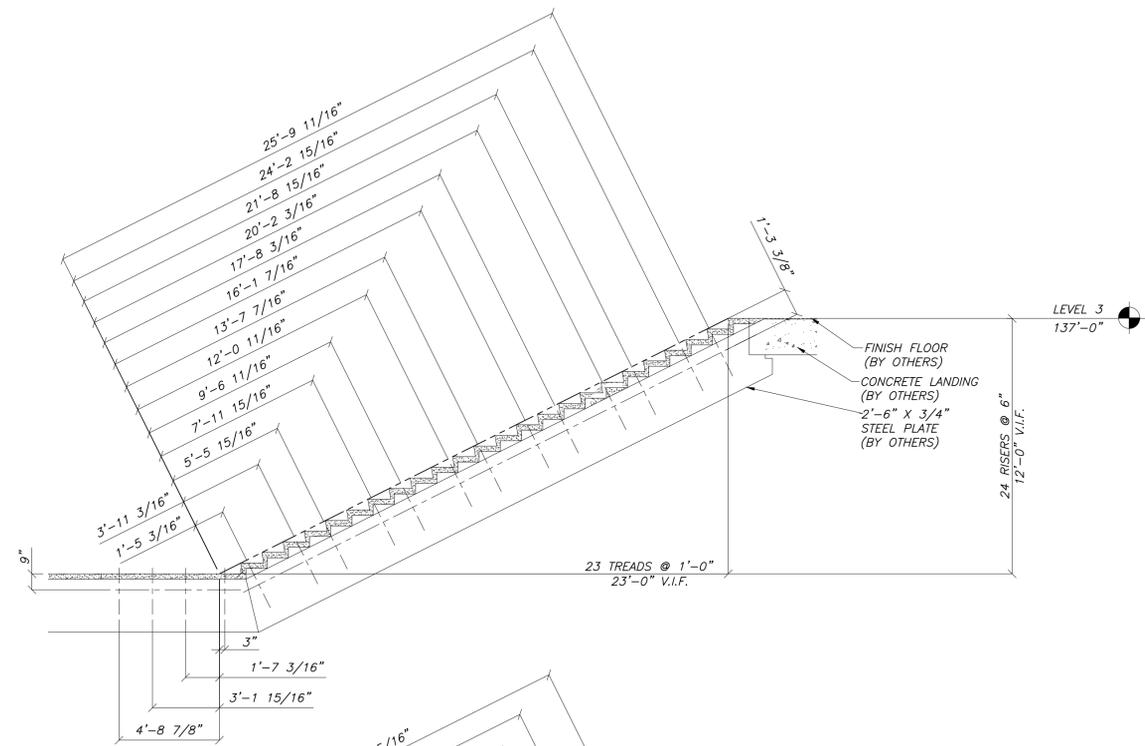
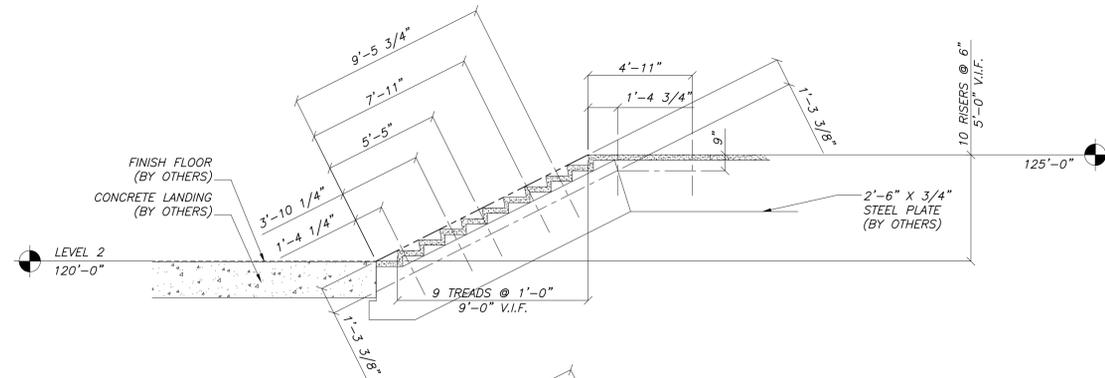
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CUSTOMER: GKK  
 ARCHITECT: HANSEL PHELPS  
 CONTRACTOR: DENVER JUSTICE CENTER  
 JOB NAME: COURTHOUSE  
 LOCATION: DENVER, COLORADO

DRAWN: JTB  
 DATE: 05/24/18  
 SHEET # 203  
 SM JOB NUMBER 10-0725

TITLE: ELEVATIONS - STAIR SIX  
 COURTHOUSE





**A** NORTH WEST ELEVATION - STAIR 6  
 ALL DIMENSIONS ARE FROM NOSELINE OF FINISHED STAIRS TO VERTICAL AND HORIZONTAL CENTERLINE OF 2X4 AESS TUBE ARM SCALE: 1/4" = 1'-0"

**B** SOUTH WEST ELEVATION - STAIR 6  
 ALL DIMENSIONS ARE FROM NOSELINE OF FINISHED STAIRS TO VERTICAL AND HORIZONTAL CENTERLINE OF 2X4 AESS TUBE ARM SCALE: 1/4" = 1'-0"



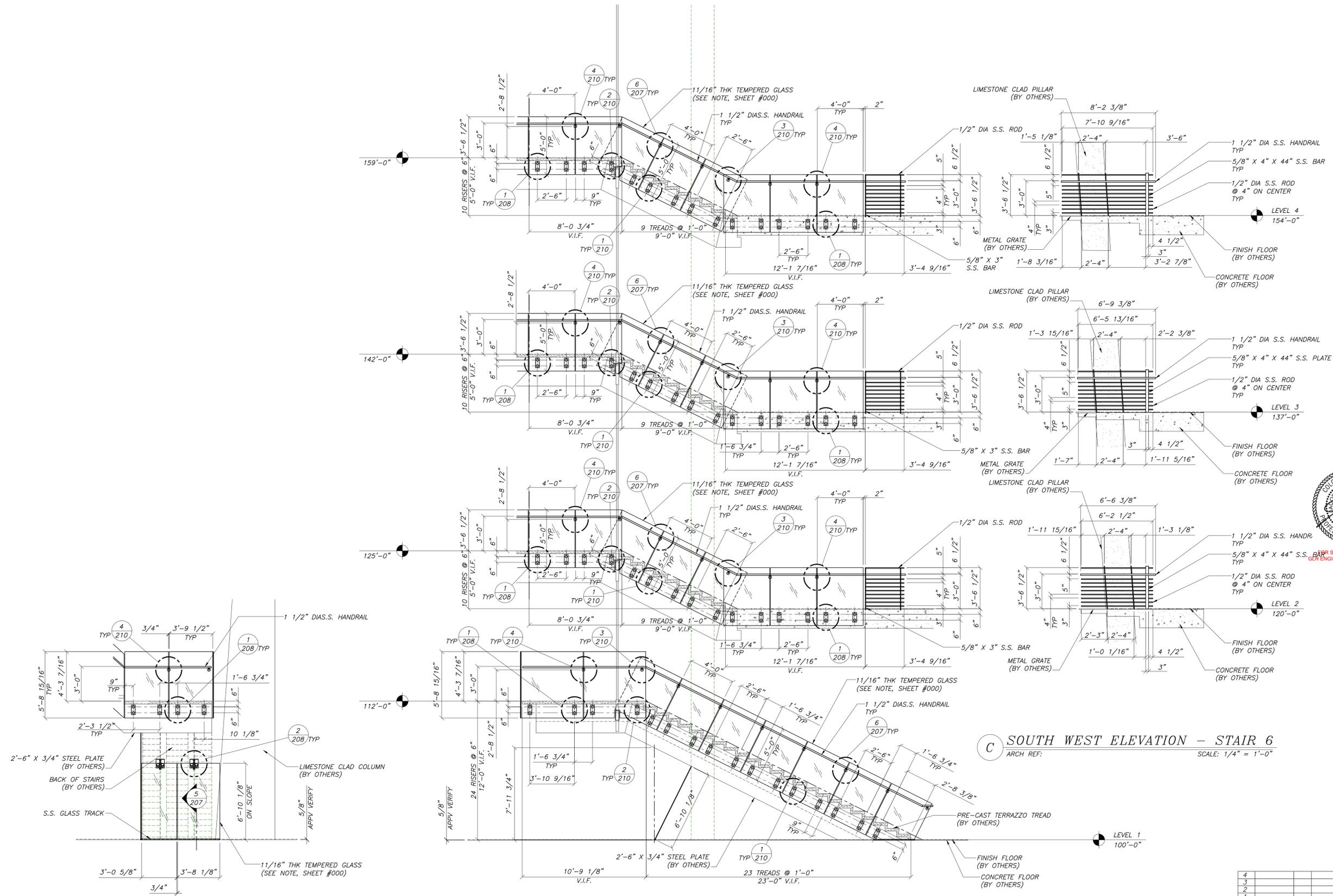
08/01/2018  
 FOR STRUCTURAL ITEMS NOTED IN  
 GLR ENGINEERS' CALCULATIONS ONLY

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CUSTOMER:			
ARCHITECT: GKK			
CONTRACTOR: HANSEL PHELPS			
JOB NAME: DENVER JUSTICE CENTER			
LOCATION: DENVER, COLORADO			
DRAWN: JTB	CHK:	SHEET #	SMI JOB NUMBER
DATE: 05/24/18	DATE:		S203 10-0725
CAD FILE:			

TITLE: ELEVATIONS - STAIR SIX  
 COURTHOUSE

MATERIAL: FINISH:





FOR STRUCTURAL ITEMS NOTED IN G.E.R. ENGINEERS CALCULATIONS ONLY

**A** SOUTH WEST ELEVATION - STAIR 6  
ARCH REF: SCALE: 1/4" = 1'-0"

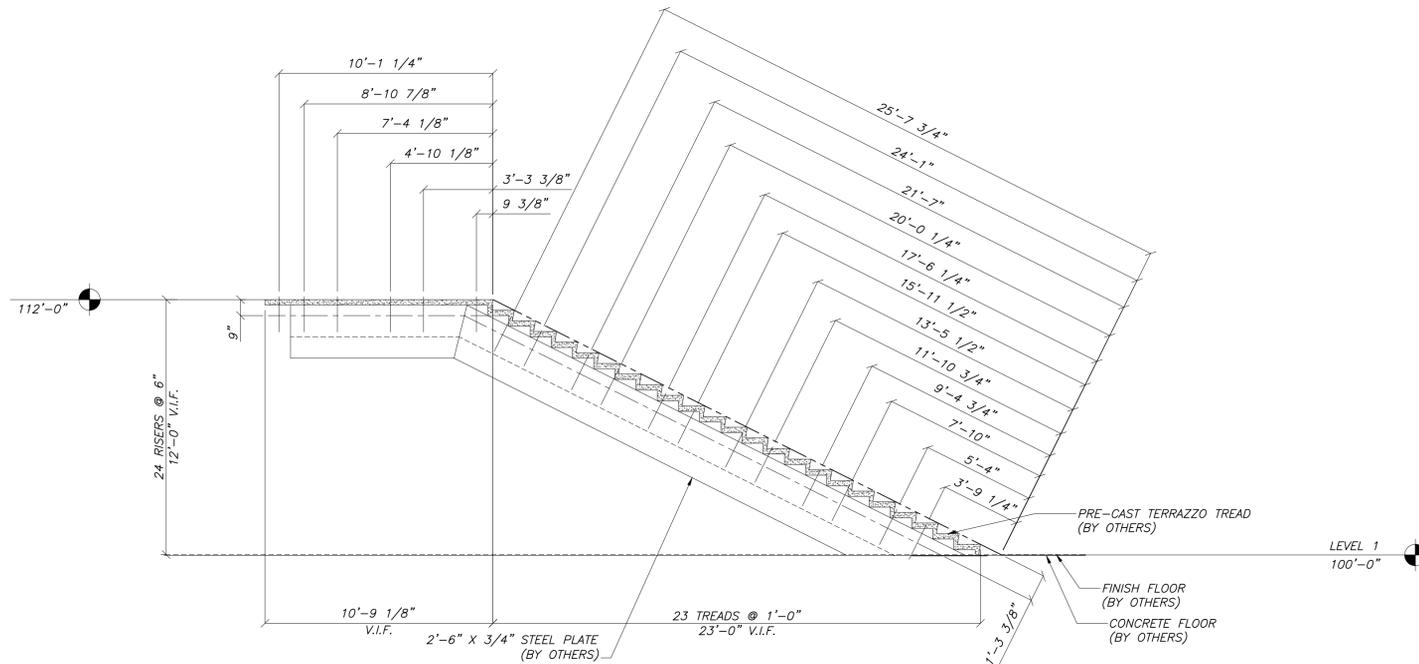
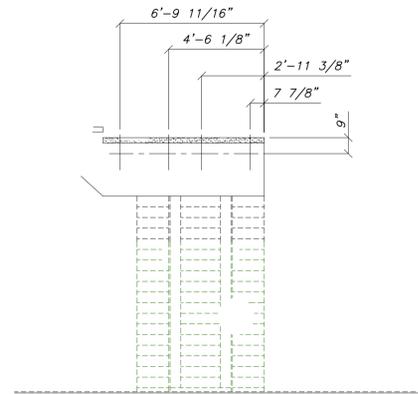
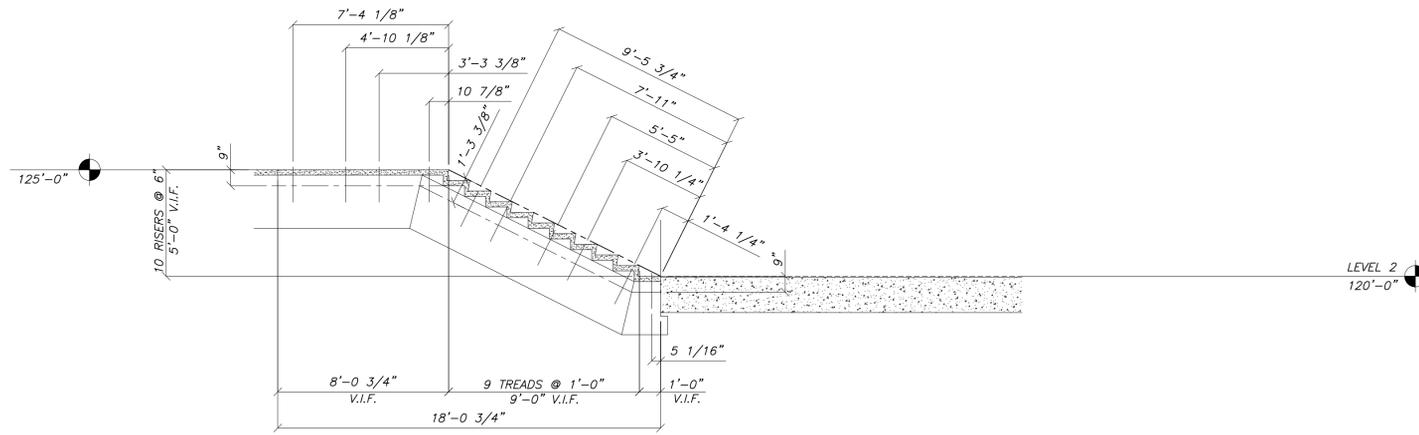
**B** SOUTH WEST ELEVATION - STAIR 6  
ARCH REF: SCALE: 1/4" = 1'-0"

**C** SOUTH WEST ELEVATION - STAIR 6  
ARCH REF: SCALE: 1/4" = 1'-0"

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CUSTOMER:			
ARCHITECT:			
CONTRACTOR:			
JOB NAME:			
LOCATION:			
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DATE:	05/24/18	DATE:	
CAD FILE:		SHEET #	204
		SMI JOB NUMBER	10-0725

TITLE: ELEVATIONS - STAIR 6  
COURTHOUSE





**A SOUTH WEST ELEVATION - STAIR 6**  
 ALL DIMENSIONS ARE FROM FINISHED FLOOR AT LANDING LEVEL TO VERTICAL AND HORIZONTAL CENTERLINE OF AESS TUBE ARM  
 SCALE: 1/4" = 1'-0"

**B SOUTH WEST ELEVATION - STAIR 6**  
 ALL DIMENSIONS ARE FROM NOSELINE OF FINISHED STAIRS TO VERTICAL AND HORIZONTAL CENTERLINE OF AESS TUBE ARM  
 SCALE: 1/4" = 1'-0"



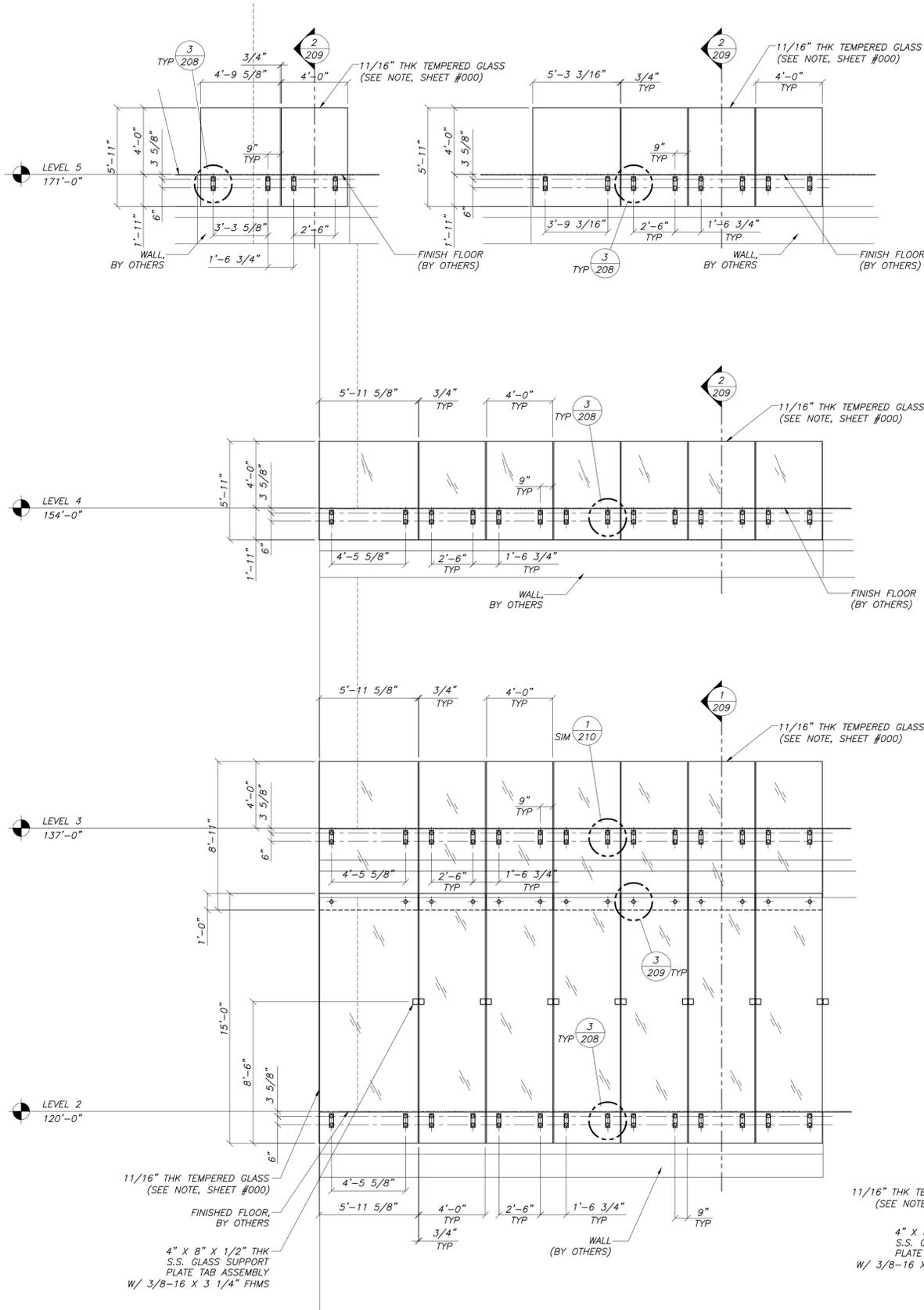
08/1/2018  
 FOR STRUCTURAL ITEMS NOTED IN  
 GLR ENGINEERS' CALCULATIONS ONLY

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NO.	DATE	BY	REVISIONS
CUSTOMER:			
ARCHITECT: GKK			
CONTRACTOR: HANSEL PHELPS			
JOB NAME: DENVER JUSTICE CENTER			
LOCATION: COURTHOUSE			
LOCATION: DENVER, COLORADO			
DRAWN: JTB	CHKD:	SHEET #	SMI JOB NUMBER
DATE: 05/24/18	DATE:		S204 10-0725
CAD FILE:			

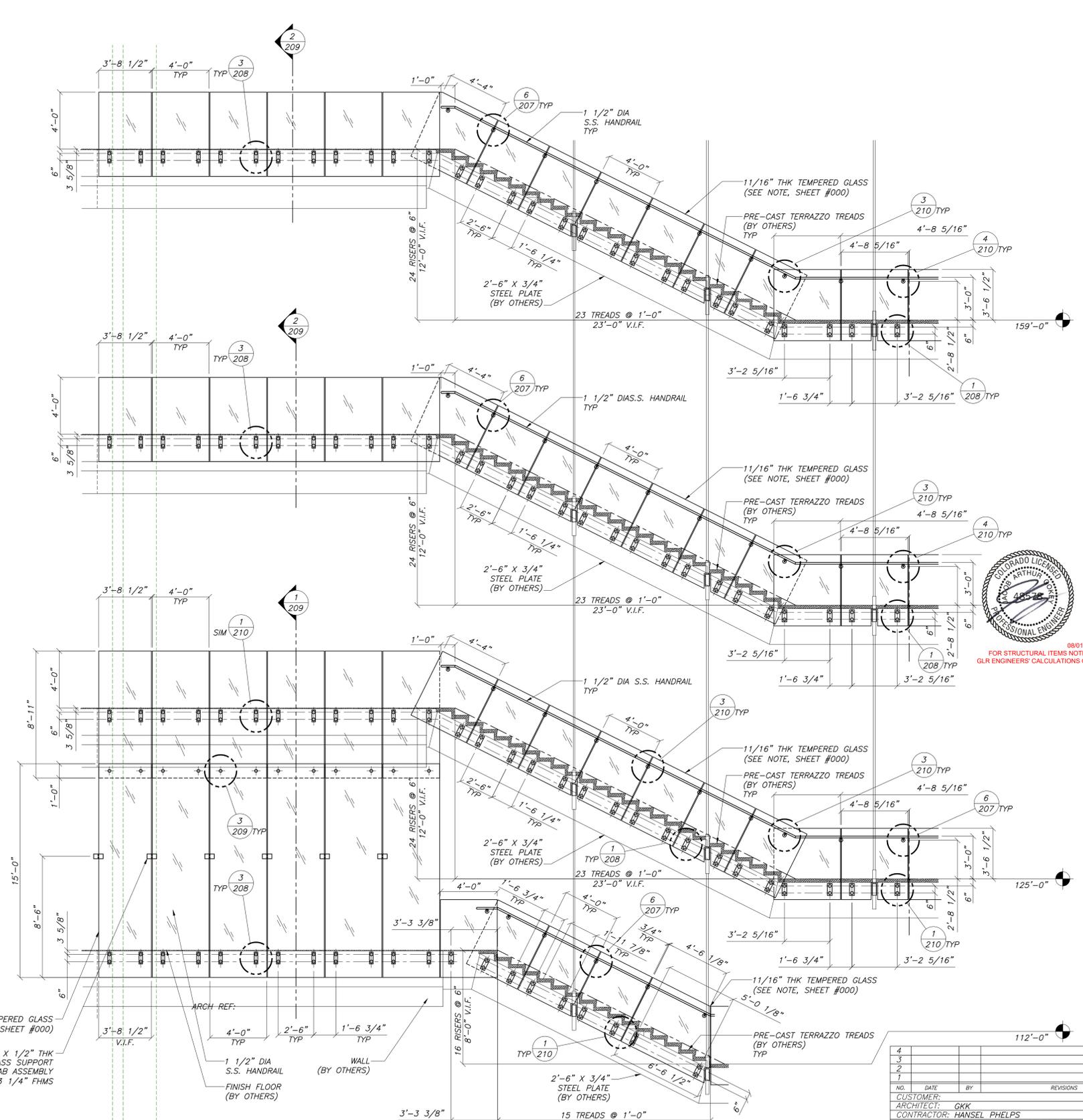
TITLE: ELEVATIONS - STAIR 6  
 COURTHOUSE

MATERIAL: FINISH:





**A SOUTH WEST ELEVATION - STAIR 6**  
 ARCH REF: SCALE: 1/4" = 1'-0"



**B SOUTH WEST ELEVATION - STAIR 6**  
 ARCH REF: SCALE: 1/4" = 1'-0"



FOR STRUCTURAL ITEMS NOTED IN GLR ENGINEERS' CALCULATIONS ONLY

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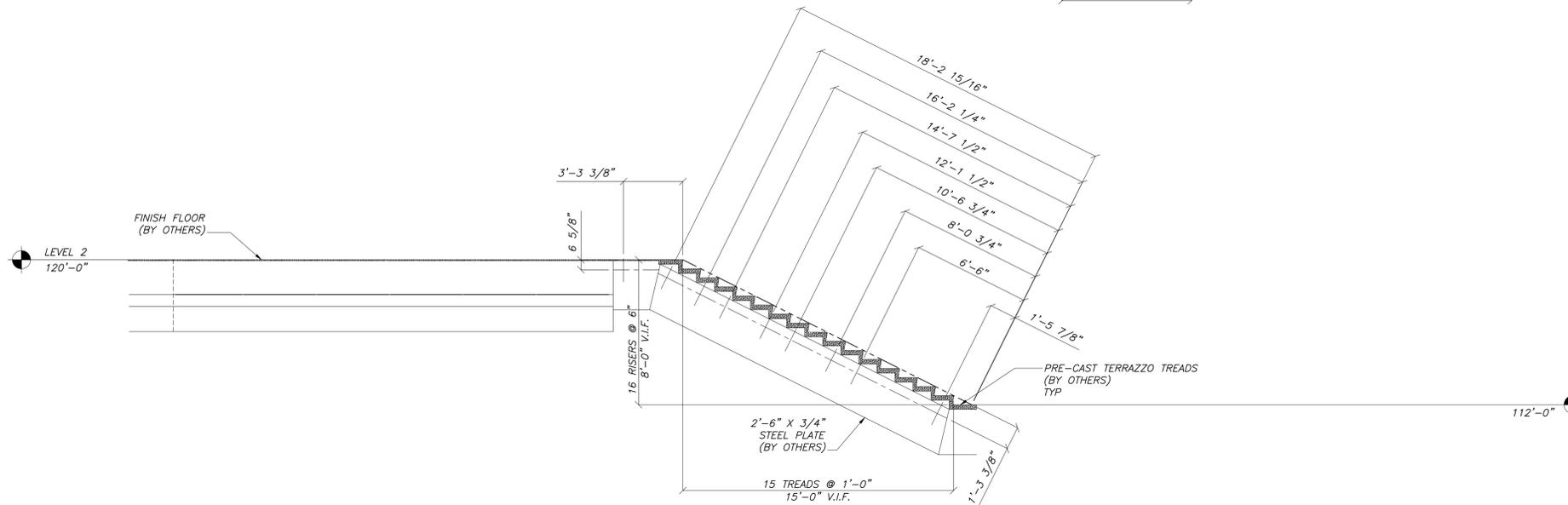
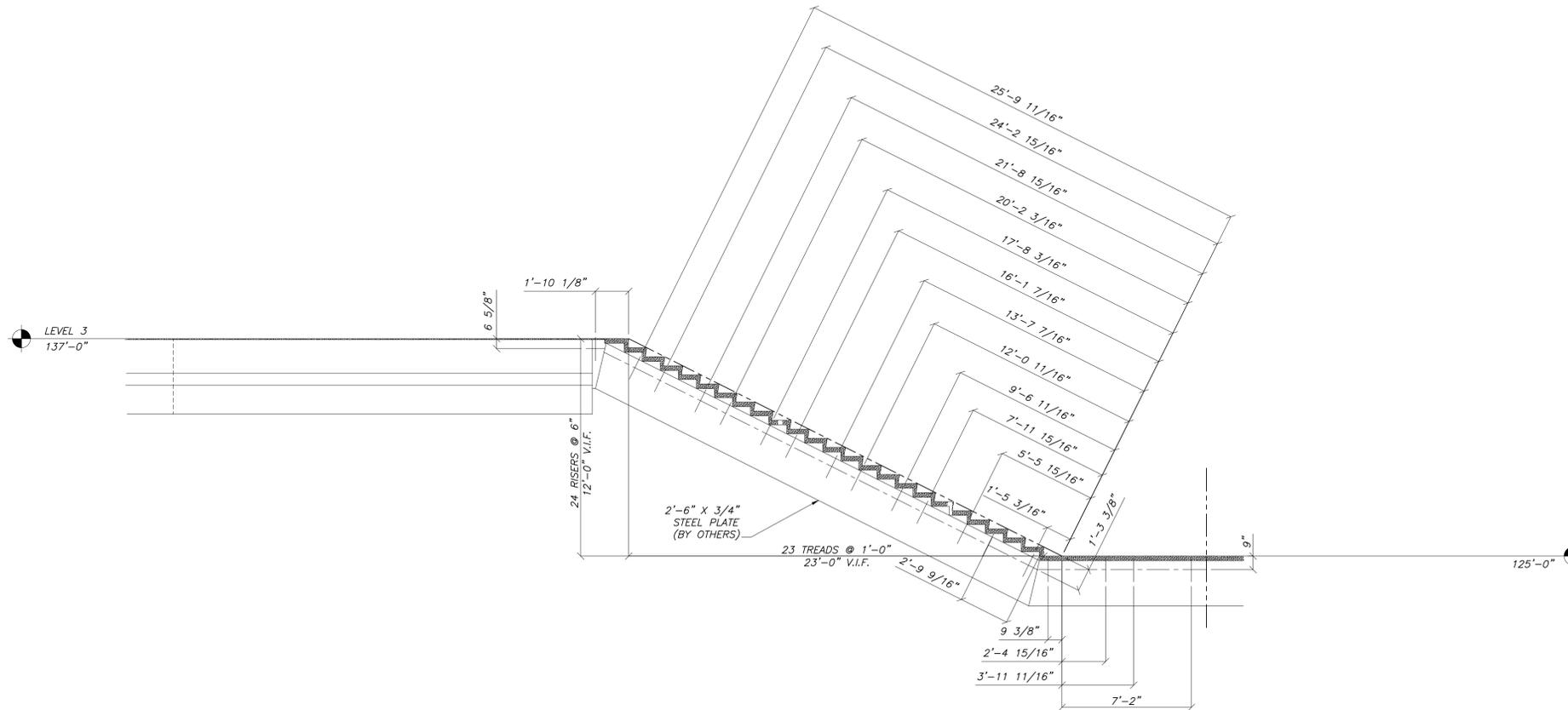
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 ARCHITECT: HANSEL PHELPS  
 CONTRACTOR: DENVER JUSTICE CENTER  
 JOB NAME: COURTHOUSE  
 LOCATION: DENVER, COLORADO

DRAWN: JTB  
 DATE: 05/24/18  
 CAD FILE:

SHEET # 205  
 SMI JOB NUMBER 10-0725

TITLE: ELEVATIONS - STAIR 6  
 COURTHOUSE





08/01/2018  
FOR STRUCTURAL ITEMS NOTED IN  
GLR ENGINEERS' CALCULATIONS ONLY

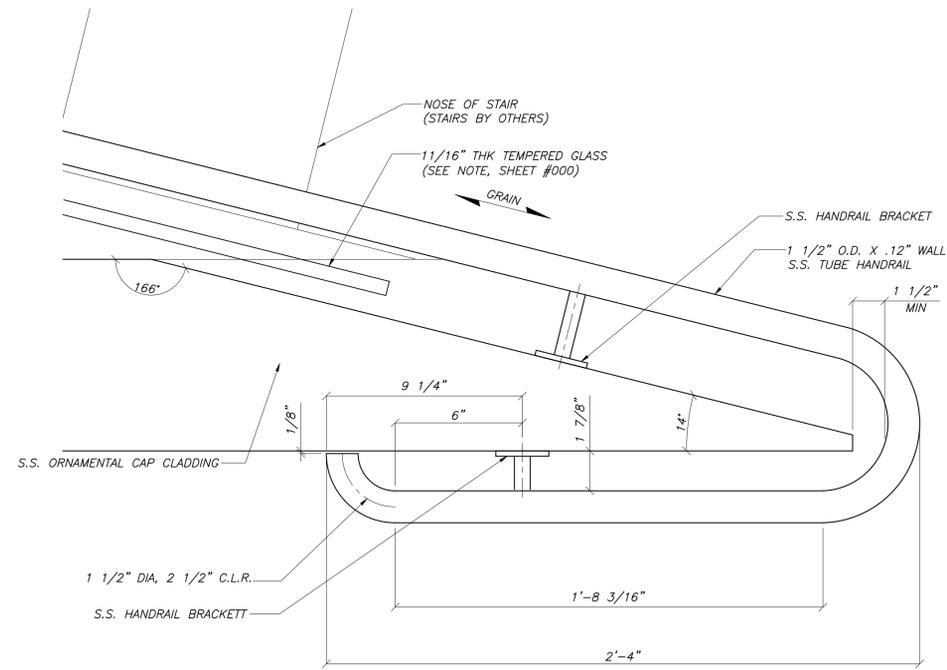
**B** SOUTH WEST ELEVATION - STAIR 6  
ALL DIMENSIONS ARE FROM NOSELINE OF FINISHED STAIRS  
TO VERTICAL AND HORIZONTAL CENTERLINE OF AESS TUBE ARM  
SCALE: 1/4" = 1'-0"

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CUSTOMER:			
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JOB NAME:			
LOCATION:			
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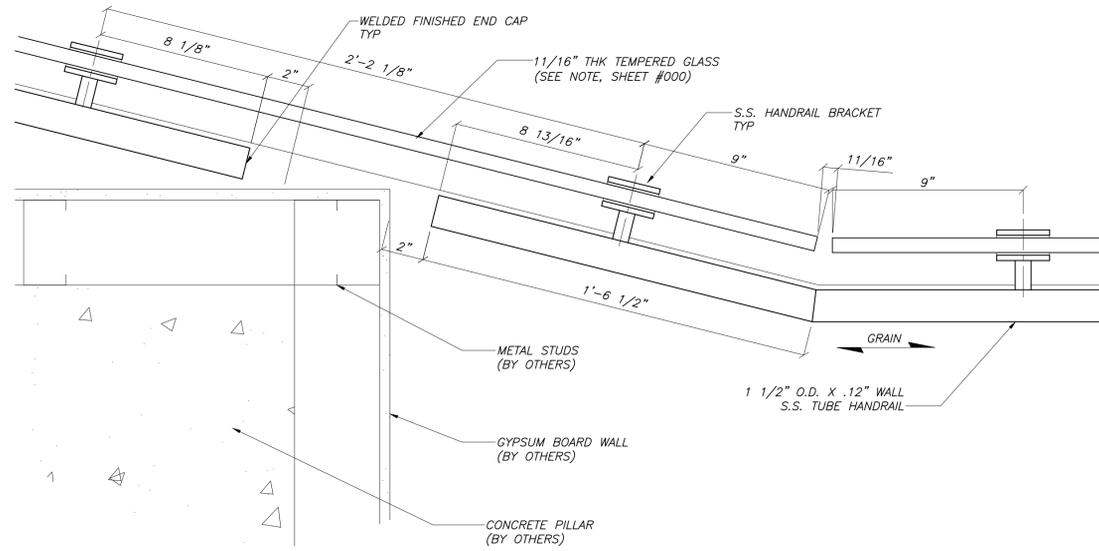
TITLE: ELEVATIONS - STAIR 6  
COURTHOUSE



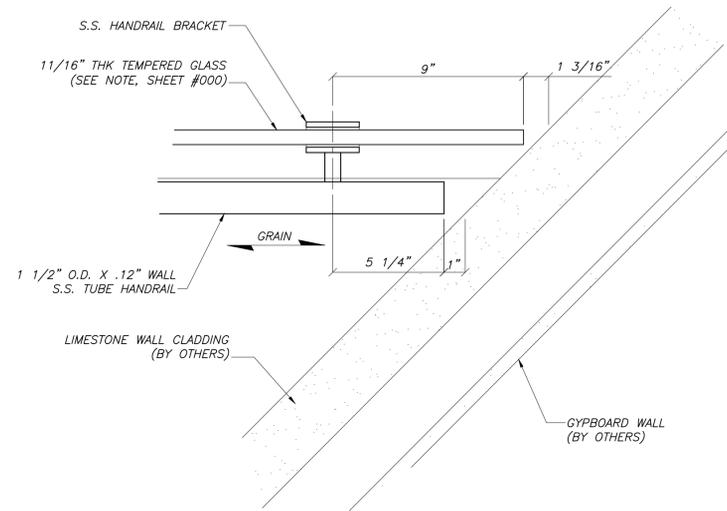
INCORPORATED  
5026 E BEVERLY ROAD  
PHOENIX, ARIZONA 85044  
PHONE 602-438-8577  
FAX 602-438-8573



**1 HANDRAIL AND WALL @ TOP OF STAIRS**  
 ARCH REF: NONE SCALE: 3" = 1'-0"



**2 HANDRAIL AND GLASS WALL @ PILLAR (A-8)**  
 ARCH REF: A5/A-513 SCALE: 3" = 1'-0"



**3 HANDRAIL AND GLASS WALL @ PILLAR (A-9)**  
 ARCH REF: A3/A-512 SCALE: 3" = 1'-0"

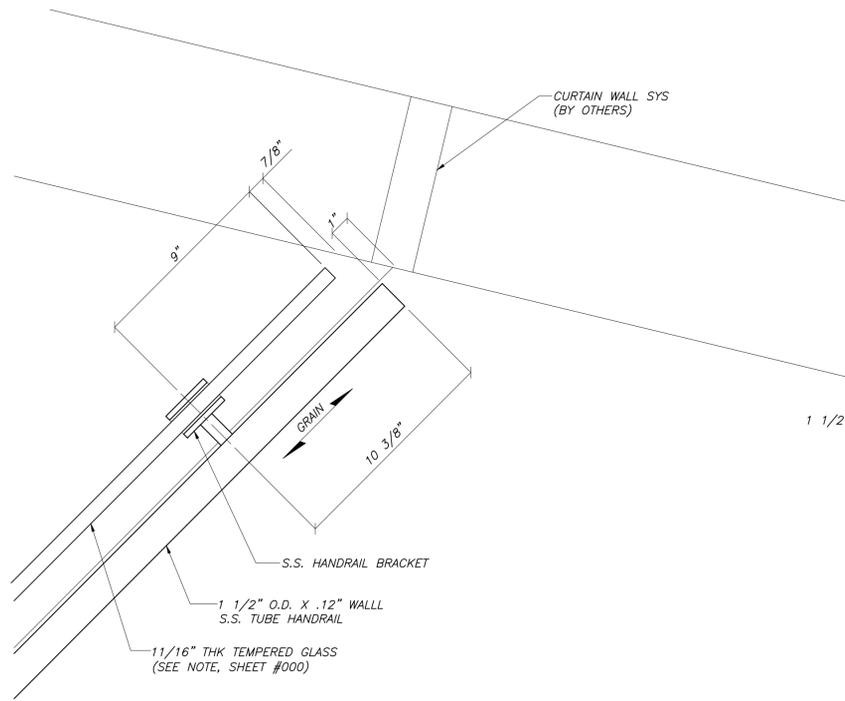


08/01/2018  
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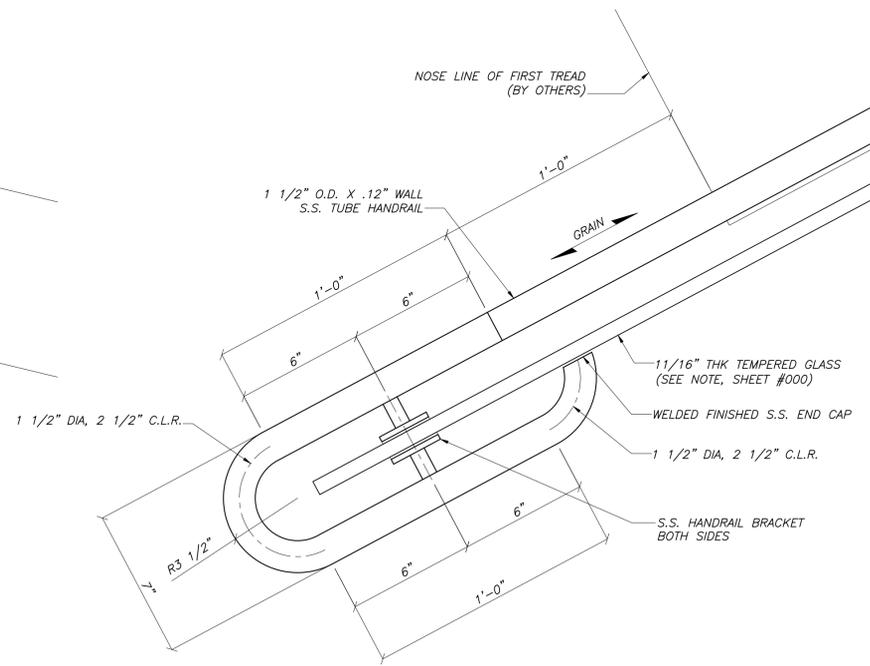
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NO.	DATE	BY	REVISIONS
CUSTOMER: GKK			
ARCHITECT: HANSEL PHELPS			
CONTRACTOR: DENVER JUSTICE CENTER			
JOB NAME: COURTHOUSE			
LOCATION: DENVER, COLORADO			
DRAWN: JTB	CHKD:	SHEET #	SMI JOB NUMBER
DATE: 05/24/18	DATE:	206	10-0725
CAD FILE:			

TITLE: SECTIONS AND DETAILS  
 COURTHOUSE - STAIR 6  
 MATERIAL: 304 STAINLESS STEEL  
 FINISH: #4 SATIN FINISH

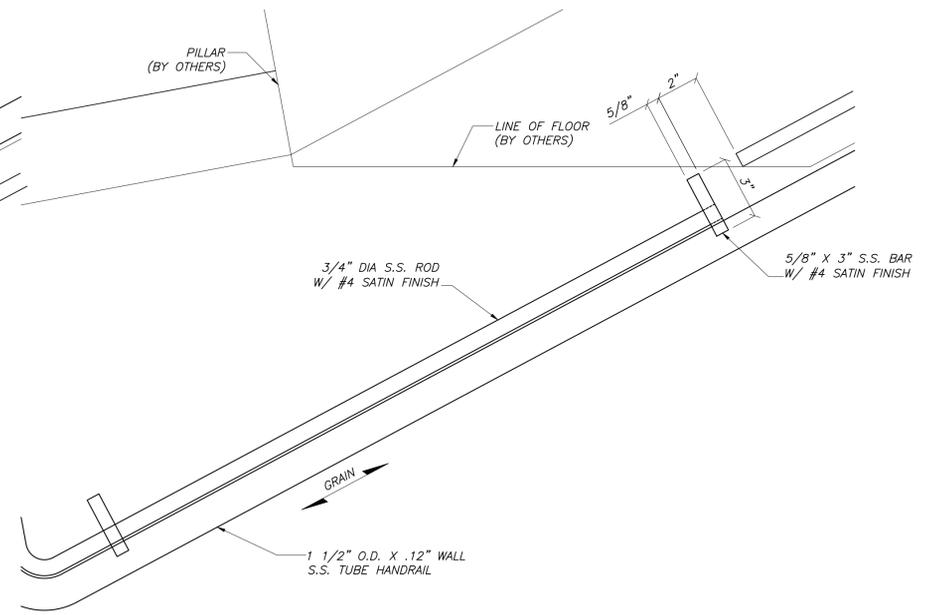




1 ATRIUM WALL @ TERRACE CURTAIN WALL  
 ARCH REF: A5/A-470 SCALE: 3" = 1'-0"



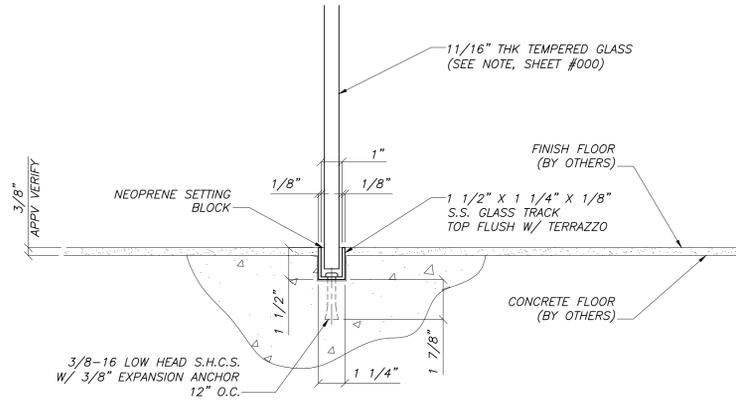
2 INSIDE HANDRAIL @ 1ST FLOOR  
 ARCH REF: NONE SCALE: 3" = 1'-0"



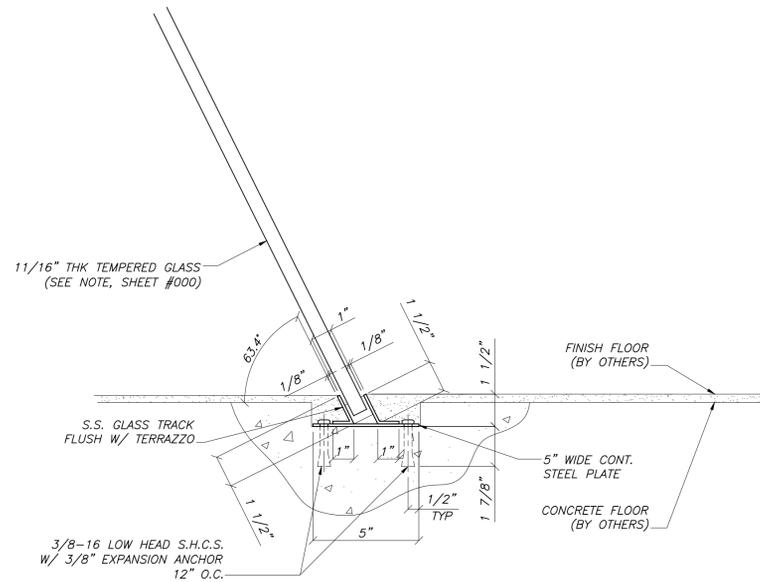
3 HANDRAIL @ S.S. GUARDRAIL 2ND - 5TH FLOOR  
 ARCH REF: D3/A-436 SCALE: 3" = 1'-0"



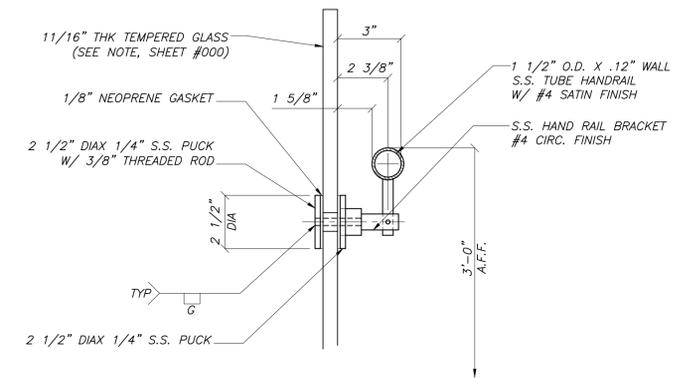
08/01/2018  
 FOR STRUCTURAL ITEMS NOTED IN  
 GLR ENGINEERS' CALCULATIONS ONLY



4 S.S. GLASS TRACK @ 1ST FLOOR (LOBBY SIDE)  
 ARCH REF: NONE SCALE: 3" = 1'-0"



5 S.S. GLASS TRACK @ 1ST FLOOR (UNDER STAIR)  
 ARCH REF: NONE SCALE: 3" = 1'-0"



6 TYP. HANDRAIL BRACKET  
 ARCH REF: D2/A-435 SCALE: 3" = 1'-0"

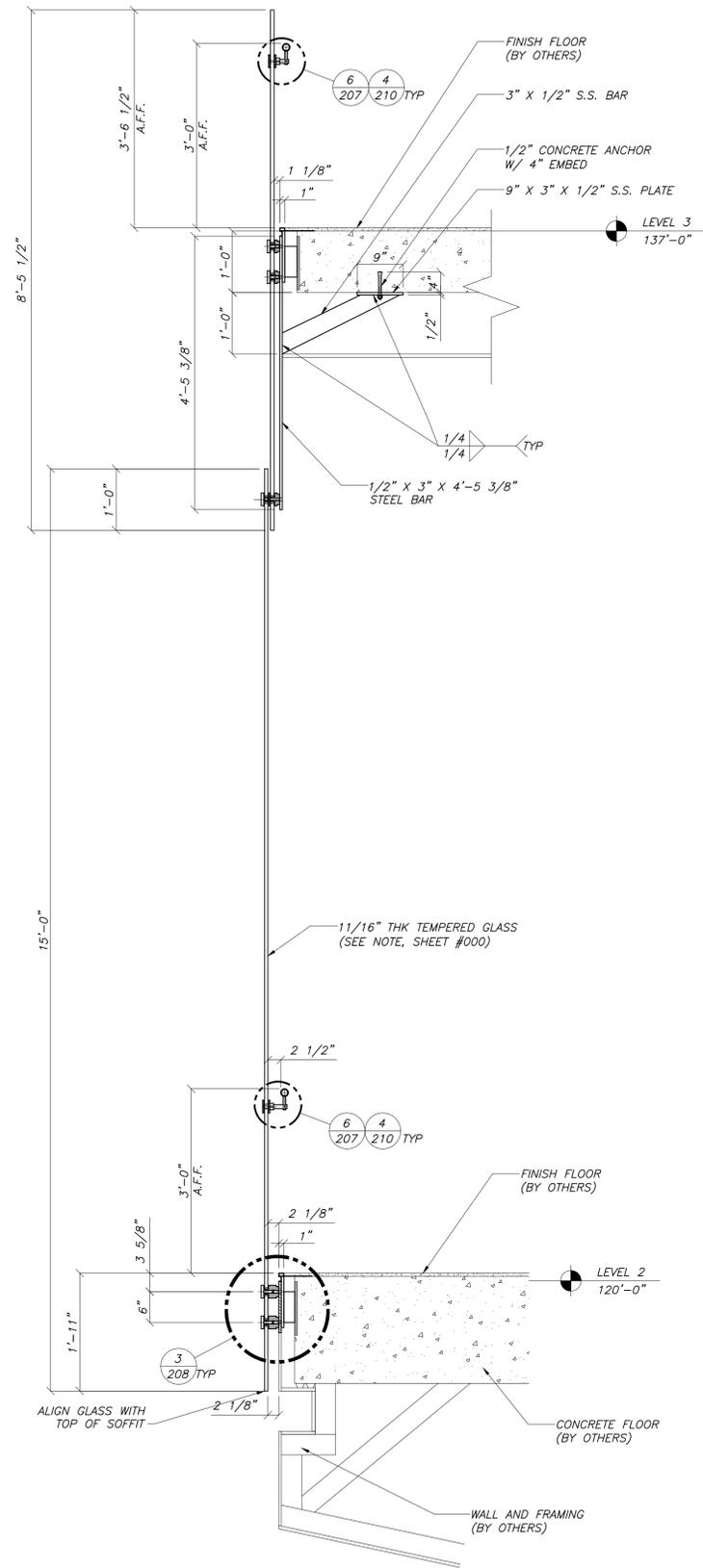
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NO.	DATE	BY	REVISIONS
CUSTOMER:			
ARCHITECT: GKK			
CONTRACTOR: HANSEL PHELPS			
JOB NAME: DENVER JUSTICE CENTER			
LOCATION: DENVER, COLORADO			
DRAWN: JTB	CHKD:	SHEET #	SMI JOB NUMBER
DATE: 05/24/18	DATE:	207	10-0725
CAD FILE:			

TITLE: DETAILS  
 COURTHOUSE - STAIR 6  
 MATERIAL: 304 STAINLESS STEEL FINISH: #4 SATIN FINISH

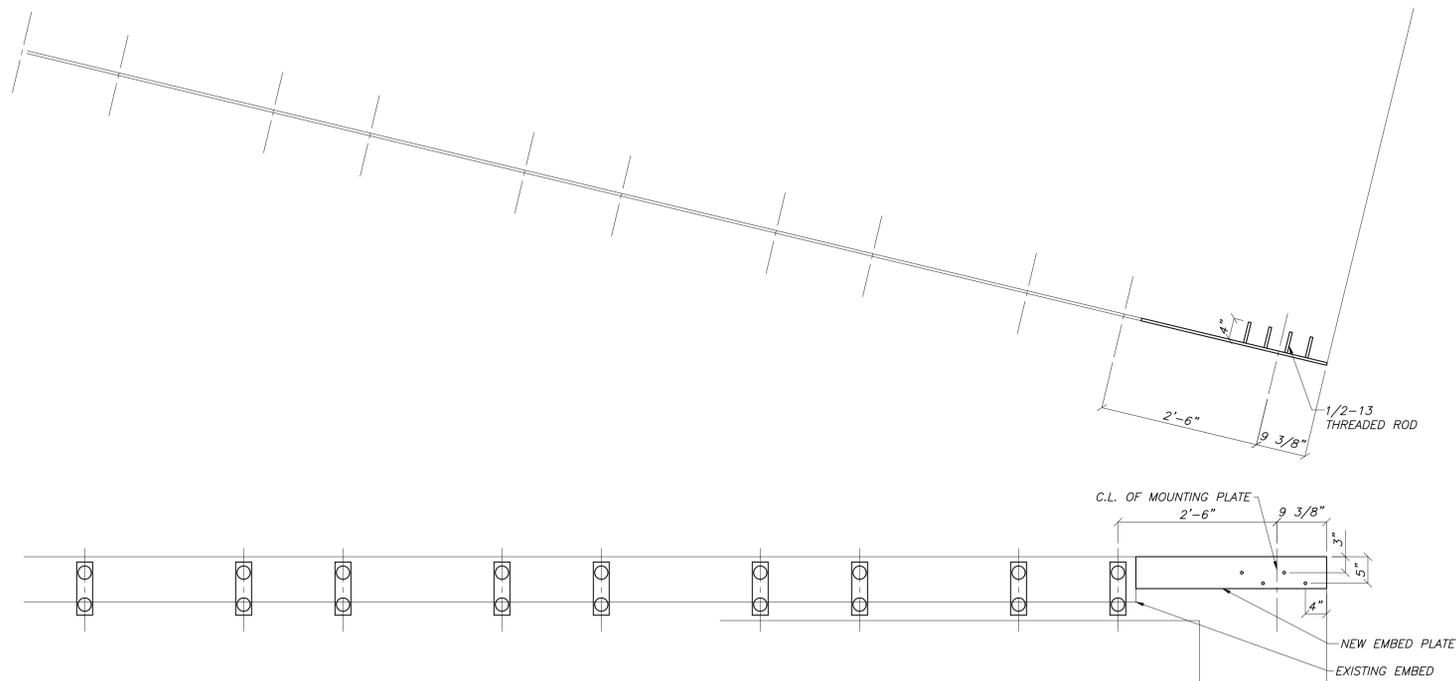








1 SECTION @ 2ND FLOOR LANDING  
 ARCH REF: A2/A-520 SCALE: 3/4" = 1'-0"



2 EMBED CONDITION @ LANDING

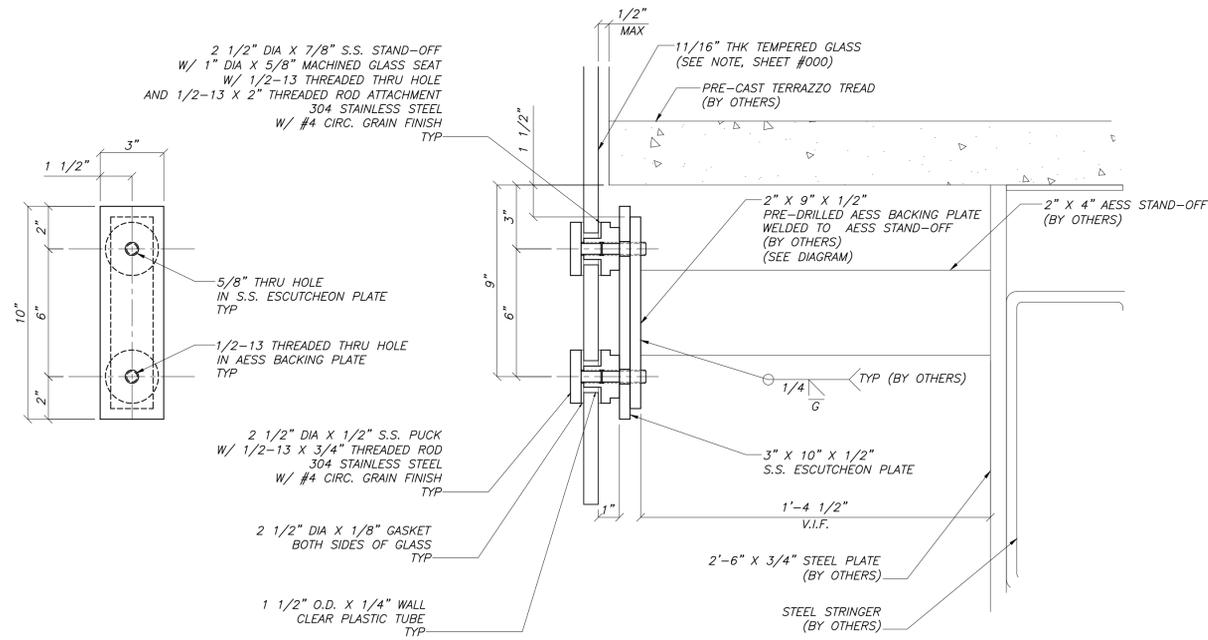


08/01/2018  
 FOR STRUCTURAL ITEMS NOTED IN  
 GLR ENGINEERS' CALCULATIONS ONLY

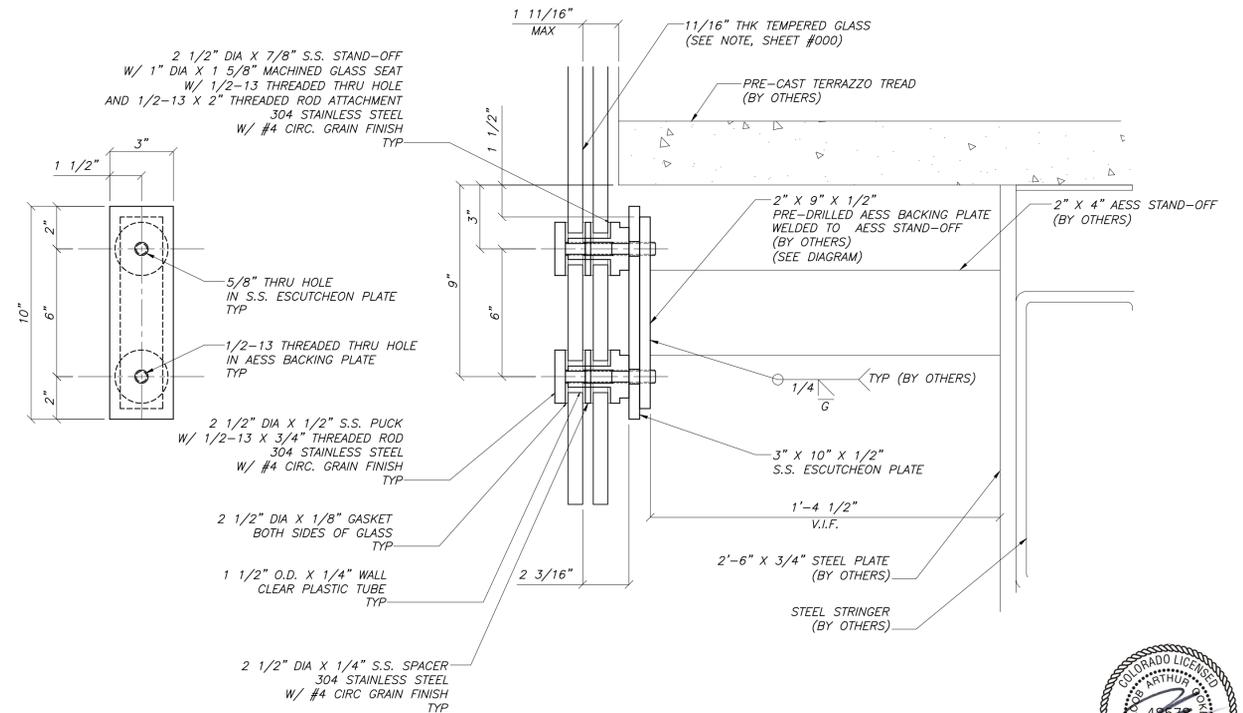
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CUSTOMER:			
ARCHITECT: GKK			
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JOB NAME: DENVER JUSTICE CENTER			
LOCATION: COURTHOUSE			
LOCATION: DENVER, COLORADO			
DRAWN: JTB	CHKD:	SHEET #	SMI JOB NUMBER
DATE: 05/24/18	DATE:		209A 10-0725
CAD FILE:			

TITLE: DETAILS  
 COURTHOUSE - STAIR 6  
 MATERIAL: 304 STAINLESS STEEL  
 FINISH: #4 SATIN FINISH





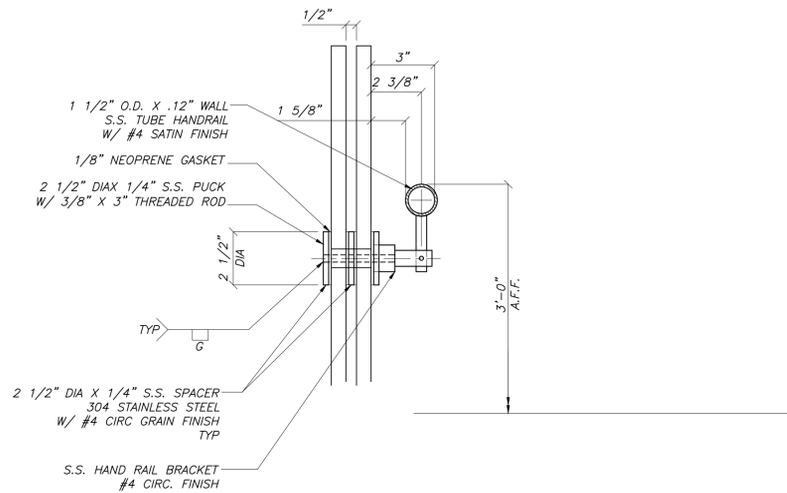
**1 TYPICAL SHORT GLASS MOUNT (STAIRS)**  
 ARCH REF: D2/A-435 SCALE: 3" = 1'-0"



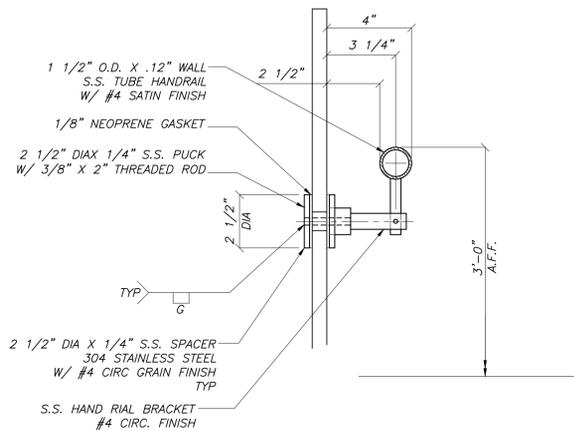
**2 TYPICAL OVERLAP GLASS MOUNT**  
 ARCH REF: NONE SCALE: 3" = 1'-0"



08/01/2018  
 FOR STRUCTURAL ITEMS NOTED IN  
 GLR ENGINEERS' CALCULATIONS ONLY



**3 OVERLAP HANDRAIL BRACKET**  
 ARCH REF: D2/A-435 SCALE: 3" = 1'-0"

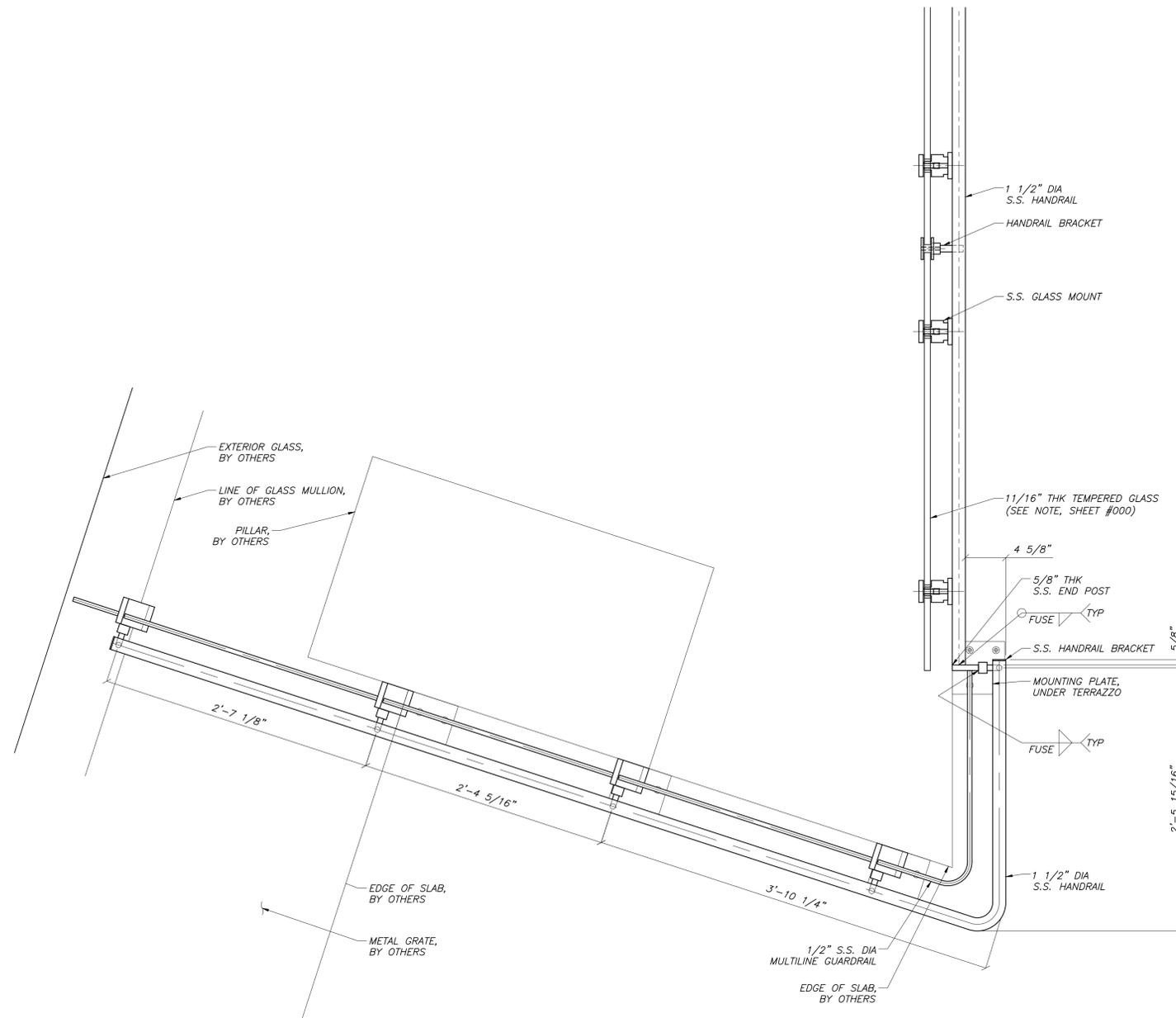


**4 EXTENDED HANDRAIL BRACKET**  
 ARCH REF: D2/A-435 SCALE: 3" = 1'-0"

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NO.	DATE	BY	REVISIONS
CUSTOMER:			
ARCHITECT: GKK			
CONTRACTOR: HANSEL PHELPS			
JOB NAME: DENVER JUSTICE CENTER			
LOCATION: COURTHOUSE			
DENVER, COLORADO			
DRAWN: JTB	CHK: [ ]	SHEET #	SMI JOB NUMBER
DATE: 05/24/18	DATE:	210	10-0725
CAD FILE:			

TITLE: **DETAILS**  
**COURTHOUSE - STAIR 6**  
 MATERIAL: 304 STAINLESS STEEL FINISH: #4 SATIN FINISH





08/1/2018  
FOR STRUCTURAL ITEMS NOTED IN  
GLR ENGINEERS' CALCULATIONS ONLY

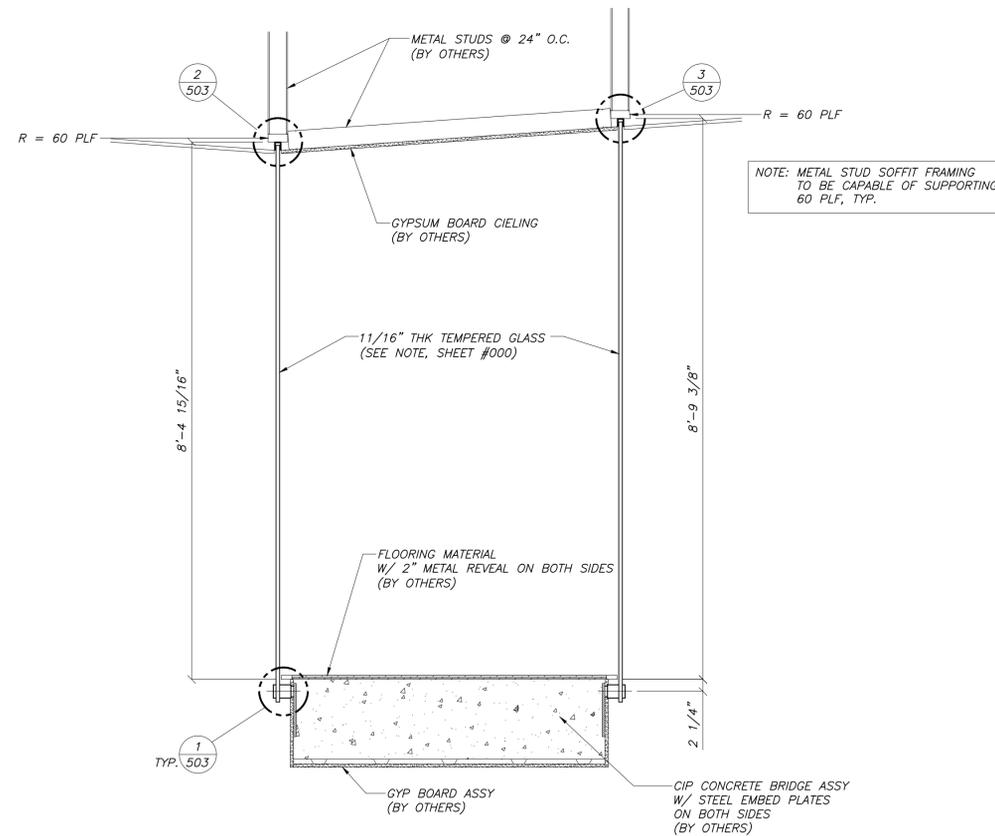
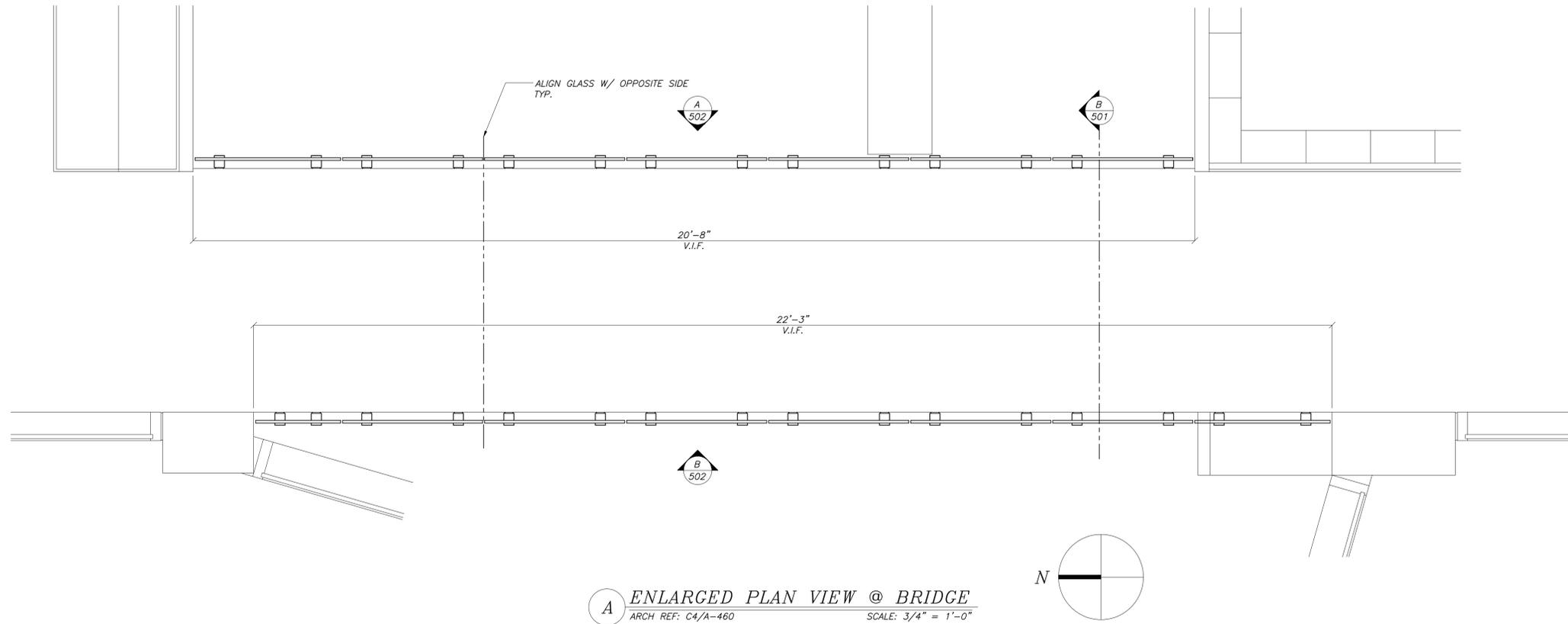
1 GUARDRAIL @ STAIR LANDING  
SCALE: 1 1/2" = 1'-0"

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CUSTOMER:			
ARCHITECT: GKK			
CONTRACTOR: HANSEL PHELPS			
JOB NAME: DENVER JUSTICE CENTER			
LOCATION: DENVER, COLORADO			
DRAWN: JTB	CHKD:	SHEET #	SMI JOB NUMBER
DATE: 05/25/18	DATE:	211	10-0725
CAD FILE:			

TITLE: DETAILS  
GUARDRAIL @ STAIR LANDING  
MATERIAL: 304 STAINLESS STEEL  
FINISH: #4 SATIN FINISH



INCORPORATED  
5026 E BEVERLY ROAD PHOENIX, ARIZONA 85044  
PHONE 602-438-8577 FAX 602-438-8573



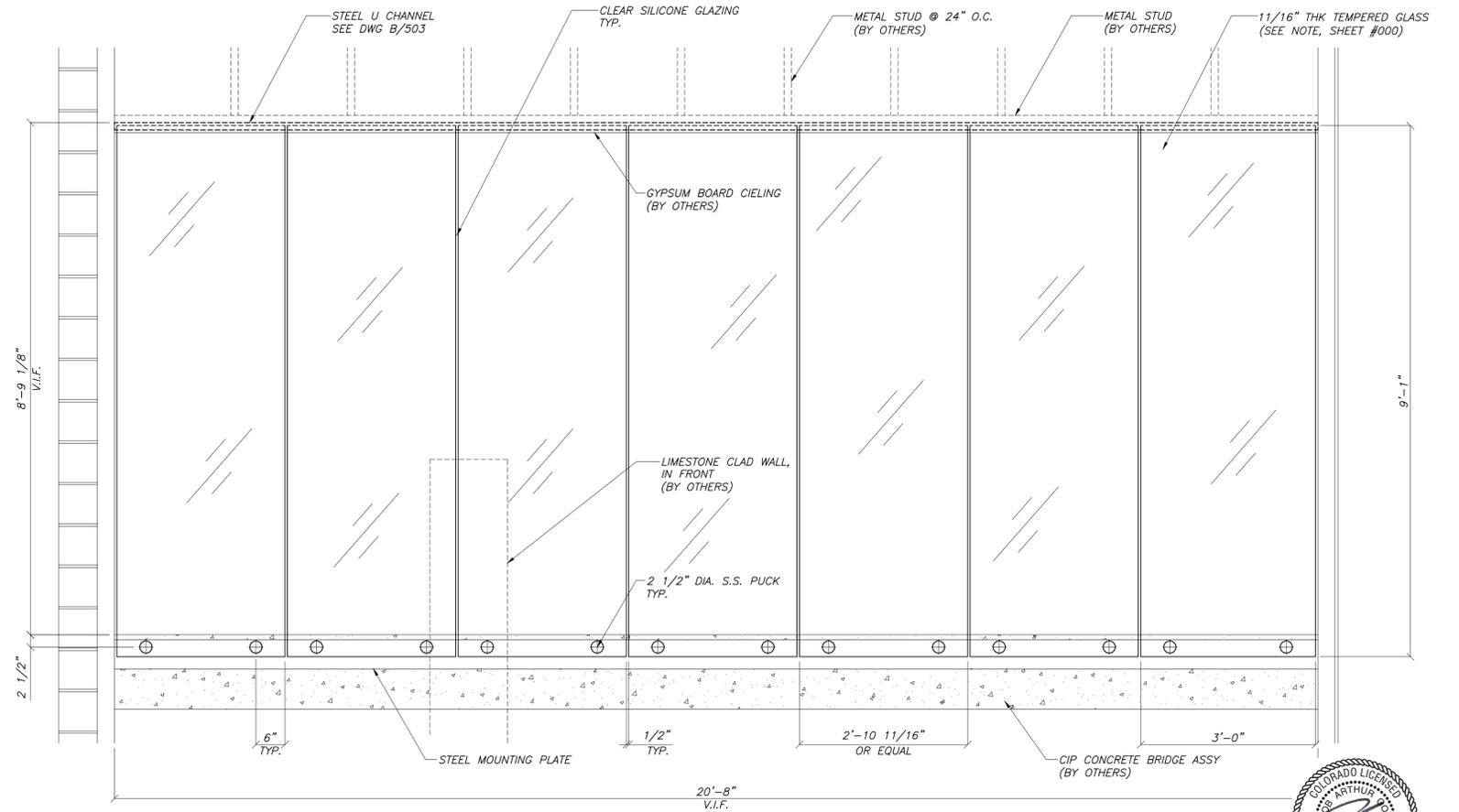
08/01/2018  
 FOR STRUCTURAL ITEMS NOTED IN  
 GLR ENGINEERS' CALCULATIONS ONLY

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NO.	DATE	BY	REVISIONS
CUSTOMER: GKK			
ARCHITECT: HANSEL PHELPS			
JOB NAME: DENVER JUSTICE CENTER			
LOCATION: DENVER, COLORADO			
DRAWN: JTB	CHKD:	SHEET #	SM JOB NUMBER
DATE: 05/24/18	DATE:	501	10-0725
CAD FILE: 500.DWG			
I N C O R P O R A T E D 5026 E BEVERLY ROAD PHOENIX 85044 PHONE 602-438-8577 PHOENIX, ARIZONA 85044 FAX 602-438-8573			

TITLE: ENLARGED PLAN VIEW / SECTION  
 WEST BRIDGE

MATERIAL:

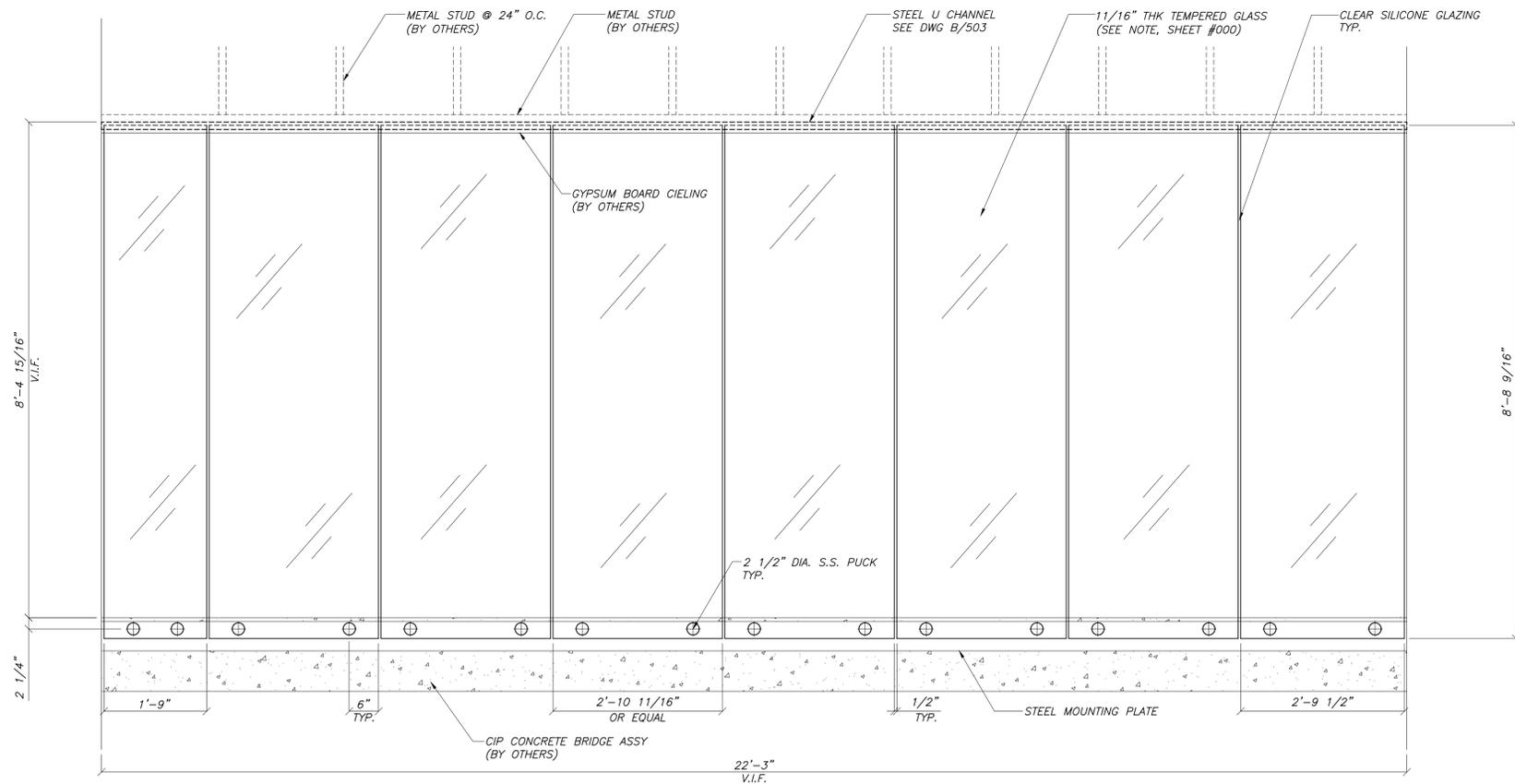
FINISH:



**A EAST ELEVATION @ BRIDGE**  
 ARCH REF: NONE SCALE: 3/4" = 1'-0"



0801/2018  
 FOR STRUCTURAL ITEMS NOTED IN  
 GLR ENGINEERS' CALCULATIONS ONLY

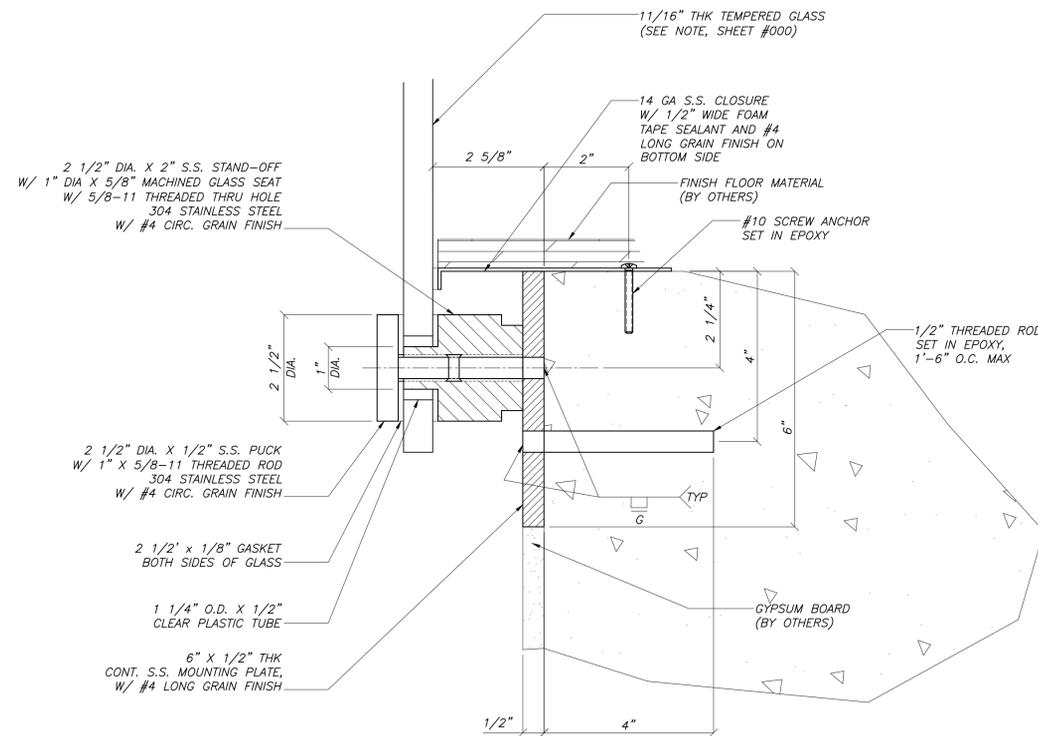


**B WEST ELEVATION @ BRIDGE**  
 ARCH REF: NONE SCALE: 3/4" = 1'-0"

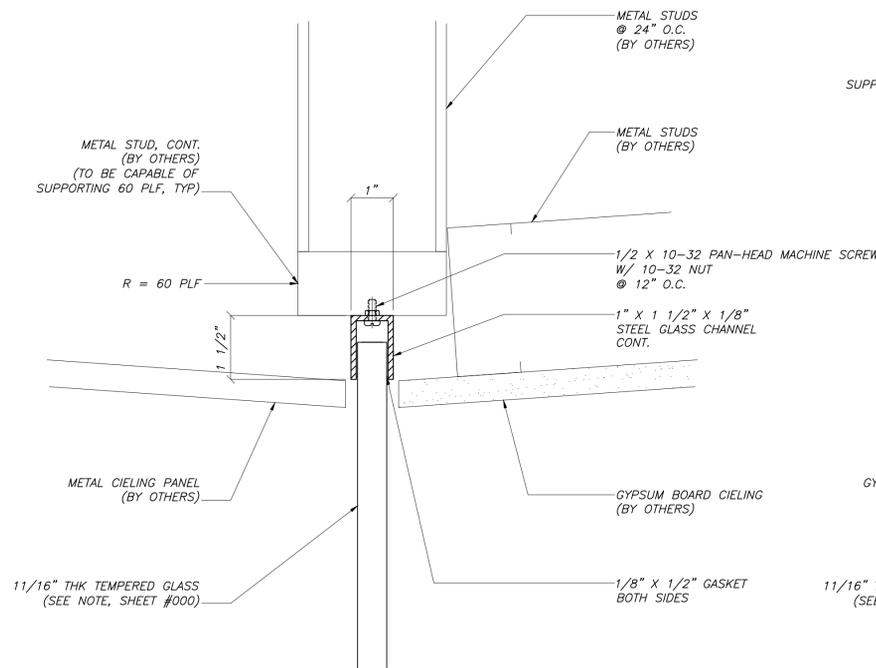
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NO.	DATE	BY	REVISIONS
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ARCHITECT: GKK			
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JOB NAME: DENVER JUSTICE CENTER			
LOCATION: COURTHOUSE			
LOCATION: DENVER, COLORADO			
DRAWN: C. ROGALSKI	CHK:	SHEET #	SMI JOB NUMBER
DATE: 5/24/18	DATE:	502	10-0725
CAD FILE:			

TITLE: ELEVATIONS WEST BRIDGE	
MATERIAL: 304 STAINLESS STEEL	FINISH: #4 CIRC.

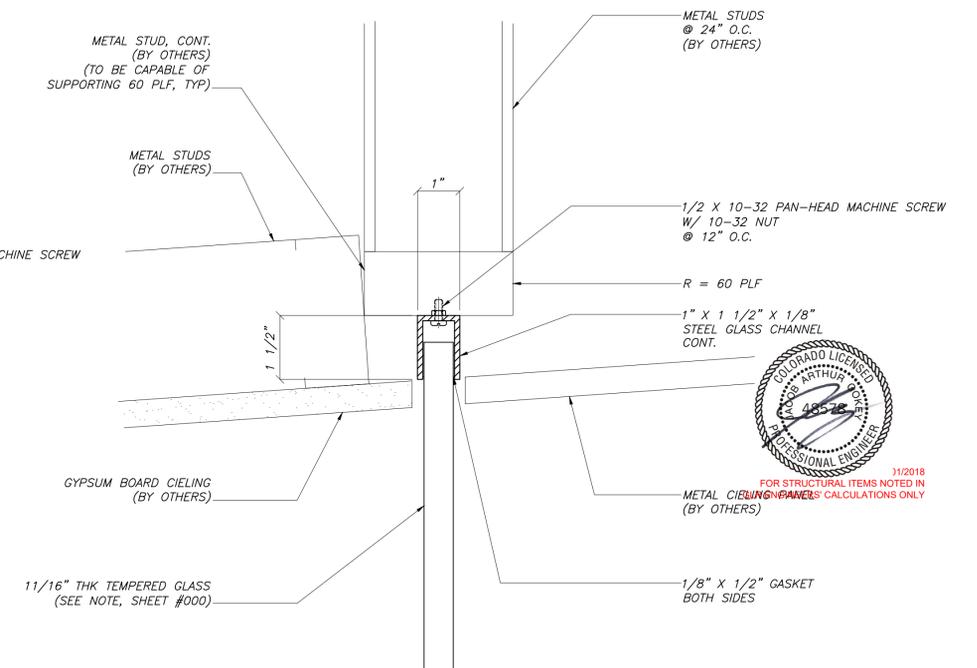




**1** **GLASS MOUNT @ BRIDGE**  
 ARCH REF: A4/A-532 SCALE: 6" = 1'-0"



**2** **GLASS CHANNEL @ NORTH WALL**  
 ARCH REF: B4/A-532 SCALE: 6" = 1'-0"



**3** **GLASS CHANNEL @ SOUTH WALL**  
 ARCH REF: B4/A-532 SCALE: 6" = 1'-0"



FOR STRUCTURAL ITEMS NOTED IN  
 PANELS: CALCULATIONS ONLY

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NO.	DATE	BY	REVISIONS
CUSTOMER:			
ARCHITECT: GKK			
CONTRACTOR: HANSEL PHELPS			
JOB NAME: DENVER JUSTICE CENTER			
LOCATION: DENVER, COLORADO			
DRAWN: JTB	CHKD:	SHEET #	SMI JOB NUMBER
DATE: 05/24/18	DATE:	503	10-0725
CAD FILE:			

TITLE: **DETAILS**  
**WEST BRIDGE**  
 MATERIAL: AS NOTED FINISH: AS NOTED



Exhibit  GLR Engineers, PLLC PO Box 6406 Boise, ID 83702 208-344-2470	Project				Job Ref.	
	Denver Justice Center				SMI1812	
	Section				Sheet no./rev.	
Glass Railing Design				1		
Calc. by	Date	Chk'd by	Date	App'd by	Date	
A. Sandidge	7/12/2018	JLane	7/12/2018			

**Structural Calculations**  
 For  
**Denver Justice Center**  
 Denver, Colorado



08/01/2018

Client:

Southwest Metalsmiths, Inc.

GLR Engineers Job No:

SMI1812

Exhibit  <b>GOKEY LANE RASMUSSEN</b>  GLR Engineers, PLLC PO Box 6406 Boise, ID 83702 208-344-2470	Project				Job Ref.	
	Denver Justice Center				SMI1812	
	Section				Sheet no./rev.	
Glass Railing Design				2		
Calc. by	Date	Chk'd by	Date	App'd by	Date	
A. Sandidge	7/12/2018	JLane	7/12/2018			

## **RAILING SYSTEMS**

Calculations and shop drawings have been engineered for structural capacities of the railing system only. Appropriate layout and design of railing systems is the responsibility of the Architect of Record. GLR Engineers, PLLC is not responsible for structural elements provided by others, we assume the supporting structure has sufficient strength to support the loads imposed by our guardrail systems. All reactions to the structure shall be checked by the engineer of record.

Loads:  $w = 50 \text{ lb/ft}$   $p = 200 \text{ lbs}$  on railings

### **Building Codes**

2015 International Building Code (IBC)  
 SEI/ASCE 7-10 Minimum Design Loads for Buildings & Other Structures

### **Structural Steel**

1. Steel plates, shapes and bars shall meet the requirements of ASTM A-36 ( $F_y = 36 \text{ ksi}$ ,  $F_u = 58 \text{ ksi}$ ).
2. Steel rectangular tubes shall be ASTM A500 Gr B ( $F_y = 46 \text{ ksi}$ ,  $F_u = 58 \text{ ksi}$ )
3. Steel round tubes shall be ASTM A500 Gr B ( $F_y = 42 \text{ ksi}$ ,  $F_u = 58 \text{ ksi}$ )
4. Steel pipe shall be ASTM A53 Gr B ( $F_y = 35 \text{ ksi}$ ,  $F_u = 60 \text{ ksi}$ )
5. Stainless steel shall be SS304 or SS316, ( $F_y = 30 \text{ ksi}$ ,  $F_u = 75 \text{ ksi}$ ).
6. Steel members are designed per the "Manual of Steel Construction, Allowable Strength Design" and AISC Design Guide 27, "Structural Stainless Steel".

### **Concrete**

1. All concrete strength is assumed to be  $f'_c = 4000 \text{ psi}$ , normal weight.

### **Glass**

1. All glass shall be fully tempered.
2. Glass shall be composed of 2 lites, one 1/4" and one 3/8" thick FT glass with a 0.07in interlayer.
3. Interlayer shall be a SentryGlas PVB with a shear modulus complex  $G = 60 \text{ N/mm}^2$  calculated at 30° C for a load duration of 1 hour.

### **Fasteners, Welds & Anchors:**

1. Fasteners exposed to weather shall be stainless steel, alloy groups 1, 2, OR 3 (300 Series Only) as shown in calculations ( $F_y = 65 \text{ ksi}$ ,  $F_u = 100 \text{ ksi}$  minimum).
2. Fasteners not exposed to weather shall be carbon steel, SAE Grade 2 ( $F_u = 75 \text{ ksi}$  minimum) or SAE Grade 5 ( $F_u = 120 \text{ ksi}$  minimum) as shown in the calculations.
3. Concrete wedge/expansion anchors shall be "Hilti Kwik Bolt TZ" ICC ESR 1917, having diameter and embedment as called for in the calculations. Reference the manufacturer's instructions for installation techniques and additional requirements.
4. Filler metal electrodes for steel welding shall be E70XX. Welds shall be in accordance with AWS D1.1 "Structural Welding Code"

### **Disclaimers:**

1. This calculation package is for the final design and installed structural performance of the railing system. GLR Engineers, PLLC is not responsible for manufacturing, the installation process, weather seal design and performance.

Exhibit  <b>GOKEY LANE RASMUSSEN</b>  GLR Engineers, PLLC PO Box 6406 Boise, ID 83702 208-344-2470	Project				Job Ref.	
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	Section				Sheet no./rev.	
Glass Railing Design				3		
Calc. by	Date	Chk'd by	Date	App'd by	Date	
A. Sandidge	7/12/2018	JLane	7/12/2018			

2. The following calculation package represents GLR Engineers' interpretation of the design intent of the shop drawings and specifications. GLR Engineers is not responsible for verification of dimensions, material take-offs, installation and coordination with other building trades. If as built conditions differ from the conditions shown in this calculation package, Southwest Metalsmiths, Inc. must bring these differences to the attention of GLR Engineers so that the as built conditions can be structurally verified.
3. The structural engineer of record (EOR) shall verify that all surrounding structures to which framing is to be anchored are structurally sound and capable of supporting the weights and reactions of the analyzed system(s) under maximum design loads.

Stainless Steel shall be:

SS304 or SS316

$F_{y_{ss}}=30$  ksi

$\Omega_{ss}= 1.67$

Allowable bending stress  $F_{b_{ss}} = F_{y_{ss}}/\Omega_{ss} = \mathbf{18.0}$  ksi

Steel shall be:

ASTM A36

$F_{y_{a36}}=36$  ksi

$\Omega_{a36}= 1.67$

Allowable bending stress  $F_{b_{a36}} = F_{y_{a36}}/\Omega_{a36} = \mathbf{21.6}$  ksi

A500 GR B  $F_{y_{a500}}=46$  ksi

$F_{u_{a500}} = 58$  ksi

$\Omega_{a500}= 1.67$

Allowable bending stress  $F_{b_{a500}} = F_{y_{a500}}/\Omega_{a500} = \mathbf{27.5}$  ksi

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### ASTM E1300 - 11/16 INCH LAMINATED GLASS EQUIVALENT THICKNESS

Thickness of glass 0.375in glass 0.07in interlayer 0.25in glass

Glass modulus of elasticity

E = 10000 ksi

PVB Interlayer thickness

hv = 0.07 in

Interior Interlayer complex shear modulus

G = 60 N/mm<sup>2</sup> = **8702** psi Sentry Glass

Smallest in-plane dimension of bending of the laminate plate

a = 3.35ft

Glass ply 1 minimum thickness

h1 = 0.355 in

Glass ply 2 minimum thickness

h2 = 0.219 in

$$hs = 0.5 \cdot (h1 + h2) + hv = \mathbf{0.36} \text{ in}$$

$$hs1 = hs \cdot h1 / [h1 + h2] = \mathbf{0.22} \text{ in}$$

$$hs2 = hs \cdot h2 / [h1 + h2] = \mathbf{0.14} \text{ in}$$

$$Is = h1 \cdot hs2^2 + h2 \cdot hs1^2 = \mathbf{0.017} \text{ in}^3$$

Shear transfer coefficient

$$\Gamma = 1 / [1 + 9.6 \cdot E \cdot Is \cdot hv / (G \cdot hs^2 \cdot a^2)] = \mathbf{0.939}$$

Effective thickness for deflection

$$hefw = [h1^3 + h2^3 + 12 \cdot \Gamma \cdot Is]^{1/3} = \mathbf{0.630} \text{ in}$$

Effective thickness for stress

$$h1efs = \sqrt{hefw^3 / (h1 + 2 \cdot \Gamma \cdot hs2)} = \mathbf{0.639} \text{ in}$$

$$h2efs = \sqrt{hefw^3 / (h2 + 2 \cdot \Gamma \cdot hs1)} = \mathbf{0.628} \text{ in}$$

Allowable stress Fb = 24ksi/4 = **6.0** ksi

### SS HAND RAIL

1-1/2" DIA x 0.12" SS Tube

Max bracket spacing s = 5ft

SW Elevation Stair 6

Outside Diameter d = 1.5in

Thickness t = 0.120 in

$$z = (d^3 - (d - 2 \cdot t)^3) / 6 = \mathbf{0.229} \text{ in}^3$$

#### Three span min calc

Max allowable span = min(sqrt(z \* F<sub>bss</sub> \* 9.5/w), z \* F<sub>bss</sub> \* 5/p) = **8.07** ft

Moment m = max(w \* s<sup>2</sup> / 9.5, p \* s / 5) = **180.0** lb<sub>ft</sub>

$$fb = m / z = \mathbf{9.4} \text{ ksi}$$

Therefore, handrail is ok

Therefore, posts are Ok

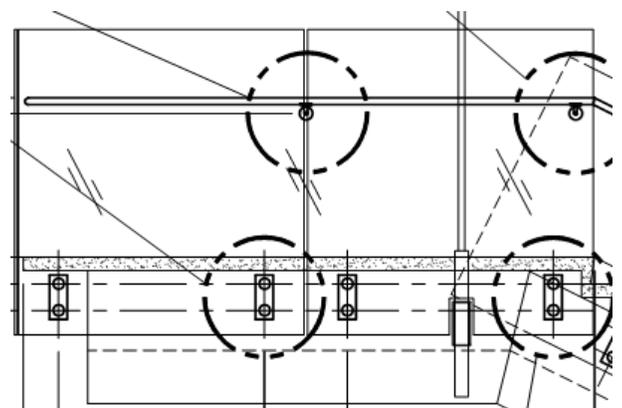
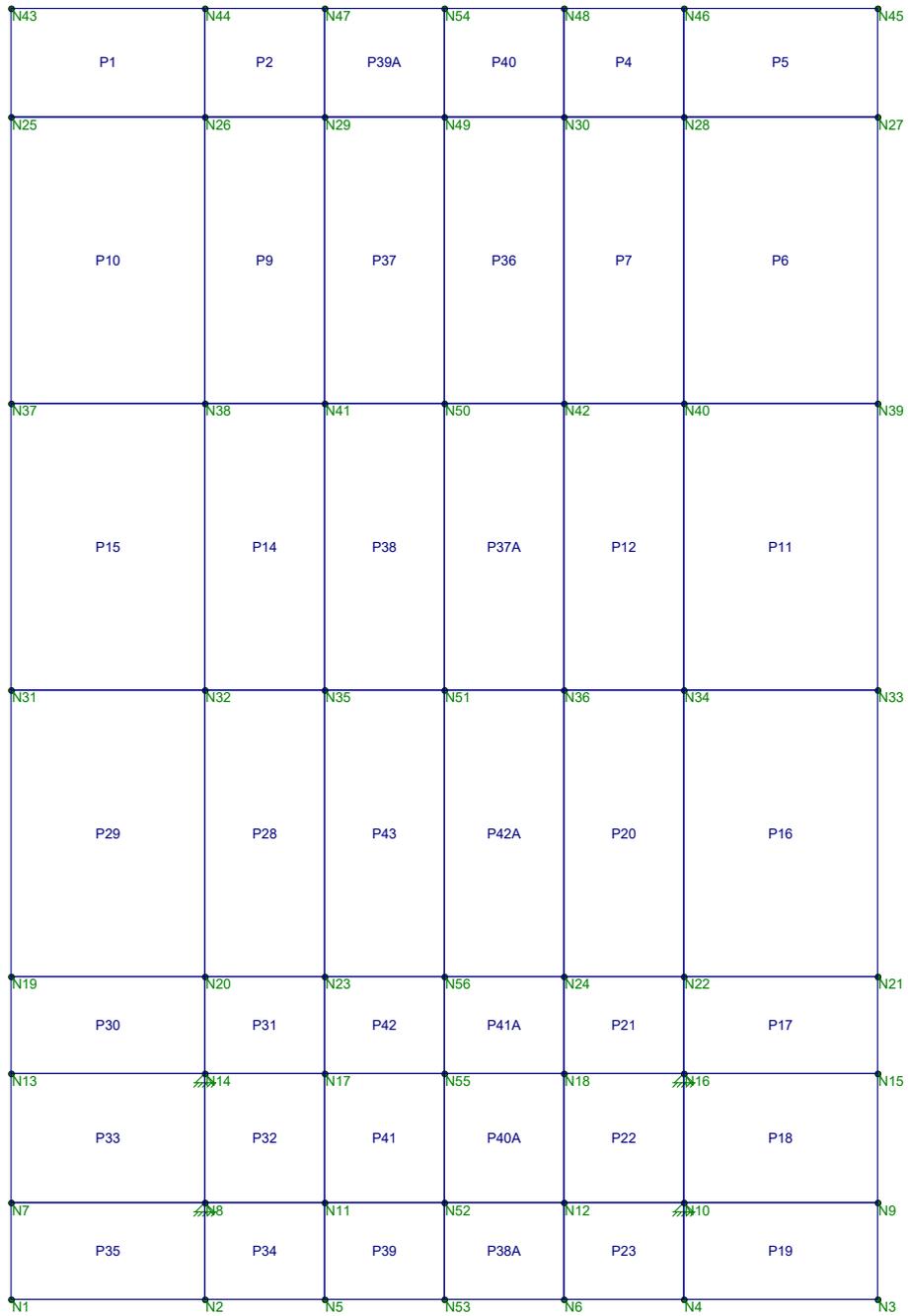


Exhibit K



Loads: BLC 1, D

		SK - 2
		July 3, 2018 at 4:20 PM
	Rail #1	GLASS PANELS.r3d

Exhibit <b>GLR</b> ENGINEERS GOKEY LANE RASMUSSEN GLR Engineers, PLLC PO Box 6406 Boise, ID 83702 208-344-2470	Project				Job Ref.	
	Denver Justice Center				SMI1812	
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Glass Railing Design				5		
Calc. by	Date	Chk'd by	Date	App'd by	Date	
A. Sandidge	7/12/2018	JLane	7/12/2018			

### GLASS PANEL #1 CONNECTION

Reactions from Risa joint N14

$F_x = 56 \text{ lbs}$

$F_y = 289 \text{ lbs}$

$F_z = 1.318 \text{ kips}$

$\frac{1}{2}$ -13 x  $\frac{3}{4}$ " threaded rod ASTM F593 Group 1 SS304

Diameter  $d_b = 0.5 \text{ in}$

Shear  $V = \sqrt{F_y^2 + F_x^2} = 294 \text{ lbs}$

Tension  $T = F_z = 1318 \text{ lbs}$

$F_u = 85 \text{ ksi}$

$F_{nt} = 0.75 * F_u = 64 \text{ ksi}$

$F_{nv} = 0.45 * F_u = 38 \text{ ksi}$

$\Omega_b = 2$

$T_a = F_{nt} * \pi * d_b^2 / 4 / \Omega_b = 6.26 \text{ kips}$

$V_a = F_{nv} * \pi * d_b^2 / 4 / \Omega_b = 3.76 \text{ kips}$

Unity equation  $T/T_a + V/V_a = 0.29$

Therefore, use  $\frac{1}{2}$ -13 x  $\frac{3}{4}$ " threaded rod ASTM F593 Group 1 SS304

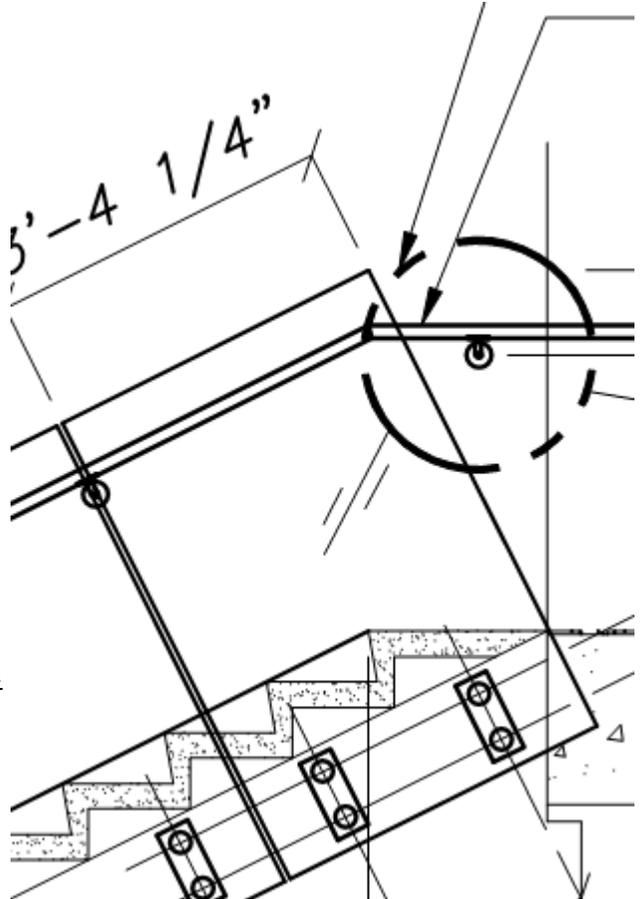
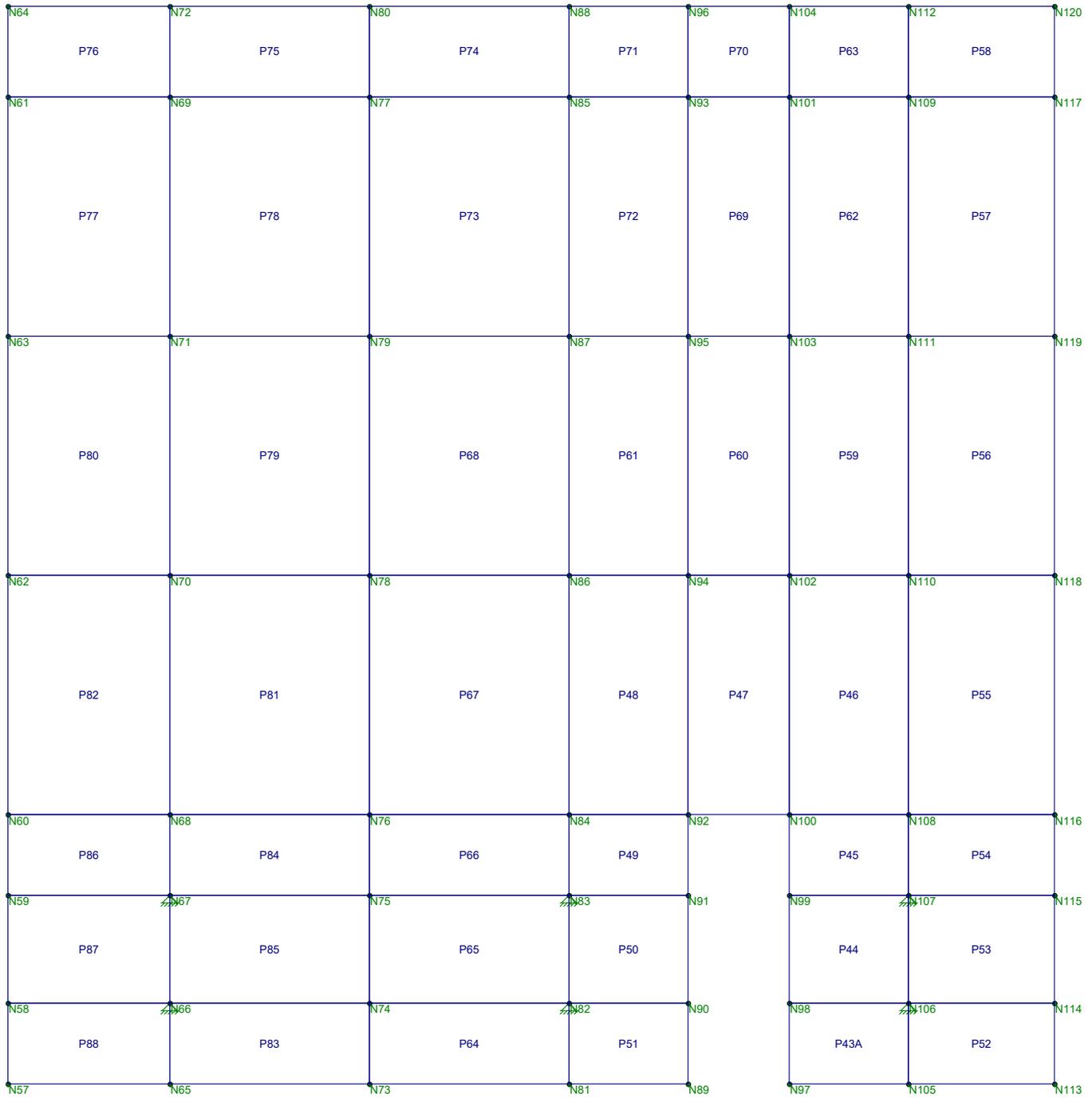


Exhibit K



Loads: BLC 1, D

		SK - 3
		July 3, 2018 at 4:21 PM
	Rail #2	GLASS PANELS.r3d

Exhibit <b>GLR</b> ENGINEERS  GOKEY LANE RASMUSSEN  GLR Engineers, PLLC PO Box 6406 Boise, ID 83702 208-344-2470	Project				Job Ref.	
	Denver Justice Center				SMI1812	
	Section				Sheet no./rev.	
Glass Railing Design				6		
Calc. by	Date	Chk'd by	Date	App'd by	Date	
A. Sandidge	7/12/2018	JLane	7/12/2018			

**GLASS PANEL #2 CONNECTION**

Reactions from Risa at joint N67

$F_x = 43\text{ lbs}$

$F_y = 265\text{ lbs}$

$F_z = 1.057\text{ kips}$

$\frac{1}{2}$ -13 x  $\frac{3}{4}$ " threaded rod ASTM F593 Group 1 SS304

Diameter  $d_b = 0.5\text{ in}$

Shear  $V = \sqrt{F_y^2 + F_x^2} = 268\text{ lbs}$

Tension  $T = F_z = 1057\text{ lbs}$

$F_u = 85\text{ ksi}$

$F_{nt} = 0.75 * F_u = 64\text{ ksi}$

$F_{nv} = 0.45 * F_u = 38\text{ ksi}$

$\Omega_b = 2$

$T_a = F_{nt} * \pi * d_b^2 / 4 / \Omega_b = 6.26\text{ kips}$   $V_a = F_{nv} * \pi * d_b^2 / 4 / \Omega_b = 3.76\text{ kips}$

Unity equation  $T/T_a + V/V_a = 0.24$

Therefore, use  $\frac{1}{2}$ -13 x  $\frac{3}{4}$ " threaded rod ASTM F593 Group 1 SS304

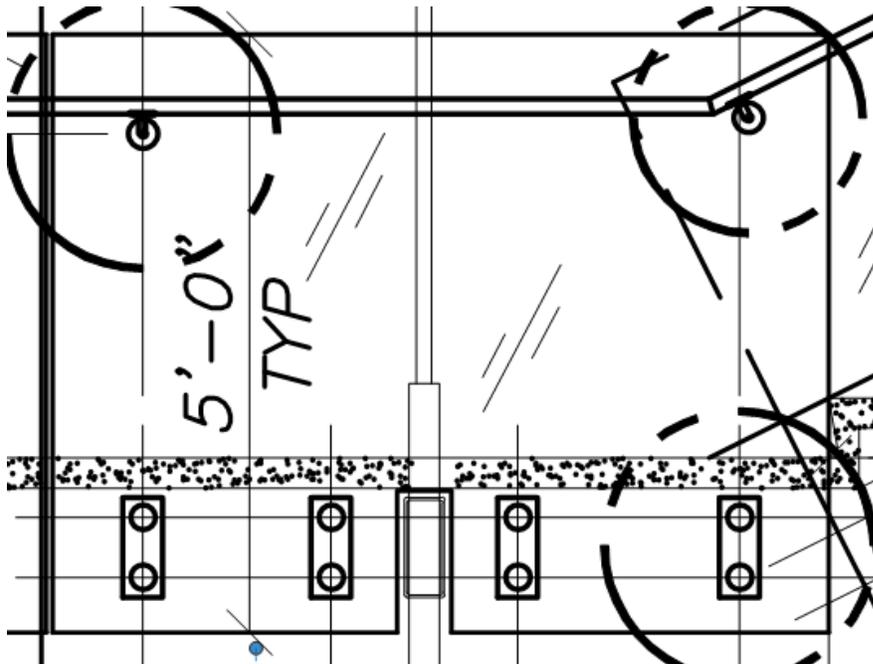
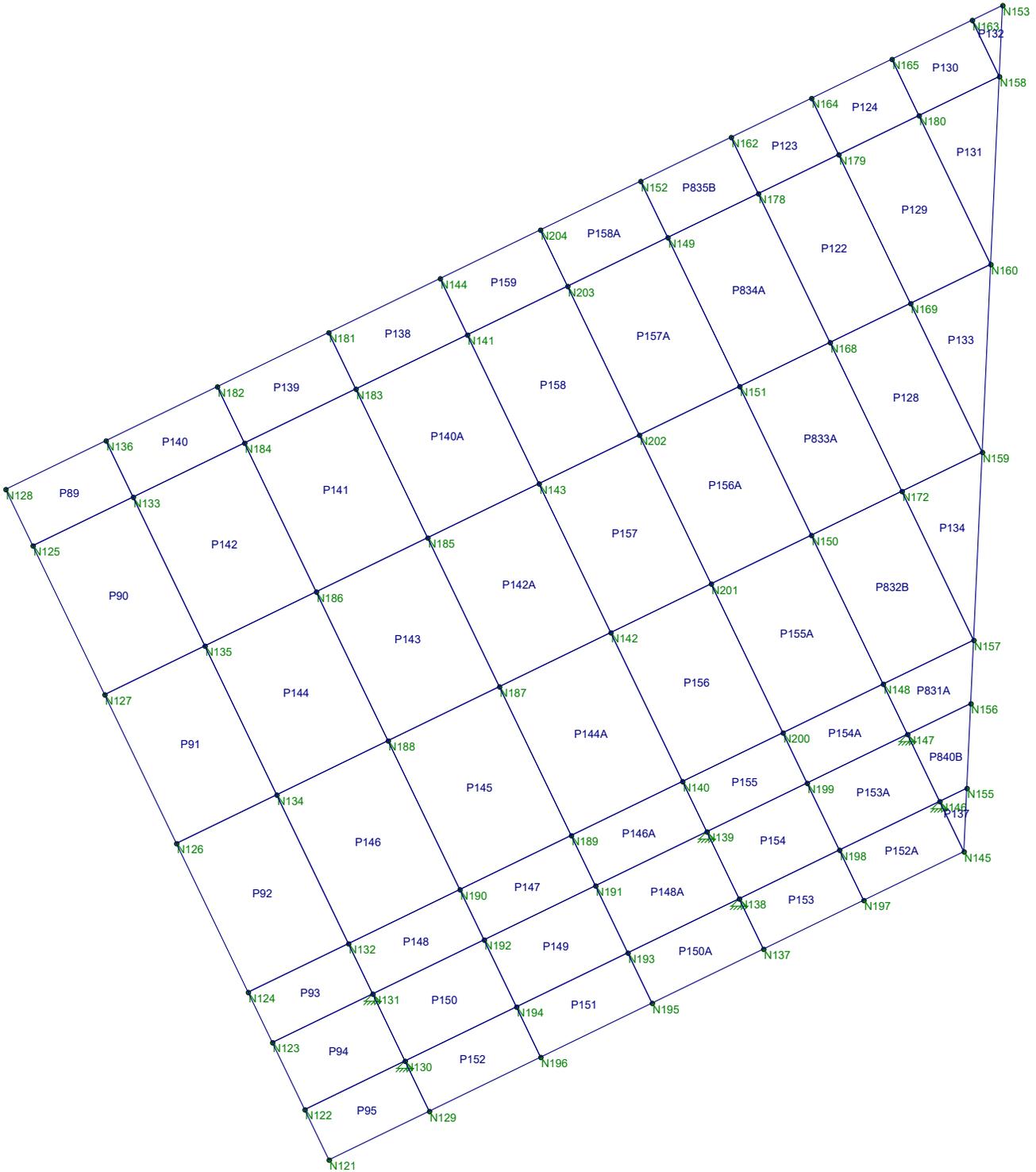


Exhibit K



Loads: BLC 1, D

SK - 4

July 3, 2018 at 4:22 PM

GLASS PANELS.r3d

Rail #3

Exhibit <b>GLR</b> ENGINEERS  GOKEY LANE RASMUSSEN  GLR Engineers, PLLC PO Box 6406 Boise, ID 83702 208-344-2470	Project				Job Ref.	
	Denver Justice Center				SMI1812	
	Section				Sheet no./rev.	
Glass Railing Design				7		
Calc. by	Date	Chk'd by	Date	App'd by	Date	
A. Sandidge	7/12/2018	JLane	7/12/2018			

**GLASS PANEL #3 CONNECTION**

Reactions from Risa at joint N139

F<sub>x</sub> = 24lbs

F<sub>y</sub> = 177 lbs

F<sub>z</sub> = 1.461 kips

1/2-13 x 3/4" threaded rod ASTM F593 Group 1 SS304

Diameter db = 0.5in

Shear V = sqrt(F<sub>y</sub><sup>2</sup>+F<sub>x</sub><sup>2</sup>) = 179 lbs

Tension T = F<sub>z</sub> = 1461 lbs

F<sub>u</sub> = 85ksi

F<sub>nt</sub> = 0.75\*F<sub>u</sub> = 64 ksi

F<sub>nv</sub> = 0.45\*F<sub>u</sub> = 38 ksi

Ω<sub>b</sub> = 2

T<sub>a</sub> = F<sub>nt</sub>\*π\*db<sup>2</sup>/4/Ω<sub>b</sub> = 6.26 kips V<sub>a</sub> = F<sub>nv</sub>\*π\*db<sup>2</sup>/4/Ω<sub>b</sub> = 3.76 kips

Unity equation T/T<sub>a</sub>+V/V<sub>a</sub> = 0.28

Therefore, use 1/2-13 x 3/4" threaded rod ASTM F593 Group 1 SS304

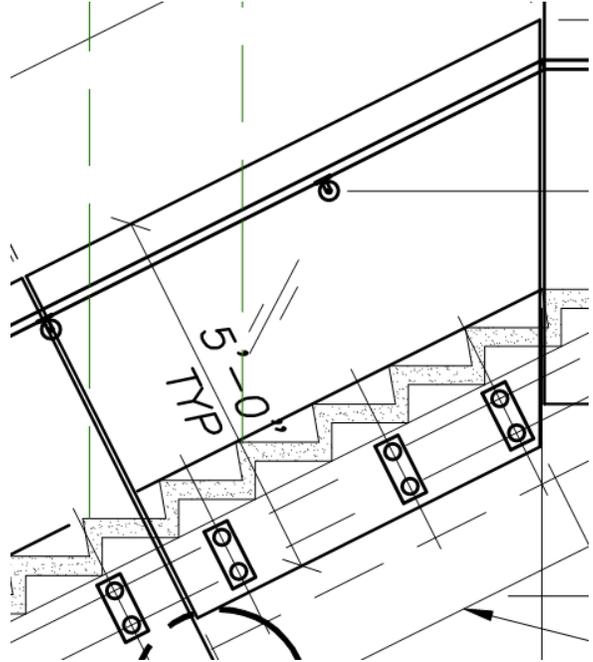
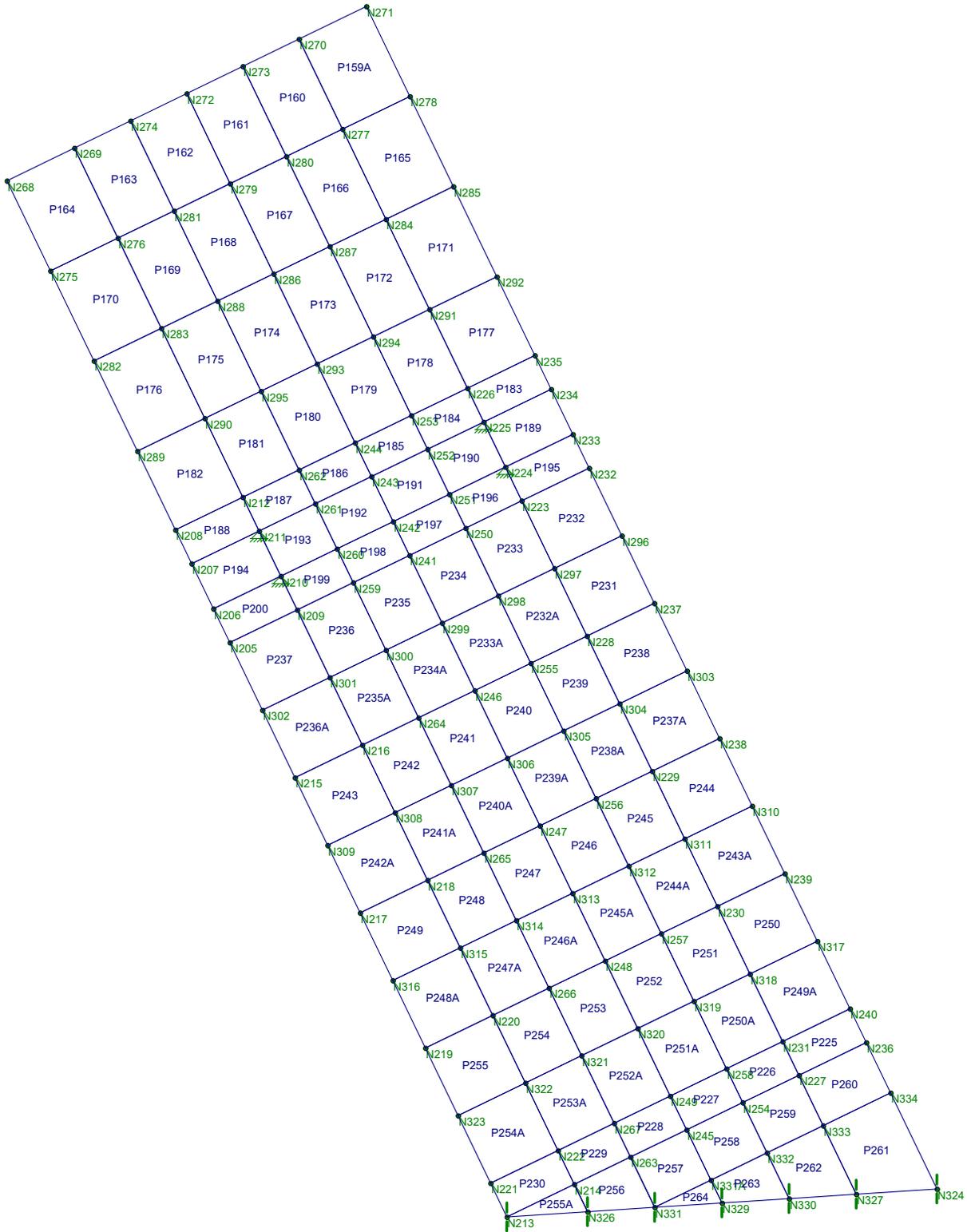


Exhibit K



Loads: BLC 1, D

SK - 5

July 3, 2018 at 4:24 PM

GLASS PANELS.r3d

Rail #4

Exhibit <b>GLR</b> ENGINEERS  GOKEY LANE RASMUSSEN  GLR Engineers, PLLC PO Box 6406 Boise, ID 83702 208-344-2470	Project				Job Ref.	
	Denver Justice Center				SMI1812	
	Section				Sheet no./rev.	
Glass Railing Design				8		
Calc. by	Date	Chk'd by	Date	App'd by	Date	
A. Sandidge	7/12/2018	JLane	7/12/2018			

### GLASS PANEL #4 CONNECTION

Reactions from Risa at joint N225

$F_x = 23\text{lbs}$

$F_y = 168\text{ lbs}$

$F_z = 1.374\text{ kips}$

$\frac{1}{2}$ -13 x  $\frac{3}{4}$ " threaded rod ASTM F593 Group 1 SS304

Diameter  $d_b = 0.5\text{in}$

Shear  $V = \sqrt{F_y^2 + F_x^2} = 170\text{ lbs}$

Tension  $T = F_z = 1374\text{ lbs}$

$F_u = 85\text{ksi}$

$F_{nt} = 0.75 * F_u = 64\text{ ksi}$

$F_{nv} = 0.45 * F_u = 38\text{ ksi}$

$\Omega_b = 2$

$T_a = F_{nt} * \pi * d_b^2 / 4 / \Omega_b = 6.26\text{ kips}$   $V_a = F_{nv} * \pi * d_b^2 / 4 / \Omega_b = 3.76\text{ kips}$

Unity equation  $T/T_a + V/V_a = 0.26$

Therefore, use  $\frac{1}{2}$ -13 x  $\frac{3}{4}$ " threaded rod ASTM F593 Group 1 SS304

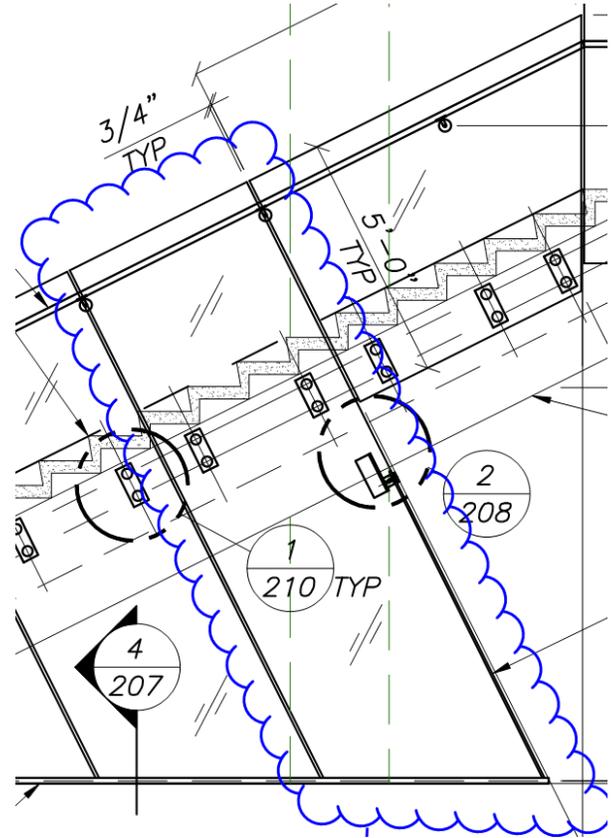




Exhibit <b>GLR</b> ENGINEERS GOKEY LANE RASMUSSEN GLR Engineers, PLLC PO Box 6406 Boise, ID 83702 208-344-2470	Project				Job Ref.	
	Denver Justice Center				SMI1812	
	Section				Sheet no./rev.	
Glass Railing Design				9		
Calc. by	Date	Chk'd by	Date	App'd by	Date	
A. Sandidge	7/12/2018	JLane	7/12/2018			

### GLASS PANEL #5 CONNECTION

Reactions from Risa at joint N368A

$F_x = 26\text{lbs}$

$F_y = 283\text{ lbs}$

$F_z = 1.398\text{ kips}$

$\frac{1}{2}$ -13 x  $\frac{3}{4}$ " threaded rod ASTM F593 Group 1 SS304

Diameter  $d_b = 0.5\text{in}$

Shear  $V = \sqrt{F_y^2 + F_x^2} = 284\text{ lbs}$

Tension  $T = F_z = 1398\text{ lbs}$

$F_u = 85\text{ksi}$

$F_{nt} = 0.75 * F_u = 64\text{ ksi}$

$F_{nv} = 0.45 * F_u = 38\text{ ksi}$

$\Omega_b = 2$

$T_a = F_{nt} * \pi * d_b^2 / 4 / \Omega_b = 6.26\text{ kips}$

$V_a = F_{nv} * \pi * d_b^2 / 4 / \Omega_b = 3.76\text{ kips}$

Unity equation  $T/T_a + V/V_a = 0.30$

Therefore, use  $\frac{1}{2}$ -13 x  $\frac{3}{4}$ " threaded rod ASTM F593 Group 1 SS304

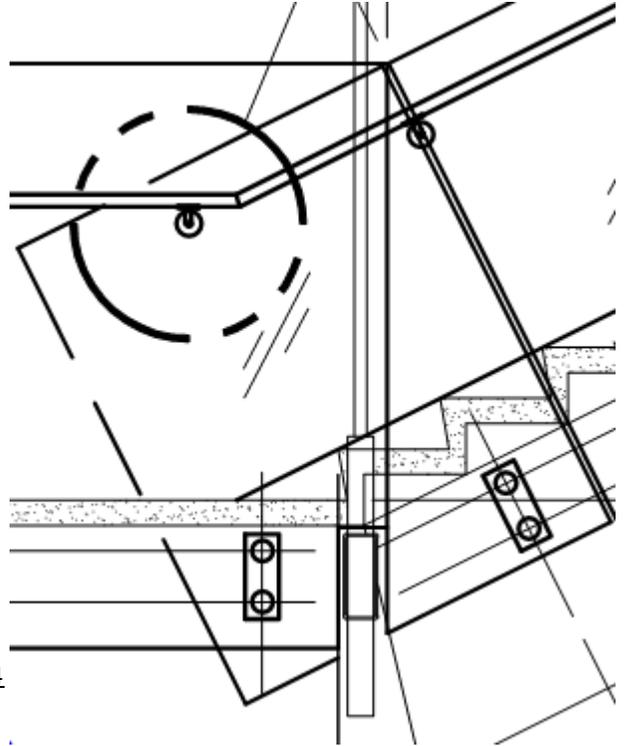
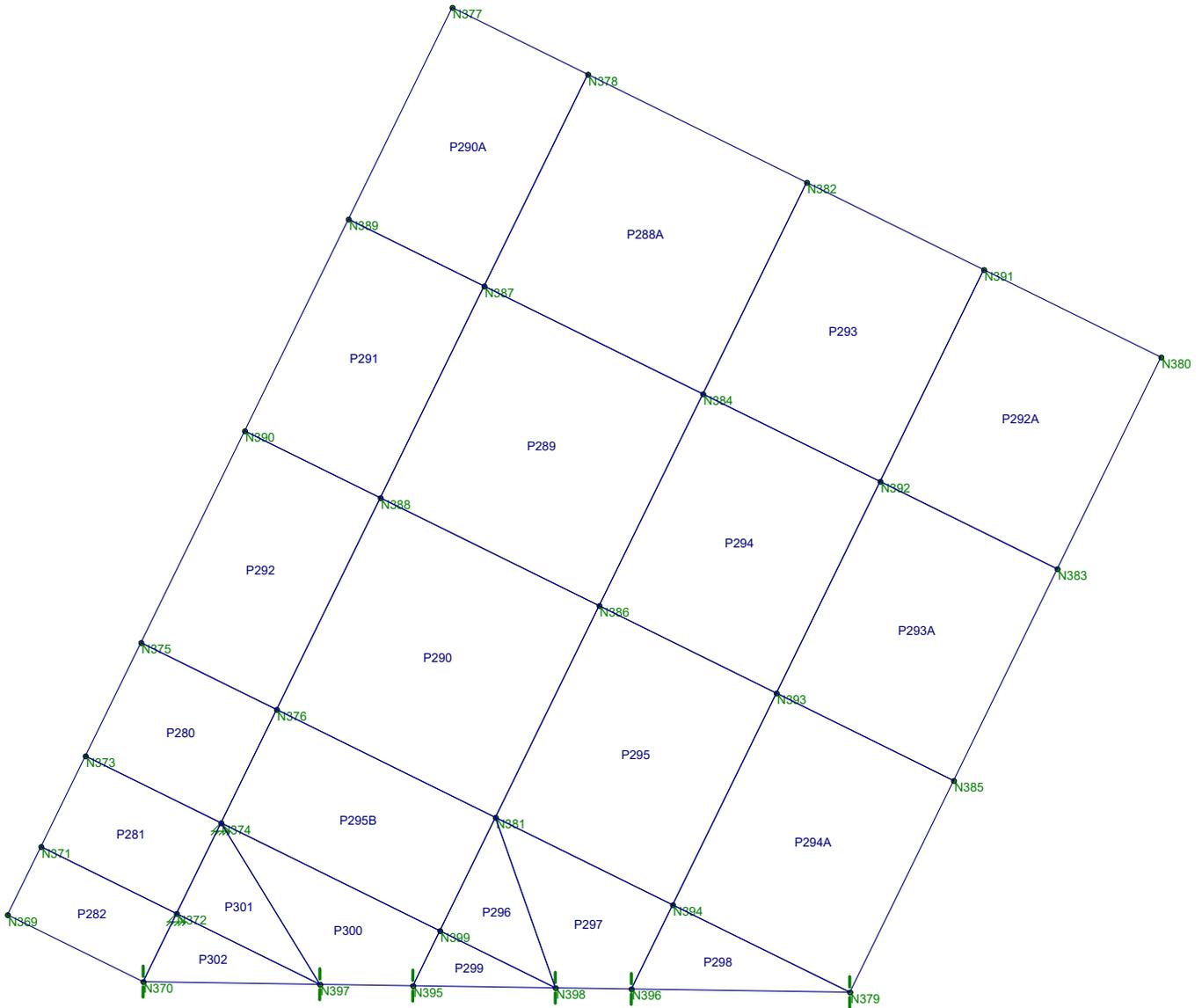


Exhibit K



Loads: BLC 1, D

		SK - 7
		July 3, 2018 at 4:25 PM
	Rail #6	GLASS PANELS.r3d

Exhibit <b>GLR</b> ENGINEERS  GOKEY LANE RASMUSSEN  GLR Engineers, PLLC PO Box 6406 Boise, ID 83702 208-344-2470	Project				Job Ref.	
	Denver Justice Center				SMI1812	
	Section				Sheet no./rev.	
Glass Railing Design				10		
Calc. by	Date	Chk'd by	Date	App'd by	Date	
A. Sandidge	7/12/2018	JLane	7/12/2018			

**GLASS PANEL #6 CONNECTION**

Reactions from Risa at joint N372

F<sub>x</sub> = 37 lbs

F<sub>y</sub> = 27 lbs

F<sub>z</sub> = 2.372 kips

1/2-13 x 3/4" threaded rod ASTM F593 Group 1 SS304

Diameter db = 0.5in

Shear V = sqrt(F<sub>y</sub><sup>2</sup>+F<sub>x</sub><sup>2</sup>) = 46 lbs

Tension T = F<sub>z</sub> = 2372 lbs

F<sub>u</sub> = 85ksi

F<sub>nt</sub> = 0.75\*F<sub>u</sub> = 64 ksi

F<sub>nv</sub> = 0.45\*F<sub>u</sub> = 38 ksi

Ω<sub>b</sub> = 2

T<sub>a</sub> = F<sub>nt</sub>\*π\*db<sup>2</sup>/4/Ω<sub>b</sub> = 6.26 kips V<sub>a</sub> = F<sub>nv</sub>\*π\*db<sup>2</sup>/4/Ω<sub>b</sub> =

Unity equation T/T<sub>a</sub>+V/V<sub>a</sub> = 0.39

Therefore, use 1/2-13 x 3/4" threaded rod ASTM F593 Group 1 SS304

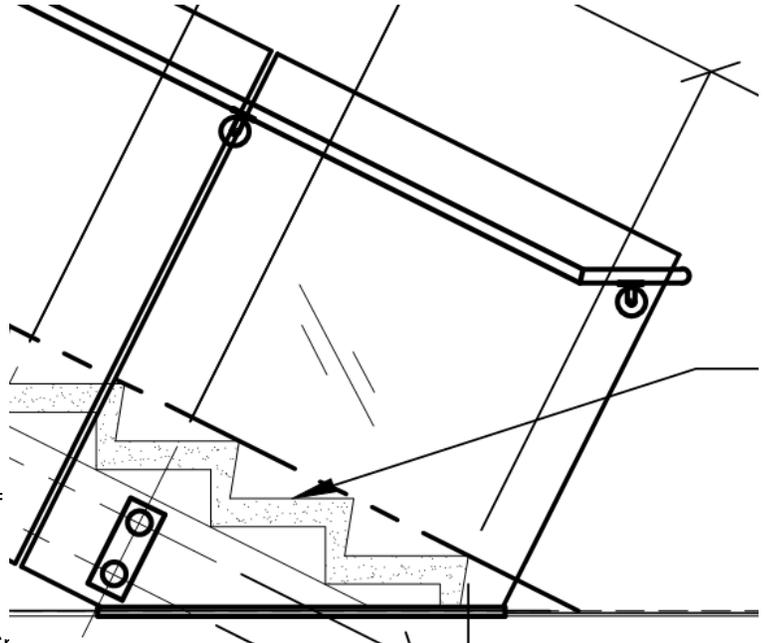
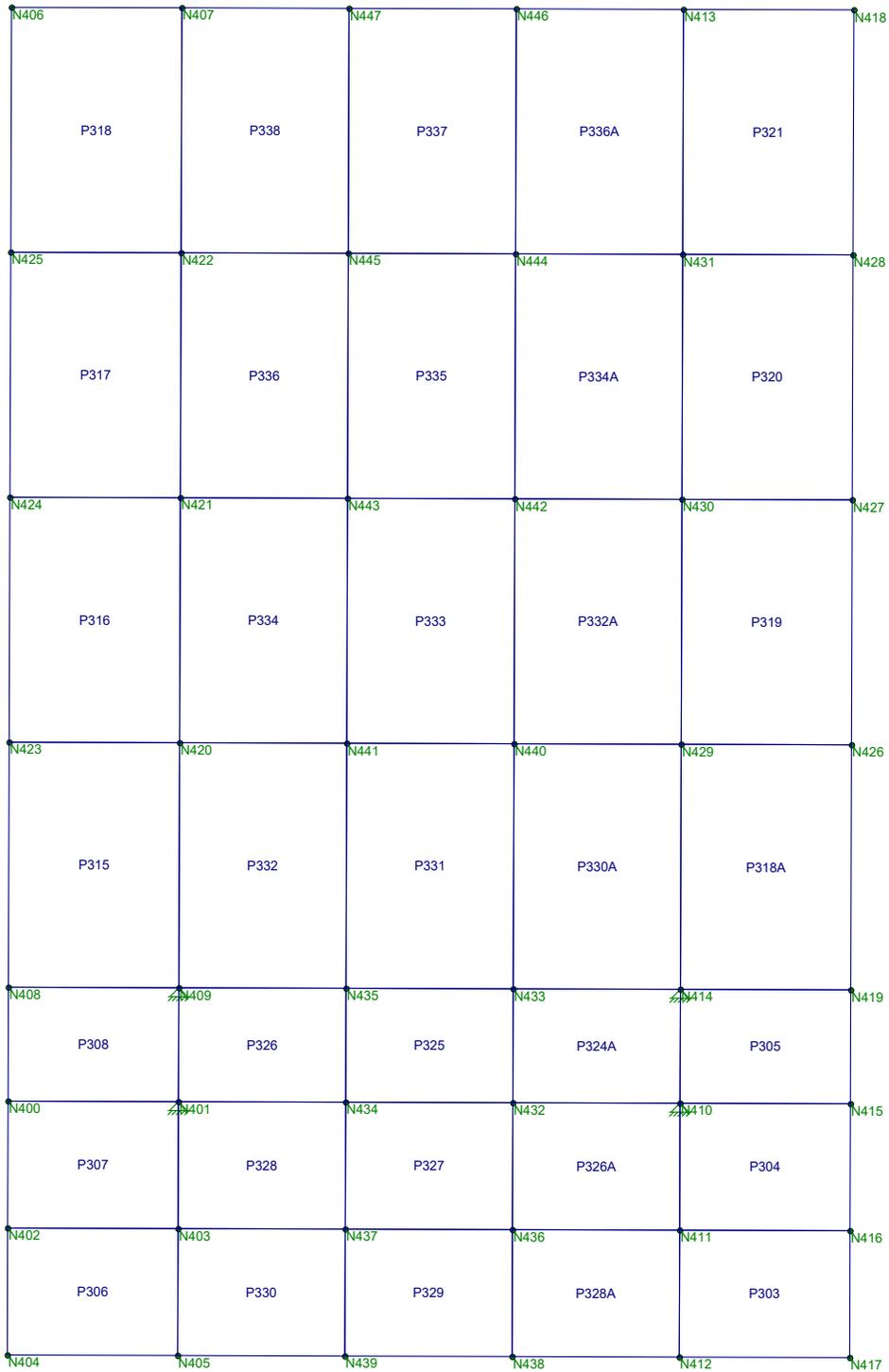


Exhibit K



Loads: BLC 1, D

		SK - 8
	Rail#7	July 3, 2018 at 4:26 PM
		GLASS PANELS.r3d

Exhibit <b>GLR</b> ENGINEERS GOKEY LANE RASMUSSEN GLR Engineers, PLLC PO Box 6406 Boise, ID 83702 208-344-2470	Project				Job Ref.	
	Denver Justice Center				SMI1812	
	Section				Sheet no./rev.	
Glass Railing Design				11		
Calc. by	Date	Chk'd by	Date	App'd by	Date	
A. Sandidge	7/12/2018	JLane	7/12/2018			

### GLASS PANEL #7 CONNECTION

Reactions from Risa at joint N409

$F_x = 48\text{ lbs}$

$F_y = 301\text{ lbs}$

$F_z = 1.379\text{ kips}$

$\frac{1}{2}$ -13 x  $\frac{3}{4}$ " threaded rod ASTM F593 Group 1 SS304

Diameter  $d_b = 0.5\text{ in}$

Shear  $V = \sqrt{F_y^2 + F_x^2} = 305\text{ lbs}$

Tension  $T = F_z = 1379\text{ lbs}$

$F_u = 85\text{ ksi}$

$F_{nt} = 0.75 * F_u = 64\text{ ksi}$

$F_{nv} = 0.45 * F_u = 38\text{ ksi}$

$\Omega_b = 2$

$T_a = F_{nt} * \pi * d_b^2 / 4 / \Omega_b = 6.26\text{ kips}$   $V_a = F_{nv} * \pi * d_b^2 / 4 / \Omega_b = 3.76\text{ kips}$

Unity equation  $T/T_a + V/V_a = 0.30$

Therefore, use  $\frac{1}{2}$ -13 x  $\frac{3}{4}$ " threaded rod ASTM F593 Group 1 SS304

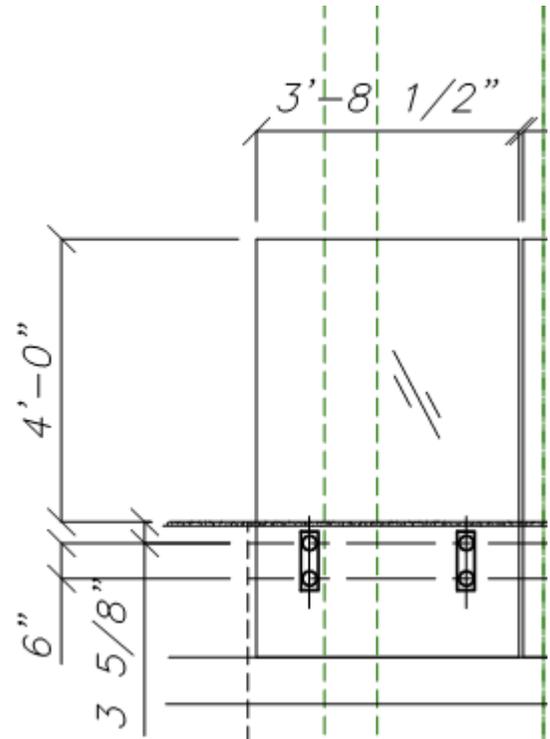
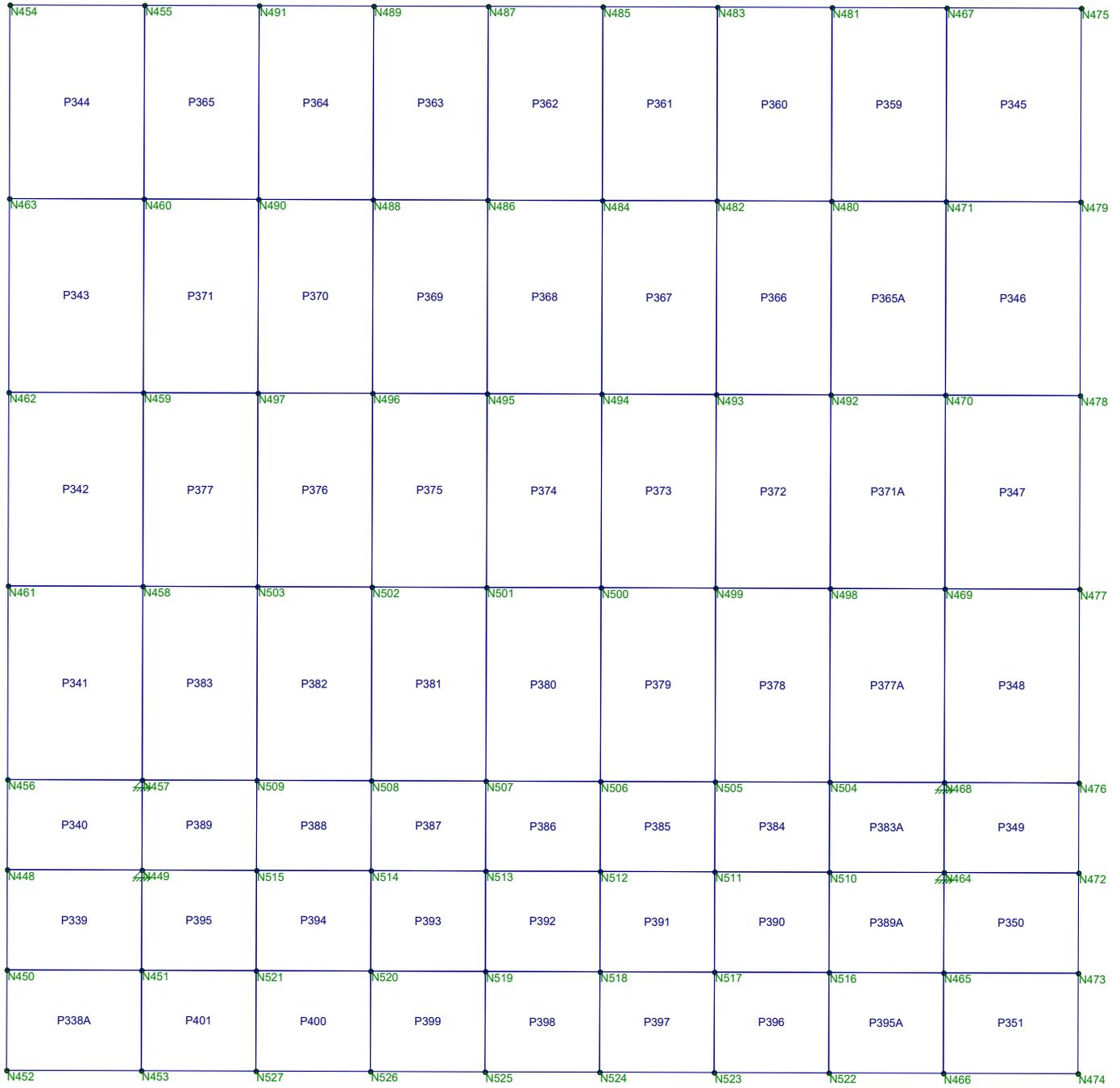


Exhibit K



Loads: BLC 1, D

		SK - 11
		July 3, 2018 at 4:28 PM
	Rail #8	GLASS PANELS.r3d

Exhibit <b>GLR</b> ENGINEERS GOKEY LANE RASMUSSEN GLR Engineers, PLLC PO Box 6406 Boise, ID 83702 208-344-2470	Project				Job Ref.	
	Denver Justice Center				SMI1812	
	Section				Sheet no./rev.	
Glass Railing Design				12		
Calc. by	Date	Chk'd by	Date	App'd by	Date	
A. Sandidge	7/12/2018	JLane	7/12/2018			

### GLASS PANEL #8 CONNECTION

Reactions from Risa at joint N457

$F_x = 11 \text{ lbs}$

$F_y = 353 \text{ lbs}$

$F_z = 1.444 \text{ kips}$

$\frac{1}{2}$ -13 x  $\frac{3}{4}$ " threaded rod ASTM F593 Group 1 SS304

Diameter  $d_b = 0.5 \text{ in}$

Shear  $V = \sqrt{F_y^2 + F_x^2} = 353 \text{ lbs}$

Tension  $T = F_z = 1444 \text{ lbs}$

$F_u = 85 \text{ ksi}$

$F_{nt} = 0.75 * F_u = 64 \text{ ksi}$

$F_{nv} = 0.45 * F_u = 38 \text{ ksi}$

$\Omega_b = 2$

$T_a = F_{nt} * \pi * d_b^2 / 4 / \Omega_b = 6.26 \text{ kips}$   $V_a = F_{nv} * \pi * d_b^2 / 4 / \Omega_b = 3.76 \text{ kips}$

Unity equation  $T/T_a + V/V_a = 0.32$

Therefore, use  $\frac{1}{2}$ -13 x  $\frac{3}{4}$ " threaded rod ASTM F593 Group 1 SS304

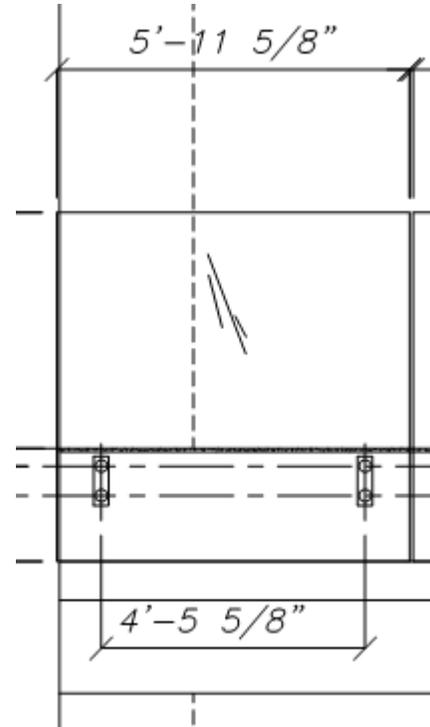


Exhibit <b>GLR</b> ENGINEERS GOKEY LANE RASMUSSEN GLR Engineers, PLLC PO Box 6406 Boise, ID 83702 208-344-2470	Project				Job Ref.	
	Denver Justice Center				SMI1812	
	Section				Sheet no./rev.	
Glass Railing Design				13		
Calc. by	Date	Chk'd by	Date	App'd by	Date	
A. Sandidge	7/12/2018	JLane	7/12/2018			

### STEEL PLATE TO CONT. STEEL PLATE WELD

Reactions from Risa at joint N457

$F_x = 11 \text{ lbs}$

$F_y = 353 \text{ lbs}$

$F_z = 1.444 \text{ kips}$

Tension  $T = F_z = \mathbf{1444 \text{ lbs}}$

Shear  $V_x = 2 * F_x$

$V_y = 2 * F_y$

$M_x = V_y * (3 \text{ in}) = \mathbf{2118 \text{ lb\_in}}$

$M_z = V_x * (3 \text{ in}) = \mathbf{66 \text{ lb\_in}}$

fillet weld

$d = 10 \text{ in}$

$b = 3 \text{ in}$

$S_{yweld} = s_y = d^2/3 = \mathbf{33.33 \text{ in}^2}$

$S_{xweld} = s_x = b * d = \mathbf{30.00 \text{ in}^2}$

$A_{weld} = a = 2 * d = \mathbf{20.00 \text{ in}}$

$f_{bx} = M_x / s_y = \mathbf{64 \text{ lbs/in}}$

$f_{by} = M_z / s_x = \mathbf{2 \text{ lbs/in}}$

$f_t = T / a = \mathbf{72 \text{ lb/in}}$

$f_{vy} = V_y / a = \mathbf{35 \text{ lbs/in}}$

$f_{vx} = V_x / a = \mathbf{1 \text{ lbs/in}}$

$f_r = \sqrt{(f_{bx} + f_{by} + f_t)^2 + f_{vy}^2 + f_{vx}^2} = \mathbf{142 \text{ lbs/in}}$

req'd fillet weld size =  $f_r * 2 / (0.6 * 0.707 * 70 \text{ ksi}) = \mathbf{0.010 \text{ in}}$

Therefore 3/16" fillet weld 2 sides is ok

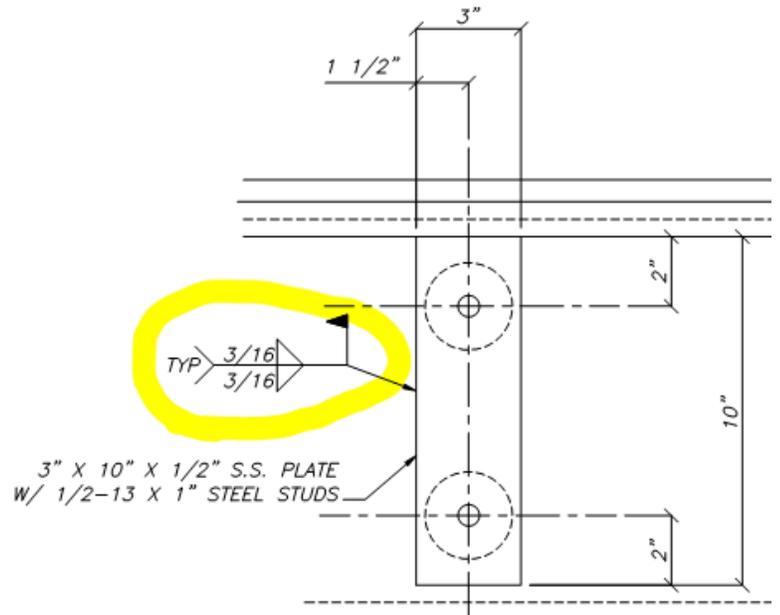


Exhibit <b>GLR</b> ENGINEERS  GOKEY LANE RASMUSSEN  GLR Engineers, PLLC PO Box 6406 Boise, ID 83702 208-344-2470	Project				Job Ref.	
	Denver Justice Center				SMI1812	
	Section				Sheet no./rev.	
Glass Railing Design				14		
Calc. by	Date	Chk'd by	Date	App'd by	Date	
A. Sandidge	7/12/2018	JLane	7/12/2018			

## HSS FOR GLASS MOUNT AT ATRIUM WALL

Reactions from Risa at joint N457

$F_x = 11 \text{ lbs}$

$F_y = 353 \text{ lbs}$

$F_z = 1.444 \text{ kips}$

Length of HSS  $l = 2.375 \text{ in}$

Tension  $T = F_z = 1444 \text{ lbs}$

Shear  $V_x = 2 * F_x$

$V_y = 2 * F_y$

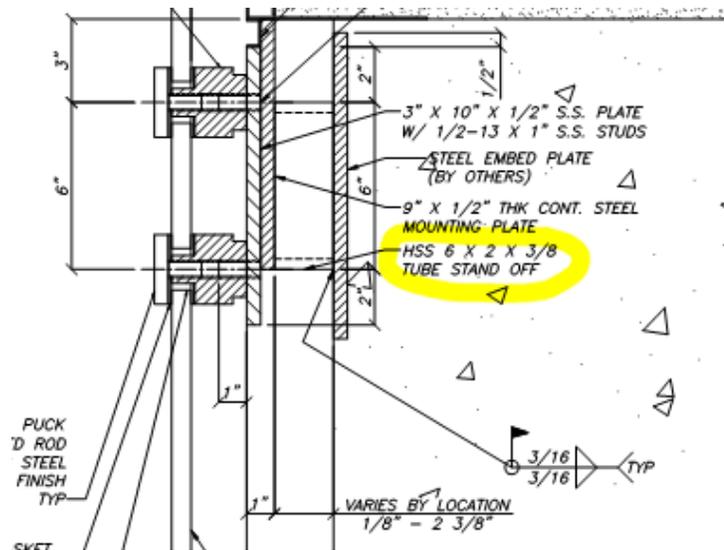
$M_x = V_y * (3.25 \text{ in} + l) = 3971 \text{ lb\_in}$

$M_z = V_x * (3.25 \text{ in} + l) = 124 \text{ lb\_in}$

$z_x = 7.93 \text{ in}^3$

$z_y = 3.46 \text{ in}^3$

$a = 4.78 \text{ in}^2$



HSS Design wall thickness  $t = 0.349 \text{ in}$

Width resisting shear force  $h = 6 \text{ in} - 3 * t = 4.953 \text{ in}$

$A_w = 2 * h * t = 3 \text{ in}^2$

HSS Allowable Shear  $V_n = 0.6 * F_{ya500} * A_w / \Omega_{a500} = 57.14 \text{ kips}$

HSS Allowable Tension  $T_n = \min(F_{ya500} * a / \Omega_{a500}, F_{ua500} * a / \Omega_{a500}) = 131.66 \text{ kips}$

HSS Allowable Bending  $M_n = F_{ya500} * z_y / \Omega_{a500} = 95.31 \text{ kip\_in}$

HSS Subject to combined Shear, Tension, and Flexure  $(T/T_n + M_z/M_n + M_x/M_n) + (V_x/V_n)^2 + (V_y/V_n)^2 = 0.05$

Therefore 6 x 2 x 3/8" HSS Tube is ok

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Glass Railing Design				15		
Calc. by	Date	Chk'd by	Date	App'd by	Date	
A. Sandidge	7/12/2018	JLane	7/12/2018			

### HSS TUBE TO STEEL EMBED PLATE WELD

Reactions from Risa at joint N457

$F_x = 11 \text{ lbs}$

$F_y = 353 \text{ lbs}$

$F_z = 1.444 \text{ kips}$

Length of HSS I = 2.375in

Tension  $T = F_z = 1444 \text{ lbs}$

Shear  $V_x = 2 * F_x$

$V_y = 2 * F_y$

$M_x = V_y * (3.25 \text{ in} + l) = 3971 \text{ lb\_in}$

$M_z = V_x * (3.25 \text{ in} + l) = 124 \text{ lb\_in}$

fillet weld

$d = 6 \text{ in}$

$b = 2 \text{ in}$

Sweld  $s = b * d + d^2 / 3 = 24.00 \text{ in}^2$

$A_{\text{weld}} a = 2 * d + 2 * b = 16.00 \text{ in}$

$f_{bx} = M_x / s = 165 \text{ lbs/in}$

$f_{by} = M_z / s = 5 \text{ lbs/in}$

$f_t = T / a = 90 \text{ lbs/in}$

$f_{vy} = V_y / a = 44 \text{ lbs/in}$

$f_{vx} = V_x / a = 1 \text{ lbs/in}$

$f_r = \sqrt{(f_{bx} + f_{by} + f_t)^2 + f_{vy}^2 + f_{vx}^2} = 265 \text{ lbs/in}$

req'd fillet weld size =  $f_r * 2 / (0.6 * 0.707 * 70 \text{ ksi}) = 0.018 \text{ in}$

Therefore 3/16" fillet weld all around is ok

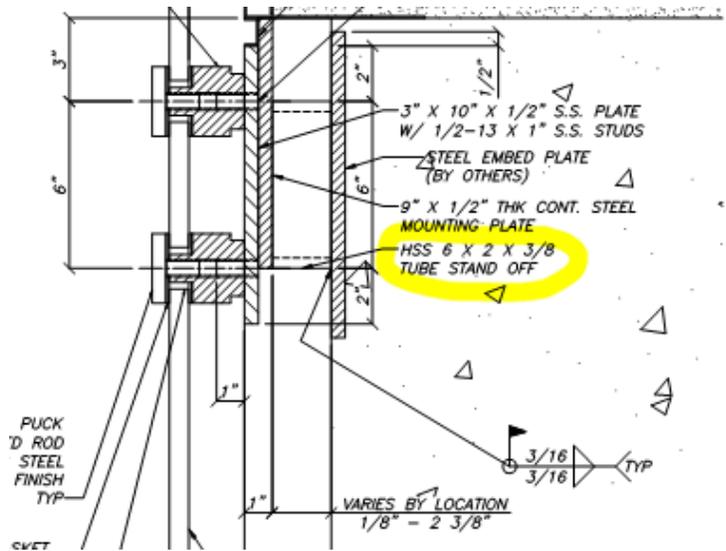




Exhibit <b>GLR</b> ENGINEERS GOKEY LANE RASMUSSEN GLR Engineers, PLLC PO Box 6406 Boise, ID 83702 208-344-2470	Project				Job Ref.	
	Denver Justice Center				SMI1812	
	Section				Sheet no./rev.	
Glass Railing Design				16		
Calc. by	Date	Chk'd by	Date	App'd by	Date	
A. Sandidge	7/12/2018	JLane	7/12/2018			

### OVERLAPPING GLASS PANEL CONNECTION

Reactions from Risa at joint N368A & N1018

$$F_{x1} = 26 \text{ lbs}$$

$$F_{y1} = 283 \text{ lbs}$$

$$F_{z1} = 1.398 \text{ kips}$$

$$F_{x2} = 49 \text{ lbs}$$

$$F_{y2} = 474 \text{ lbs}$$

$$F_{z2} = 1.635 \text{ kips}$$

$\frac{1}{2}$ -13 x  $\frac{3}{4}$ " threaded rod ASTM F593 Group 1 SS304

Diameter  $d_b = 0.5 \text{ in}$

$$\text{Shear } V = \sqrt{(F_{y1} + F_{y2})^2 + (F_{x1} + F_{x2})^2} = 761 \text{ lbs}$$

$$\text{Tension } T = F_{z1} + F_{z2} = 3033 \text{ lbs}$$

$$F_u = 85 \text{ ksi}$$

$$F_{nt} = 0.75 * F_u = 64 \text{ ksi}$$

$$F_{nv} = 0.45 * F_u = 38 \text{ ksi}$$

$$\Omega_b = 2$$

$$T_a = F_{nt} * \pi * d_b^2 / 4 / \Omega_b = 6.26 \text{ kips}$$

$$V_a = F_{nv} * \pi * d_b^2 / 4 / \Omega_b = 3.7$$

$$\text{Unity equation } T/T_a + V/V_a = 0.69$$

Therefore, use  $\frac{1}{2}$ -13 x  $\frac{3}{4}$ " threaded rod ASTM F593 Group 1 SS304

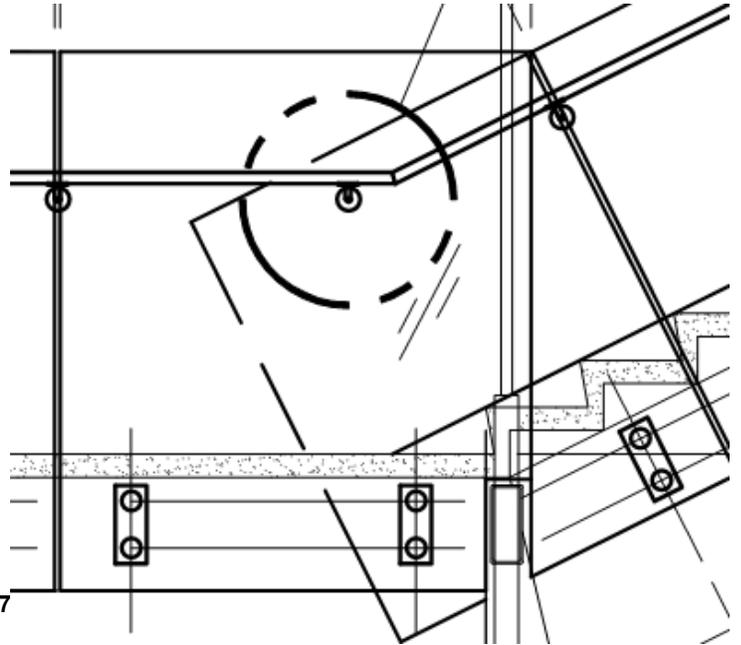


Exhibit K



N988	N989	N997	N996	N995	N994	N993	N992	N990	N991
P779	P780	P787	P786	P785	P784	P783	P782	P781	
N808	N809	N817	N816	N815	N814	N813	N812	N810	N811
P653	P667	P681	P695	P709	P723	P737	P751	P765	
N859	N858	N884	N897	N910	N923	N936	N949	N962	N975
P654	P668	P682	P696	P710	P724	P738	P752	P766	
N861	N860	N885	N898	N911	N924	N937	N950	N963	N976
P655	P669	P683	P697	P711	P725	P739	P753	P767	
N863	N862	N886	N899	N912	N925	N938	N951	N964	N977
P656	P670	P684	P698	P712	P726	P740	P754	P768	
N865	N864	N887	N900	N913	N926	N939	N952	N965	N978
P657	P671	P685	P699	P713	P727	P741	P755	P769	
N867	N866	N888	N901	N914	N927	N940	N953	N966	N979
P658	P672	P686	P700	P714	P728	P742	P756	P770	
N869	N868	N889	N902	N915	N928	N941	N954	N967	N980
P659	P673	P687	P701	P715	P729	P743	P757	P771	
N871	N870	N890	N903	N916	N929	N942	N955	N968	N981
P660	P674	P688	P702	P716	P730	P744	P758	P772	
N873	N872	N891	N904	N917	N930	N943	N956	N969	N982
P661	P675	P689	P703	P717	P731	P745	P759	P773	
N875	N874	N892	N905	N918	N931	N944	N957	N970	N983
P662	P676	P690	P704	P718	P732	P746	P760	P774	
N877	N876	N893	N906	N919	N932	N945	N958	N971	N984
P663	P677	P691	P705	P719	P733	P747	P761	P775	
N879	N878	N894	N907	N920	N933	N946	N959	N972	N985
P664	P678	P692	P706	P720	P734	P748	P762	P776	
N881	N880	N895	N908	N921	N934	N947	N960	N973	N986
P665	P679	P693	P707	P721	P735	P749	P763	P777	
N883	N882	N896	N909	N922	N935	N948	N961	N974	N987
P666	P680	P694	P708	P722	P736	P750	P764	P778	
N824	N825	N839	N838	N837	N836	N835	N834	N829	N833
P628	P638	P637	P636	P635	P634	P633	P632	P629	
N818	N819	N845	N844	N843	N842	N841	N840	N826	N830
P627	P645	P644	P643	P642	P641	P640	P639	P630	
N820	N821	N851	N850	N849	N848	N847	N846	N827	N831
P626	P652	P651	P650	P649	P648	P647	P646	P631	
N822	N823	N857	N856	N855	N854	N853	N852	N828	N832

Loads: BLC 1, D

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July 3, 2018 at 4:31 PM

GLASS PANELS.r3d

Glass Wall

Exhibit <b>GLR</b> ENGINEERS <b>GOKEY          LANE          RASMUSSEN</b> GLR Engineers, PLLC PO Box 6406 Boise, ID 83702 208-344-2470	Project				Job Ref.	
	Denver Justice Center				SMI1812	
	Section				Sheet no./rev.	
Glass Railing Design				17		
Calc. by	Date	Chk'd by	Date	App'd by	Date	
A. Sandidge	7/12/2018	JLane	7/12/2018			

### TOP OF GLASS WALL CONNECTION

Reactions from Risa at joint N810

$F_x = 89\text{lbs}$

$F_y = 405\text{lbs}$

$F_z = 0.019\text{ kips}$

$\frac{1}{2}\text{-}13 \times \frac{3}{4}\text{'}$  threaded rod ASTM F593 Group 1 SS304

Diameter  $d_b = 0.5\text{in}$

Shear  $V = \sqrt{F_y^2 + F_x^2} = 415\text{ lbs}$

Tension  $T = F_z = 19\text{ lbs}$

$F_u = 85\text{ksi}$

$F_{nt} = 0.75 \cdot F_u = 64\text{ ksi}$

$F_{nv} = 0.45 \cdot F_u = 38\text{ ksi}$

$\Omega_b = 2$

$T_a = F_{nt} \cdot \pi \cdot d_b^2 / 4 / \Omega_b = 6.26\text{ kips}$   $V_a = F_{nv} \cdot \pi \cdot d_b^2 / 4 / \Omega_b = 3.76\text{ kips}$

Unity equation  $T/T_a + V/V_a = 0.11$

Therefore, use  $\frac{1}{2}\text{-}13 \times \frac{3}{4}\text{'}$  threaded rod ASTM F593 Group 1 SS304

### MIDDLE OF GLASS WALL MOUNTING PLATE

Reactions from Risa at joint N810

$F_x = 89\text{lbs}$

$F_y = 405\text{lbs}$

$F_z = 0.019\text{ kips}$

$3\text{'}$  x  $10\text{'}$  x  $1/2\text{'}$  Mounting plate

Bending in plate  $M = F_y \cdot 5.125\text{in} = 173\text{ lb}_\text{ft}$

Check for required thickness of base plate

$F_{yss} = 30\text{ ksi}$

$\Omega_{ss} = 1.67$

Z of plate  $z = 3\text{in} \cdot 0.5\text{in}^2 / 4 = 0.375\text{ in}^3$

Allowable bending stress  $F_{bss} = F_{yss} / \Omega_{ss} = 18.0\text{ ksi}$

$z_{reqd} = M / F_{bss} = 0.116\text{ in}^3$

unity check  $z_{reqd} / z = 0.31$

**1/2" Plate is acceptable**

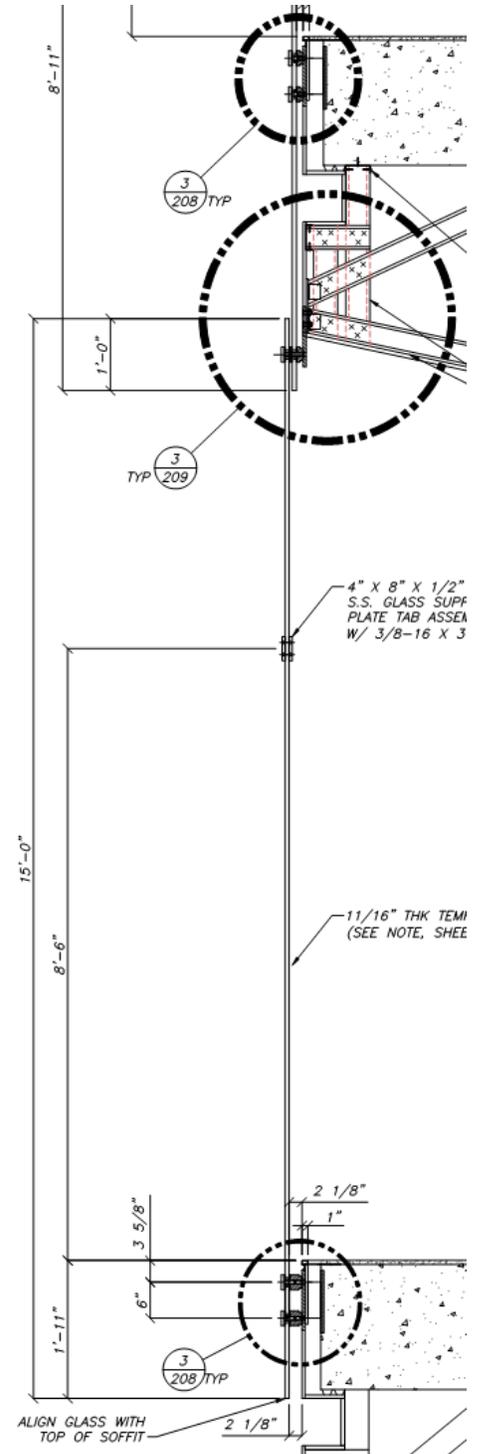


Exhibit  <b>GOKEY LANE RASMUSSEN</b>  GLR Engineers, PLLC PO Box 6406 Boise, ID 83702 208-344-2470	Project				Job Ref.	
	Denver Justice Center				SMI1812	
	Section				Sheet no./rev.	
Glass Railing Design				18		
Calc. by	Date	Chk'd by	Date	App'd by	Date	
A. Sandidge	7/12/2018	JLane	7/12/2018			

### MIDDLE OF GLASS WALL SCREWS TO CONT PLATE

Reactions from Risa at joint N810

$F_x = 89\text{lbs}$

$F_y = 405\text{lbs}$

$F_z = 0.019\text{ kips}$

Diameter  $d_b = 0.5\text{in}$

Shear  $V = \sqrt{F_y^2 + F_x^2} = 415\text{ lbs}$

Tension  $T = F_z * 5.125\text{in} / ((2/3) * 3\text{in}) = 49\text{ lbs}$

$F_u = 85\text{ksi}$

$F_{nt} = 0.75 * F_u = 64\text{ ksi}$

$F_{nv} = 0.45 * F_u = 38\text{ ksi}$

$\Omega_b = 2$

$T_a = F_{nt} * \pi * d_b^2 / 4 / \Omega_b = 6.26\text{ kips}$   $V_a = F_{nv} * \pi * d_b^2 / 4 / \Omega_b = 3.76\text{ kips}$

Unity equation  $T/T_a + V/V_a = 0.12$

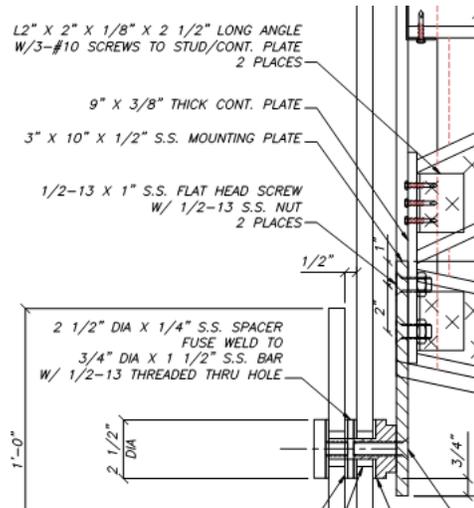


Exhibit <b>GLR</b> ENGINEERS  GOKEY LANE RASMUSSEN  GLR Engineers, PLLC PO Box 6406 Boise, ID 83702 208-344-2470	Project				Job Ref.	
	Denver Justice Center				SMI1812	
	Section				Sheet no./rev.	
Glass Railing Design				20		
Calc. by	Date	Chk'd by	Date	App'd by	Date	
A. Sandidge	7/12/2018	JLane	7/12/2018			

### BOTTOM OF GLASS WALL CONNECTION

Reactions from Risa at joint N829

$F_x = 19\text{ lbs}$

$F_y = 293\text{ lbs}$

$F_z = 0.746\text{ kips}$

5/8" threaded rod ASTM F593 Group 1 SS304

Diameter  $d_b = 0.625\text{ in}$

Shear  $V = \sqrt{F_y^2 + F_x^2} = 294\text{ lbs}$

Tension  $T = F_z = 746\text{ lbs}$

$F_u = 85\text{ ksi}$

$F_{nt} = 0.75 \cdot F_u = 64\text{ ksi}$

$F_{nv} = 0.45 \cdot F_u = 38\text{ ksi}$

$\Omega_b = 2$

$T_a = F_{nt} \cdot \pi \cdot d_b^2 / 4 / \Omega_b = 9.78\text{ kips}$

$V_a = F_{nv} \cdot \pi \cdot d_b^2 / 4 / \Omega_b = 5.87\text{ kips}$

Unity equation  $T/T_a + V/V_a = 0.13$

Therefore, use 5/8" threaded rod ASTM F593 Group 1 SS304

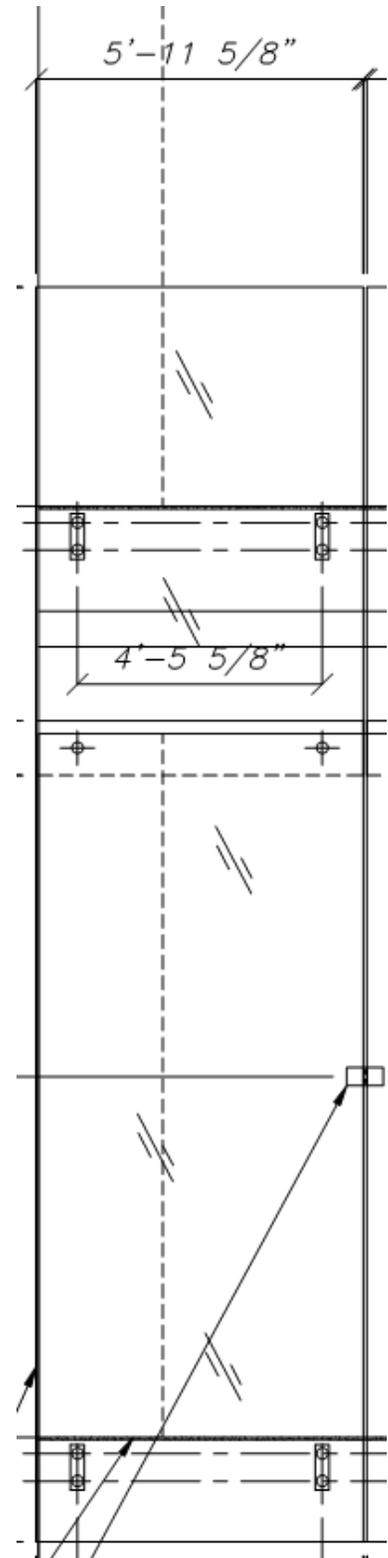
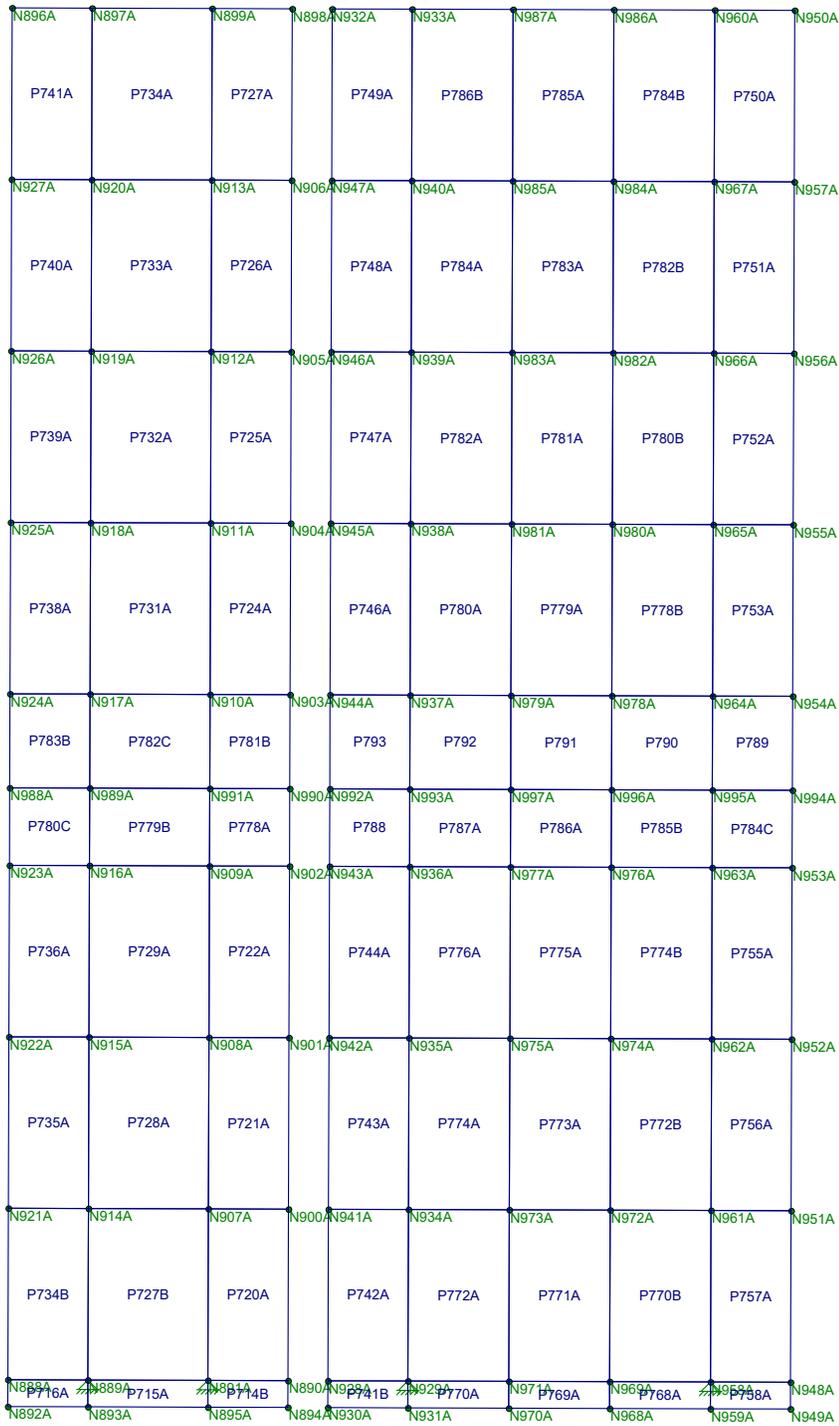


Exhibit K



Loads: BLC 1, D

SK - 17

July 3, 2018 at 4:32 PM

GLASS PANELS.r3d

Bridge Panels

Exhibit <b>GLR</b> ENGINEERS GOKEY LANE RASMUSSEN  GLR Engineers, PLLC PO Box 6406 Boise, ID 83702 208-344-2470	Project				Job Ref.	
	Denver Justice Center				SMI1812	
	Section				Sheet no./rev.	
Glass Railing Design				21		
Calc. by	Date	Chk'd by	Date	App'd by	Date	
A. Sandidge	7/12/2018	JLane	7/12/2018			

### **BOTTOM OF BRIDGE WALL THREADED ROD CONNECTION**

Reactions from Risa at joint N889A

$F_x = 10 \text{ lbs}$

$F_y = 472 \text{ lbs}$

$F_z = 190 \text{ lbs}$

$\frac{1}{2}$ -13 x  $\frac{3}{4}$ " threaded rod ASTM F593 Group 1 SS304

Diameter  $d_b = 0.5 \text{ in}$

Shear  $V = \sqrt{F_y^2 + F_x^2} = 472 \text{ lbs}$

Tension  $T = F_z = 190 \text{ lbs}$

$F_u = 85 \text{ ksi}$

$F_{nt} = 0.75 * F_u = 64 \text{ ksi}$

$F_{nv} = 0.45 * F_u = 38 \text{ ksi}$

$\Omega_b = 2$

$T_a = F_{nt} * \pi * d_b^2 / 4 / \Omega_b = 6.26 \text{ kips}$   $V_a = F_{nv} * \pi * d_b^2 / 4 / \Omega_b = 3.76 \text{ kips}$

Unity equation  $T/T_a + V/V_a = 0.16$

Therefore, use  $\frac{1}{2}$ -13 x  $\frac{3}{4}$ " threaded rod ASTM F593 Group 1 SS304

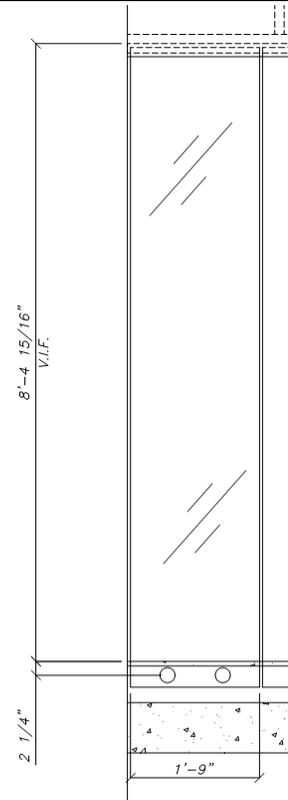


Exhibit  <b>GOKEY LANE RASMUSSEN</b>  GLR Engineers, PLLC PO Box 6406 Boise, ID 83702 208-344-2470	Project				Job Ref.	
	Denver Justice Center				SMI1812	
	Section				Sheet no./rev.	
Glass Railing Design				22		
Calc. by	Date	Chk'd by	Date	App'd by	Date	
A. Sandidge	7/12/2018	JLane	7/12/2018			

### BOTTOM OF BRIDGE WALL THREADED ROD

Reactions from Risa at joint N889A

$F_x = 10\text{ lbs}$

$F_y = 472\text{ lbs}$

$F_z = 190\text{ lbs}$

1/2" threaded rod ASTM F593 Group 1 SS304

Diameter  $d_b = 0.5\text{ in}$

$T = F_y * 2.625\text{ in} / ((2/3) * 2\text{ in}) + F_z * 1.75\text{ in} / ((2/3) * 2\text{ in}) = 1549\text{ lbs}$

$V = F_x$

$F_u = 85\text{ ksi}$

$F_{nt} = 0.75 * F_u = 64\text{ ksi}$

$F_{nv} = 0.45 * F_u = 38\text{ ksi}$

$\Omega_b = 2$

$T_a = F_{nt} * \pi * d_b^2 / 4 / \Omega_b = 6.26\text{ kips}$   $V_a = F_{nv} * \pi * d_b^2 / 4 / \Omega_b = 3.76\text{ kips}$

Unity equation  $T/T_a + V/V_a = 0.25$

Therefore, use 1/2" threaded rod ASTM F593 Group 1 SS304

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	Section				Sheet no./rev.	
Glass Railing Design				23		
Calc. by	Date	Chk'd by	Date	App'd by	Date	
A. Sandidge	7/12/2018	JLane	7/12/2018			

### TOP OF BRIDGE WALL SCREW CONNECTION

Reactions from Risa at joint N932A

Fz = 71 lbs

Diameter db = 0.5in

Shear V = Fz = **71 lbs**

Tension T = Fz\*1.5in/(0.9\*0.5in) = **237 lbs**

Fu = 75ksi

Fnt = 0.75\*Fu = **56 ksi**

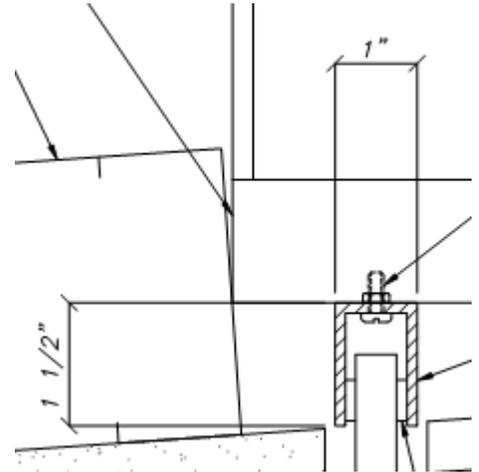
Fnv = 0.45\*Fu = **34 ksi**

$\Omega_b = 2$

Ta = Fnt\* $\pi$ \*db<sup>2</sup>/4/ $\Omega_b$  = **5.52 kips** Va = Fnv\* $\pi$ \*db<sup>2</sup>/4/ $\Omega_b$  = **3.31 kips**

Unity equation T/Ta+V/Va = **0.06**

Therefore, S30400 SS 1/2" DIA Bolts w/ minimum Tensile Strength Fu=75ksi



**; YbYU'A UHYfJU'DfcdYfHjYg**

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GG	ÞFHI	Ü^æđ }	Ü^æđ }	Ü^æđ }			
GH	ÞFHJ	Ü^æđ }	Ü^æđ }	Ü^æđ }			
G	ÞFÍ	Ü^æđ }	Ü^æđ }	Ü^æđ }			
G	ÞFÍ	Ü^æđ }	Ü^æđ }	Ü^æđ }			
G	ÞFÍ	Ü^æđ }	Ü^æđ }	Ü^æđ }			
G	ÞFÍ						
G	ÞFÍ						
G	ÞGÉ	Ü^æđ }	Ü^æđ }	Ü^æđ }			
GJ	ÞGFF	Ü^æđ }	Ü^æđ }	Ü^æđ }			
HÉ	ÞGFI						
HF	ÞGG	Ü^æđ }	Ü^æđ }	Ü^æđ }			
HG	ÞGG	Ü^æđ }	Ü^æđ }	Ü^æđ }			
HH	ÞGG						
HI	ÞGH						
HÍ	ÞGH						
HĪ	ÞGH						
Hİ	ÞGJ						
Hı	ÞGÉ						



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R r ÁÜÖEfi  
 FFkfi ÁÖE  
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>c]bh6 ci bXUf mi7 cbX]h]cbg f7 cb]bi YXL

	R à cÖæ^	ÝÄÉ á	ÿÄÉ á	ZÄÉ á	ÝÁÜ] dÿ ÉÖæá	ÿÁÜ] dÿ ÉÖæá	ZÁÜ] dÿ ÉÖæá
HJ	PG F						
I €	PG I						
IF	PG I						
IG	PG I						
I H	PG H						
I I	PG I						
I Í	PG I						
I Î	PG €						
I Ï	PG F						
I Ì	PG G						
I J	PH G		Ü^æá }				
I €	PH G		Ü^æá }				
I F	PH G		Ü^æá }				
I G	PH F		Ü^æá }				
I H	PH F		Ü^æá }				
I I	PH J		Ü^æá }				
I Í	PH €		Ü^æá }				
I Î	PH I	Ü^æá }	Ü^æá }	Ü^æá }			
I Ï	PH I	Ü^æá }	Ü^æá }	Ü^æá }			
I Ì	PH U						
I J	PH €						
I €	PH I						
I F	PH I						
I G	PH €						
I H	PH F						
I I	PH €						
I Í	PH I ÖE	Ü^æá }	Ü^æá }	Ü^æá }			
I Î	PH I	Ü^æá }	Ü^æá }	Ü^æá }			
I Ï	PH G	Ü^æá }	Ü^æá }	Ü^æá }			
I Ì	PH I	Ü^æá }	Ü^æá }	Ü^æá }			
I J	PH I		Ü^æá }	Ü^æá }			
I €	PH I		Ü^æá }	Ü^æá }			
I F	PH €		Ü^æá }	Ü^æá }			
I G	PH I		Ü^æá }	Ü^æá }			
I H	PH I		Ü^æá }	Ü^æá }			
I I	PH J		Ü^æá }	Ü^æá }			
I Í	PI €€						
I Î	PI €	Ü^æá }	Ü^æá }	Ü^æá }			
I Ï	PI €G						
I Ì	PI €H						
I J	PI €						
I €	PI €						
I F	PI €						
I G	PI €						
I H	PI €						
I I	PI €J	Ü^æá }	Ü^æá }	Ü^æá }			
I Í	PI F€	Ü^æá }	Ü^æá }	Ü^æá }			
I Î	PI FF						
I Ï	PI FG						
I Ì	PI FH						
I J	PI FI	Ü^æá }	Ü^æá }	Ü^æá }			
I €	PI FÍ						





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**>c]bh6ci bXUf mi7 cbX]h]cbg f7 cb]bi YXL**

	R à cÖæ^!	ÝÄÉ á	ÝÄÉ á	ZÄÉ á	ÝÁÚ] dŽ ÉÖæá	ÝÁÚ] dŽ ÉÖæá	ZÁÚ] dŽ ÉÖæá
FIH	ÞÍ€						
FII	ÞÍ€	Ü^æ&ç }	Ü^æ&ç }	Ü^æ&ç }			
FIÍ	ÞÍF€	Ü^æ&ç }	Ü^æ&ç }	Ü^æ&ç }			
FIÎ	ÞÍFF						
FII	ÞÍFÌ						
FII	ÞÍFJ	Ü^æ&ç }	Ü^æ&ç }	Ü^æ&ç }			
FIJ	ÞÍG€						
FÍ€	ÞÍG€						
FÍF	ÞÍGG						
FÍG	ÞÍGH						
FÍH	ÞÍG						
FÍI	ÞÍG	Ü^æ&ç }	Ü^æ&ç }	Ü^æ&ç }			
FÍÍ	ÞÍG	Ü^æ&ç }	Ü^æ&ç }	Ü^æ&ç }			
FÍÎ	ÞÍG						
FII	ÞÍG						
FII	ÞÍGJ	Ü^æ&ç }	Ü^æ&ç }	Ü^æ&ç }			
FIJ	ÞÍH€						
FÍ€	ÞÍHF						
FÍF	ÞÍHG						
FÍG	ÞÍHH						
FÍH	ÞJÌ						
FII	ÞJÌJ						
FÍÍ	ÞJJ€						
FÍÎ	ÞJJF						
FII	ÞIÌ ÖE						
FII	ÞIJOE						
FII	ÞIÍFOE						
FÍ€	ÞIÌ ÖE						
FÍF	ÞIJOE	Ü^æ&ç }	Ü^æ&ç }	Ü^æ&ç }			
FÍG	ÞIJ€ÖE						
FÍH	ÞIJFOE	Ü^æ&ç }	Ü^æ&ç }	Ü^æ&ç }			
FII	ÞIJÖE						
FII	ÞIJHÖE						
FII	ÞIJOE						
FII	ÞIJOE			Ü^æ&ç }			
FIJ	ÞIJOE			Ü^æ&ç }			
FÍ€	ÞIJOE			Ü^æ&ç }			
FÍF	ÞIJJÖE			Ü^æ&ç }			
FÍG	ÞJG ÖE						
FII	ÞJGÖE	Ü^æ&ç }	Ü^æ&ç }	Ü^æ&ç }			
FII	ÞJHÖE						
FII	ÞJHFOE						
FII	ÞJHÖE			Ü^æ&ç }			
FII	ÞJHÖE			Ü^æ&ç }			
FII	ÞJÌ ÖE						
FIJ	ÞJJOE						
FJ€	ÞJÍ €ÖE			Ü^æ&ç }			
FJF	ÞJÌ ÖE	Ü^æ&ç }	Ü^æ&ç }	Ü^æ&ç }			
FJG	ÞJJOE						
FJH	ÞJÍ €ÖE			Ü^æ&ç }			
FJI	ÞJÌ ÖE			Ü^æ&ç }			





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**D'UH'Df'ja Ufm8 UU'ff' cbh'bi YXL**

	Šëa^ \	ÓR ãc	ÓR ãc	ÓR ãc	ÓR ãc	Tæ\æp	V@& ) ^•žá
HF	ÚHí ÖE	ÞIG	ÞÍ€	ÞÍF	ÞH	*æ•	ÉG
HG	ÚHí	ÞÍ€	ÞÍF	ÞH	ÞÍF	*æ•	ÉG
HH	ÚHí ÖE	ÞFG	ÞÍG	ÞÍH	ÞÍ	*æ•	ÉG
HI	ÚHU	ÞÍG	ÞFF	ÞÍ	ÞÍH	*æ•	ÉG
HÍ	ÚHUÖE	ÞÍ	ÞGJ	ÞIJ	ÞÍ	*æ•	ÉG
HÌ	ÚÍ €	ÞÍ	ÞIJ	ÞHE	ÞÍ	*æ•	ÉG
HÏ	ÚÍ €ÖE	ÞFG	ÞFÍ	ÞÍ	ÞÍG	*æ•	ÉG
HÛ	ÚÍ F	ÞÍG	ÞÍ	ÞFÍ	ÞFF	*æ•	ÉG
HÜ	ÚÍ FÖE	ÞFÍ	ÞG	ÞÍ	ÞÍ	*æ•	ÉG
I €	ÚÍ G	ÞÍ	ÞÍ	ÞGH	ÞFÍ	*æ•	ÉG
IF	ÚÍ ÖE	ÞG	ÞH	ÞÍF	ÞÍ	*æ•	ÉG
IG	ÚÍ H	ÞÍ	ÞÍF	ÞH	ÞGH	*æ•	ÉG
IH	ÚÍ HÖE	ÞFÉ	ÞFÉ	ÞJ	ÞJ	*æ•	ÉG
II	ÚÍ	ÞFÉ	ÞFÉ	ÞJJ	ÞJ	*æ•	ÉG
IÍ	ÚÍ	ÞFÉ	ÞFÉ	ÞFEE	ÞJJ	*æ•	ÉG
IÏ	ÚÍ	ÞFÉ	ÞFE	ÞFEG	ÞFEE	*æ•	ÉG
IÛ	ÚÍ	ÞFEE	ÞFEG	ÞJI	ÞJG	*æ•	ÉG
IÜ	ÚÍ	ÞJG	ÞJI	ÞÍ	ÞÍ	*æ•	ÉG
IJ	ÚÍ J	ÞJF	ÞJG	ÞÍ	ÞÍH	*æ•	ÉG
I €	ÚÍ €	ÞJ€	ÞJF	ÞÍH	ÞÍG	*æ•	ÉG
IF	ÚÍ F	ÞIJ	ÞJ€	ÞÍG	ÞÍF	*æ•	ÉG
IG	ÚÍ G	ÞFFH	ÞFFI	ÞFÉ	ÞFÉ	*æ•	ÉG
IH	ÚÍ H	ÞFFI	ÞFFI	ÞFÉ	ÞFÉ	*æ•	ÉG
IÌ	ÚÍ	ÞFFI	ÞFFI	ÞFÉ	ÞFÉ	*æ•	ÉG
IÏ	ÚÍ	ÞFFI	ÞFFI	ÞFE	ÞFÉ	*æ•	ÉG
IÛ	ÚÍ	ÞFFI	ÞFFJ	ÞFFF	ÞFE	*æ•	ÉG
IÜ	ÚÍ	ÞFFJ	ÞFFI	ÞFEJ	ÞFFF	*æ•	ÉG
IJ	ÚÍ J	ÞFFI	ÞFGE	ÞFFG	ÞFEJ	*æ•	ÉG
I €	ÚÍ €	ÞFF€	ÞFFF	ÞFEH	ÞFEG	*æ•	ÉG
IF	ÚÍ F	ÞJI	ÞJI	ÞÍ	ÞÍ	*æ•	ÉG
IG	ÚÍ G	ÞFFF	ÞFEJ	ÞFEF	ÞFEH	*æ•	ÉG
IH	ÚÍ H	ÞFEJ	ÞFFG	ÞFÉ	ÞFEF	*æ•	ÉG
IÌ	ÚÍ	ÞÍF	ÞÍG	ÞÍ	ÞÍH	*æ•	ÉG
IÏ	ÚÍ	ÞÍG	ÞÍH	ÞÍ	ÞÍ	*æ•	ÉG
IÛ	ÚÍ	ÞÍH	ÞÍ	ÞÍ	ÞÍ	*æ•	ÉG
IÜ	ÚÍ	ÞÍ	ÞÍ	ÞÍ	ÞÍ	*æ•	ÉG
IJ	ÚÍ J	ÞFEH	ÞFEF	ÞJH	ÞJ	*æ•	ÉG
I €	ÚÍ €	ÞFEF	ÞFÉ	ÞJ	ÞJH	*æ•	ÉG
IF	ÚÍ F	ÞJH	ÞJ	ÞÍ	ÞÍ	*æ•	ÉG
IG	ÚÍ G	ÞJ	ÞJH	ÞÍ	ÞÍ	*æ•	ÉG
IH	ÚÍ H	ÞÍ	ÞÍ	ÞÍ	ÞÍJ	*æ•	ÉG
IÌ	ÚÍ	ÞÍ	ÞÍ	ÞÍ€	ÞÍ	*æ•	ÉG
IÏ	ÚÍ	ÞÍ	ÞÍ€	ÞÍG	ÞÍJ	*æ•	ÉG
IÛ	ÚÍ	ÞÍJ	ÞÍG	ÞÍ	ÞÍF	*æ•	ÉG
IÜ	ÚÍ	ÞÍF	ÞÍJ	ÞÍF	ÞÍH	*æ•	ÉG
IJ	ÚÍ J	ÞÍ	ÞÍ	ÞÍJ	ÞÍF	*æ•	ÉG
I €	ÚÍ €	ÞÍ€	ÞÍF	ÞÍH	ÞÍG	*æ•	ÉG
IF	ÚÍ F	ÞÍ	ÞÍ	ÞÍ€	ÞÍ	*æ•	ÉG
IG	ÚÍ G	ÞÍ	ÞÍ€	ÞÍG	ÞÍ€	*æ•	ÉG









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**D'UH'Df'ja Ufm8 UU'ff' ch'j'bi YXL**

	Šæ^	ÓÁ āc	ÓÁ āc	ÓÁ āc	ÓÁ āc	T æ\ææ	V@&)^•žá
GH	ÚG Í	ÞHF	ÞGH	ÞGI	ÞHG	*æ•	ÉG
G€	ÚG Ĩ	ÞHFœ	ÞG Í	ÞGH	ÞHF	*æ•	ÉG
GF	ÚG Ì	ÞG I	ÞG Í	ÞHFœ	ÞHG	*æ•	ÉG
GG	ÚG J	ÞHH	ÞGG	ÞG I	ÞHG	*æ•	ÉG
GH	ÚG €	ÞHI	ÞGÍ	ÞGG	ÞHH	*æ•	ÉG
GI	ÚG F	ÞHG	ÞHI	ÞHH	ÞGÍ	*æ•	ÉG
GÍ	ÚG G	ÞGÍ	ÞHH	ÞHG	ÞH€	*æ•	ÉG
GÌ	ÚG H	ÞH€	ÞHG	ÞHFœ	ÞGJ	*æ•	ÉG
Gİ	ÚG I	ÞHGJ	ÞHFœ	ÞHF		*æ•	ÉG
GĬ	ÚG Ĩ	ÞH Í	ÞH J	ÞH Í œ		*æ•	ÉG
GJ	ÚG Î	ÞH J	ÞH €	ÞH Î	ÞH Í œ	*æ•	ÉG
G€	ÚG Ĩ	ÞH J	ÞH Hœ	ÞH €		*æ•	ÉG
GF	ÚG Ì	ÞH Hœ	ÞH Í œ	ÞH F	ÞH €	*æ•	ÉG
GG	ÚG J	ÞH Í œ	ÞH I	ÞH G	ÞH F	*æ•	ÉG
GH	ÚG F	ÞH Í	ÞH Í œ	ÞH I	ÞH Í	*æ•	ÉG
GI	ÚG G	ÞH F	ÞH G	ÞH Í œ	ÞH I	*æ•	ÉG
GÍ	ÚG H	ÞHI	ÞHJ	ÞHÍ	ÞHI œ	*æ•	ÉG
GÌ	ÚG I	ÞHJ	ÞH €	ÞHÍ	ÞHÍ	*æ•	ÉG
Gİ	ÚG Ĩ	ÞH €	ÞH F	ÞHÍ	ÞHÍ	*æ•	ÉG
GĬ	ÚG Ĩ	ÞH €	ÞH Í	ÞH Í		*æ•	ÉG
GJ	ÚG €	ÞH Í	ÞH Í	ÞH Í	ÞH H	*æ•	ÉG
G€	ÚG F	ÞH G	ÞH I	ÞH H	ÞH F	*æ•	ÉG
GF	ÚG G	ÞH €	ÞH G	ÞH F	ÞH J	*æ•	ÉG
GG	ÚG I œ	ÞH G	ÞH Í	ÞH Í	ÞH I	*æ•	ÉG
GH	ÚG J	ÞH I	ÞH Í	ÞH Í	ÞH Í	*æ•	ÉG
GI	ÚG €	ÞH Í	ÞH Í	ÞH Í	ÞH F	*æ•	ÉG
GÍ	ÚGJœ	ÞH Í	ÞH Í	ÞH J	ÞH Í	*æ•	ÉG
GÌ	ÚGJF	ÞH Í	ÞH J	ÞHJ€	ÞH Í	*æ•	ÉG
Gİ	ÚGJG	ÞH Í	ÞHJ€	ÞH Í	ÞH Í	*æ•	ÉG
GĬ	ÚGJœ	ÞH €	ÞHF	ÞHG	ÞH H	*æ•	ÉG
GJ	ÚGJH	ÞHF	ÞH G	ÞH I	ÞHG	*æ•	ÉG
G€	ÚGJHœ	ÞH H	ÞHG	ÞHH	ÞH Í	*æ•	ÉG
GF	ÚGJ	ÞHG	ÞH I	ÞH Í	ÞHH	*æ•	ÉG
GG	ÚGJ œ	ÞH Í	ÞHH	ÞHJ	ÞH J	*æ•	ÉG
GH	ÚGÍ	ÞHH	ÞH Í	ÞH F	ÞHJ	*æ•	ÉG
GI	ÚGÍ Ó	ÞH Í	ÞH I	ÞHJ	ÞH F	*æ•	ÉG
GÍ	ÚGÍ	ÞH F	ÞHJ	ÞHJ		*æ•	ÉG
GÌ	ÚGĬ	ÞH F	ÞHJ	ÞHJ	ÞHJ	*æ•	ÉG
GĬ	ÚGĬ	ÞHJ	ÞHJ	ÞH J		*æ•	ÉG
Gİ	ÚGJ	ÞHJ	ÞHJ	ÞHJ		*æ•	ÉG
GJ	ÚH€	ÞHJ	ÞHJ	ÞH Í	ÞHJ	*æ•	ÉG
G€	ÚHF	ÞH Í	ÞH G	ÞHJ		*æ•	ÉG
GF	ÚHG	ÞHJ	ÞH G	ÞH €		*æ•	ÉG
GG	ÚHH	ÞFÍ	ÞFÍ	ÞFF	ÞFG	*æ•	ÉG
GH	ÚH	ÞFÍ	ÞFÍ	ÞF€	ÞFF	*æ•	ÉG
GI	ÚH	ÞFÍ	ÞFJ	ÞFI	ÞF€	*æ•	ÉG
GÍ	ÚH	ÞF€	ÞFH	ÞF€G	ÞF€	*æ•	ÉG
GÌ	ÚH	ÞF€	ÞF€	ÞF€€	ÞF€G	*æ•	ÉG
Gİ	ÚH	ÞF€	ÞF€	ÞF€	ÞF€€	*æ•	ÉG
GĬ	ÚHF	ÞF€	ÞF€	ÞGH	ÞF€	*æ•	ÉG
GJ	ÚHF	ÞF€	ÞGF	ÞG	ÞGH	*æ•	ÉG
G€	ÚHF	ÞF€	ÞGG	ÞG	ÞG	*æ•	ÉG



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**D'UH'Df'ja Ufm8 UU'ff' ch'j'bi YXL**

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GF	ÚHF	PI GG	PI €	PI €	PI G	* æ •	É G
GG	ÚHF OE	PI FJ	PI G	PI GJ	PI FI	* æ •	É G
GH	ÚHFJ	PI G	PI G	PI HE	PI GJ	* æ •	É G
GJ	ÚHGE	PI G	PI G	PI HF	PI HE	* æ •	É G
GÍ	ÚHGF	PI G	PI FI	PI FH	PI HF	* æ •	É G
GÍ	ÚHG OE	PI FE	PI FI	PI HH	PI HG	* æ •	É G
GÍ	ÚHG	PI HG	PI HH	PI H	PI H	* æ •	É G
GÍ	ÚHG	PI H	PI H	PI €	PI €	* æ •	É G
GJ	ÚHG OE	PI FF	PI FE	PI HG	PI H	* æ •	É G
H€	ÚHG	PI H	PI HG	PI H	PI H	* æ •	É G
H€	ÚHG	PI H	PI H	PI €	PI €	* æ •	É G
H€	ÚHG OE	PI FG	PI FF	PI H	PI H	* æ •	É G
H€	ÚHGJ	PI H	PI H	PI H	PI HJ	* æ •	É G
H€	ÚHHE	PI HJ	PI H	PI €	PI €	* æ •	É G
H€	ÚHHEOE	PI FI	PI GJ	PI €	PI HH	* æ •	É G
H€	ÚHFF	PI HH	PI €	PI F	PI H	* æ •	É G
H€	ÚHHG	PI H	PI F	PI GE	PI €	* æ •	É G
H€	ÚHHGOE	PI GJ	PI HE	PI G	PI €	* æ •	É G
H€	ÚHH	PI €	PI G	PI H	PI F	* æ •	É G
H€	ÚHH	PI F	PI H	PI G	PI GE	* æ •	É G
HFF	ÚHH OE	PI HE	PI HF	PI I	PI G	* æ •	É G
HFG	ÚHH	PI G	PI I	PI I	PI H	* æ •	É G
HFH	ÚHH	PI H	PI I	PI GG	PI G	* æ •	É G
HFI	ÚHH OE	PI HF	PI FH	PI I	PI I	* æ •	É G
HÍ	ÚHH	PI I	PI I	PI I	PI I	* æ •	É G
HÍ	ÚHH	PI I	PI I	PI €	PI GG	* æ •	É G
HÍ	ÚHH OE	PI H	PI F	PI €	PI G	* æ •	É G
HÍ	ÚHHJ	PI F	PI J	PI I	PI €	* æ •	É G
HJ	ÚHI €	PI J	PI I	PI I	PI I	* æ •	É G
H€	ÚHI F	PI I	PI I	PI F	PI I	* æ •	É G
H€	ÚHI G	PI I	PI J	PI G	PI F	* æ •	É G
HGG	ÚHI H	PI J	PI €	PI H	PI G	* æ •	É G
HGH	ÚHI I	PI €	PI I	PI I	PI H	* æ •	É G
HG	ÚHI I	PI I	PI I	PI F	PI J	* æ •	É G
HG	ÚHI I	PI J	PI F	PI €	PI I	* æ •	É G
HG	ÚHI I	PI I	PI €	PI J	PI I	* æ •	É G
HG	ÚHI I	PI I	PI J	PI I	PI I	* æ •	É G
HG	ÚHI J	PI I	PI I	PI I	PI G	* æ •	É G
HGJ	ÚHI €	PI G	PI I	PI I	PI H	* æ •	É G
H€	ÚHI F	PI H	PI I	PI I	PI I	* æ •	É G
H€	ÚHI J	PI F	PI I	PI F	PI €	* æ •	É G
H€	ÚHI €	PI €	PI F	PI H	PI G	* æ •	É G
HH	ÚHI F	PI G	PI H	PI I	PI I	* æ •	É G
HH	ÚHI G	PI I	PI I	PI I	PI I	* æ •	É G
HH	ÚHI H	PI I	PI I	PI J	PI I	* æ •	É G
HH	ÚHI I	PI I	PI J	PI J	PI €	* æ •	É G
HH	ÚHI I	PI €	PI J	PI I	PI €	* æ •	É G
HH	ÚHI OE	PI €	PI F	PI €	PI JG	* æ •	É G
HJ	ÚHI I	PI JG	PI €	PI G	PI JH	* æ •	É G
HI €	ÚHI I	PI JH	PI G	PI I	PI J	* æ •	É G
HIF	ÚHI I	PI J	PI I	PI I	PI J	* æ •	É G
HIG	ÚHI J	PI J	PI I	PI I	PI J	* æ •	É G







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**D'UH'Df'ja Ufm8 UU'f'f' ch'j'bi YXL**

	Šæ^ \	ÓR ā c	ÓR ā c	ÓR ā c	ÓR ā c	T æ \ æ	V @ \ ) ^ • Ž á
I I I	Ú Í G O E	Þ Í G O E	Þ Í G O E	Þ Í G E	Þ Í H H	* æ •	É Ğ
I I I	Ú Í Í O E	Þ Í G H O E	Þ Í G O E	Þ Í H H	Þ Í Í Í	* æ •	É Ğ
I I J	Ú Í Í O E	Þ Í G O O E	Þ Í G H O E	Þ Í Í Í	Þ Í Í J	* æ •	É Ğ
I I €	Ú Í J F O E	Þ Í G E O E	Þ Í G O O E	Þ Í Í J	Þ Í Í G	* æ •	É Ğ
I I F	Ú Í F O E	Þ Í G F O E	Þ Í G E O E	Þ Í Í G	Þ Í Í Í	* æ •	É Ğ
I I G	Ú Í F Í O E	Þ Í F J O E	Þ Í J J	Þ Í J Í	Þ Í F Í O E	* æ •	É Ğ
I I H	Ú Í F Í	Þ Í G O E	Þ Í É Í	Þ Í J J	Þ Í F J O E	* æ •	É Ğ
I I I	Ú Í F J	Þ Í G F O E	Þ Í É F	Þ Í É É	Þ Í G E O E	* æ •	É Ğ
I I Í	Ú Í O E	Þ Í G E O E	Þ Í É É	Þ Í É G	Þ Í G O O E	* æ •	É Ğ
I I Í	Ú Í G F	Þ Í G O O E	Þ Í É G	Þ Í É H	Þ Í G H O E	* æ •	É Ğ
I I Í	Ú Í G G	Þ Í G H O E	Þ Í É H	Þ Í É	Þ Í G O E	* æ •	É Ğ
I I Í	Ú Í G H	Þ Í G O E	Þ Í É	Þ Í É	Þ Í G O E	* æ •	É Ğ
I I J	Ú Í G	Þ Í G O E	Þ Í É	Þ Í É	Þ Í G O E	* æ •	É Ğ
I I €	Ú Í G	Þ Í G O E	Þ Í É	Þ Í É	Þ Í G O E	* æ •	É Ğ
I I F	Ú Í G	Þ Í G H	Þ Í G F	Þ Í G E	Þ Í G G	* æ •	É Ğ
I I G	Ú Í G	Þ Í G F	Þ Í F J	Þ Í F Í	Þ Í G E	* æ •	É Ğ
I I H	Ú Í G	Þ Í F J	Þ Í G	Þ Í G	Þ Í F Í	* æ •	É Ğ
I I I	Ú Í G	Þ Í H H	Þ Í G	Þ Í G	Þ Í H E	* æ •	É Ğ
I I I	Ú Í H E	Þ Í H E	Þ Í G	Þ Í G	Þ Í H F	* æ •	É Ğ
I I I	Ú Í H F	Þ Í H F	Þ Í G	Þ Í G	Þ Í H G	* æ •	É Ğ
I I I	Ú Í H G	Þ Í G	Þ Í G	Þ Í H	Þ Í É	* æ •	É Ğ
I I I	Ú Í H H	Þ Í É	Þ Í H	Þ Í H	Þ Í F	* æ •	É Ğ
I I J	Ú Í H	Þ Í F	Þ Í H	Þ Í H	Þ Í G	* æ •	É Ğ
I I €	Ú Í H	Þ Í G	Þ Í H	Þ Í H	Þ Í H	* æ •	É Ğ
I I F	Ú Í H	Þ Í H	Þ Í H	Þ Í H	Þ Í Í	* æ •	É Ğ
I I G	Ú Í H	Þ Í Í	Þ Í H	Þ Í H	Þ Í Í	* æ •	É Ğ
I I H	Ú Í H	Þ Í Í	Þ Í H	Þ Í G	Þ Í F J	* æ •	É Ğ
I I I	Ú Í H	Þ Í G	Þ Í G	Þ Í É	Þ Í Í	* æ •	É Ğ
I I Í	Ú Í É	Þ Í Í	Þ Í É	Þ Í F	Þ Í Í	* æ •	É Ğ
I I Í	Ú Í F	Þ Í Í	Þ Í F	Þ Í G	Þ Í Í	* æ •	É Ğ
I I I	Ú Í G	Þ Í Í	Þ Í G	Þ Í H	Þ Í J	* æ •	É Ğ
I I I	Ú Í H	Þ Í J	Þ Í H	Þ Í Í	Þ Í É	* æ •	É Ğ
I I J	Ú Í Í	Þ Í É	Þ Í Í	Þ Í Í	Þ Í F	* æ •	É Ğ
I I €	Ú Í Í	Þ Í F	Þ Í Í	Þ Í F J	Þ Í G F	* æ •	É Ğ
I I F	Ú Í Í	Þ Í G	Þ Í G	Þ Í Í	Þ Í G	* æ •	É Ğ
I I G	Ú Í Í	Þ Í G	Þ Í Í	Þ Í Í	Þ Í H	* æ •	É Ğ
I I H	Ú Í Í	Þ Í H	Þ Í Í	Þ Í Í	Þ Í Í	* æ •	É Ğ
I I I	Ú Í J	Þ Í Í	Þ Í Í	Þ Í J	Þ Í Í	* æ •	É Ğ
I I I	Ú Í É	Þ Í Í	Þ Í J	Þ Í É	Þ Í Í	* æ •	É Ğ
I I I	Ú Í F	Þ Í Í	Þ Í É	Þ Í F	Þ Í Í	* æ •	É Ğ
I I I	Ú Í G	Þ Í Í	Þ Í F	Þ Í G F	Þ Í H	* æ •	É Ğ
I I I	Ú Í H	Þ Í É	Þ Í É	Þ Í J	Þ Í Í	* æ •	É Ğ
I I J	Ú Í Í	Þ Í Í	Þ Í J	Þ Í F	Þ Í É	* æ •	É Ğ
I J €	Ú Í Í	Þ Í É	Þ Í F	Þ Í H	Þ Í G	* æ •	É Ğ
I J F	Ú Í Í	Þ Í G	Þ Í H	Þ Í Í	Þ Í Í	* æ •	É Ğ
I J G	Ú Í Í	Þ Í Í	Þ Í Í	Þ Í Í	Þ Í Í	* æ •	É Ğ
I J H	Ú Í Í	Þ Í Í	Þ Í Í	Þ Í J	Þ Í Í	* æ •	É Ğ
I J I	Ú Í J	Þ Í Í	Þ Í J	Þ Í F	Þ Í É	* æ •	É Ğ
I J Í	Ú Í É	Þ Í É	Þ Í F	Þ Í H	Þ Í G	* æ •	É Ğ
I J Í	Ú Í F	Þ Í G	Þ Í H	Þ Í Í	Þ Í Í	* æ •	É Ğ
I J Í	Ú Í G	Þ Í Í	Þ Í Í	Þ Í Í	Þ Í Í	* æ •	É Ğ
I J Í	Ú Í H	Þ Í Í	Þ Í Í	Þ Í J	Þ Í Í	* æ •	É Ğ













**D'UH'Dfja Ufm8 UU'f' cbjbi YXL**

	Šca^)	ÓR āc	ÓR āc	ÓR āc	ÓR āc	Tæ\æþ	V@&)^•žá
ì FF	Úì H	þFéi J	þFéi G	þFéi H	þFéi €	*æ•	É G
ì FG	Úì H	þFéi €	þFéi H	þFéi I	þFéi F	*æ•	É G
ì FH	Úì H	þFéi F	þFéi I	þFéi FF	þFéi €	*æ•	É G
ì FI	Úì H œ	þFéi œ	þFéi G	þFéi Í	þFéi G	*æ•	É G
ì FÍ	Úì H	þFéi G	þFéi Í	þFéi Î	þFéi H	*æ•	É G
ì FĪ	Úì H	þFéi H	þFéi Î	þFéi Ī	þFéi I	*æ•	É G
ì FĪ	Úì H	þFéi I	þFéi Ī	þFéi FG	þFéi FF	*æ•	É G
ì FĪ	Úì H œ	þFéi G	þFéi GG	þFéi Ī	þFéi Í	*æ•	É G
ì FJ	Úì H	þFéi Í	þFéi Ī	þFéi J	þFéi Î	*æ•	É G
ì œ	Úì I €	þFéi Í	þFéi J	þFéi €	þFéi Ī	*æ•	É G
ì F	Úì I F	þFéi Ī	þFéi €	þFéi FH	þFéi FG	*æ•	É G
ì GG	Úì I F œ	þFéi GG	þFéi GH	þFéi F	þFéi Ī	*æ•	É G
ì GH	Úì I G	þFéi Ī	þFéi F	þFéi G	þFéi J	*æ•	É G
ì G	Úì I H	þFéi J	þFéi G	þFéi H	þFéi €	*æ•	É G
ì G	Úì I I	þFéi €	þFéi H	þFéi FI	þFéi FH	*æ•	É G
ì G	Úì I I œ	þFéi GH	þFéi G	þFéi I	þFéi F	*æ•	É G
ì G	Úì I Í	þFéi F	þFéi I	þFéi Í	þFéi G	*æ•	É G
ì G	Úì I Ī	þFéi G	þFéi Í	þFéi Ī	þFéi H	*æ•	É G
ì G	Úì I Ī	þFéi H	þFéi Ī	þFéi Ī	þFéi FI	*æ•	É G
ì Hœ	Úì I œ	þFéi Í	þFéi Ī	þFéi Î	þFéi Í	*æ•	É G
ì HF	Úì H œ	þFéi Í	þFéi Ī	þFéi Ī	þFéi Ī	*æ•	É G
ì HG	Úì H œ	þFéi Ī	þFéi G	þFéi €	þFéi Ī	*æ•	É G
ì HH	Úì H œ	þFéi G	þFéi Ī	þFéi F	þFéi €	*æ•	É G
ì H	Úì H œ	þFéi Ī	þFéi Ī	þFéi J	þFéi F	*æ•	É G
ì H	Úì H œ	þFéi Ī	þFéi G	þFéi G	þFéi J	*æ•	É G

**>c|bh @UXg UbX'9 bZ'fWX'8 ]gd'UW'a Ybhg f6 @ '&.'@**

	R ā oŠca^)	ŠÖË	Öā^&ā)	Tæ) æ ā Z É œ fG Éaa D'G É a œ Æ
F	þIH	Š	Z	É
G	þI	Š	Z	É
H	þFH	Š	Z	É
I	þGF	Š	Z	É
Í	þH €	Š	Z	É
Î	þI €	Š	Z	É
Ī	þI I	Š	Z	É
Ī	þI FI	Š	Z	É
J	þH Ī	Š	Z	É
F€	þI I	Š	Z	É
FF	þJ I œ	Š	Z	É
FG	þJ J œ	Š	Z	É
FH	þFéi G	Š	Z	É

**>c|bh @UXg UbX'9 bZ'fWX'8 ]gd'UW'a Ybhg f6 @ ' . '@&**

	R ā oŠca^)	ŠÖË	Öā^&ā)	Tæ) æ ā Z É œ fG Éaa D'G É a œ Æ
F	þIH	Š	ÿ	É
G	þI	Š	ÿ	É
H	þFH	Š	ÿ	É
I	þGF	Š	ÿ	É
Í	þH €	Š	ÿ	É
Î	þI €	Š	ÿ	É























**9bj YcdYD`UH#E\ Y`DfJbVjdU`GfYggYg`f7 cbHjbi YXL**

	Újæ^	Ú`i æ^	Úa{ æ^•ã SÔ	Úa{ æ^•ã SÔ	Væ Á æ^•ã SÔ	Ü* ^Äæá SÔ	X{ } Á a^•Äæ SÔ						
GÍ	{ æ	Ó	ÉF	I	ÉI	I	ÉÉJ	I	GEF	G	ÉJJ	I	
GÍ	{ ä		ÉF	I	ÉI	J	ÉEH	I	ÉGI	J	ÉÉI	I	
GÍ	ÚÍ	{ æ	V	FÉI	I	ÉIG	G	ÉII	J	FÉII	J	FÉIG	J
GÍ	{ ä		ÉIG	I	ÉÉJI	J	ÉEG	I	ÉEH	G	ÉÉI	I	
GJ	{ æ	Ó	FÉI	J	ÉIG	I	ÉII	I	FÉII	I	FÉIG	I	
G€	{ ä		ÉIG	G	ÉÉJI	I	ÉEG	I	ÉEH	I	ÉÉI	I	
GF	ÚÍ	{ æ	V	HÉI	I	ÉII	I	FÉJI	J	FÉGJ	J	HÉIH	J
GG	{ ä		ÉII	J	ÉÉII	J	ÉÉI	I	ÉÉI	G	ÉÉJ	I	
GH	{ æ	Ó	HÉI	J	ÉII	J	FÉJI	I	FÉGJ	I	HÉIH	I	
GÍ	{ ä		ÉII	I	ÉÉII	I	ÉÉI	I	ÉÉI	I	ÉÉJ	I	
GÍ	ÚÍ	{ æ	V	GÉI	I	ÉII	I	ÉIF	J	FÉII	J	GÉIJ	J
GÍ	{ ä		ÉII	J	ÉÉÉJ	J	ÉÉI	I	ÉGG	G	ÉÉI	I	
GÍ	{ æ	Ó	GÉI	J	ÉII	J	ÉIF	I	FÉII	I	GÉIJ	I	
GÍ	{ ä		ÉII	I	ÉÉÉJ	I	ÉÉI	I	ÉGG	I	ÉÉI	I	
GJ	ÚÍ	{ æ	V	FÉIJ	G	ÉEF	I	ÉII	I	FÉIJ	I	FÉIH	I
G€	{ ä		ÉEF	J	ÉÉÉ	I	ÉÉI	I	ÉII	G	ÉÉI	I	
GF	{ æ	Ó	FÉIJ	I	ÉEF	J	ÉII	G	FÉIJ	I	FÉIH	G	
GG	{ ä		ÉEF	I	ÉÉÉ	G	ÉÉI	I	ÉII	I	ÉÉI	I	
GH	ÚÍ	{ æ	V	ÉII	G	ÉEH	F	ÉFI	I	GÉII	H	FÉFG	I
GÍ	{ ä		É	F	ÉÉI	I	ÉEG	F	ÉFJ	G	ÉÉI	F	
GÍ	{ æ	Ó	ÉII	I	ÉEH	F	ÉFI	G	GÉII	H	FÉFG	G	
GÍ	{ ä		É	F	ÉÉI	G	ÉEG	F	ÉFJ	I	ÉÉI	F	
GÍ	ÚÍ	{ æ	V	ÉÉG	G	É	F	ÉJII	G	GÉII	G	ÉFI	G
GÍ	{ ä		ÉEH	I	ÉÉG	I	É	F	ÉEF	I	É	F	
GJ	{ æ	Ó	ÉÉG	I	É	F	ÉJII	I	GÉII	I	ÉFI	I	
G€	{ ä		ÉEH	I	ÉÉG	G	É	F	ÉEF	J	É	F	
GF	ÚÍ	{ æ	V	ÉJII	G	É	I	ÉIH	G	GÉII	G	FÉIJ	G
GG	{ ä		ÉEH	I	ÉJII	I	É	F	ÉII	I	ÉEF	F	
GH	{ æ	Ó	ÉJII	I	É	I	ÉIH	I	GÉII	I	FÉIJ	I	
GÍ	{ ä		ÉEH	I	ÉJII	G	É	F	ÉII	I	ÉEF	F	
GÍ	ÚÍ	{ æ	V	FÉG	G	ÉF	I	ÉFH	I	GÉGG	H	FÉIF	I
GÍ	{ ä		ÉÉJ	J	ÉÉHF	I	ÉEG	F	ÉII	G	ÉÉI	F	
GÍ	{ æ	Ó	FÉG	I	ÉF	J	ÉFH	G	GÉGG	H	FÉIF	G	
GÍ	{ ä		ÉÉJ	I	ÉÉHF	G	ÉEG	F	ÉII	I	ÉÉI	F	
GJ	ÚÍ	{ æ	V	FÉFJ	G	ÉI	I	ÉIH	I	FÉII	H	FÉIH	I
G€	{ ä		ÉÉI	J	ÉÉGH	I	ÉEG	F	ÉII	G	ÉÉI	F	
GF	{ æ	Ó	FÉFJ	I	ÉI	J	ÉIH	G	FÉII	H	FÉIH	G	
GG	{ ä		ÉÉI	I	ÉÉGH	G	ÉEG	F	ÉII	I	ÉÉI	F	
GH	ÚÍ	{ æ	V	FÉJG	G	É	I	ÉHF	G	GÉG	G	FÉII	G
GÍ	{ ä		É	F	ÉÉJG	I	É	I	É	I	É	I	
GÍ	{ æ	Ó	FÉJG	I	É	I	ÉHF	I	GÉG	I	FÉII	I	
GÍ	{ ä		É	F	ÉÉJG	G	É	I	É	I	É	I	
GÍ	ÚÍ	{ æ	V	FÉII	G	ÉÉ	H	FÉII	G	GÉJ	G	FÉI	G
GÍ	{ ä		ÉÉI	I	ÉÉII	I	É	F	ÉII	I	É	F	
GJ	{ æ	Ó	FÉII	I	ÉÉ	H	FÉII	I	GÉJ	I	FÉI	I	
H€	{ ä		ÉÉI	I	ÉÉII	G	É	F	ÉII	J	É	F	
HF	ÚÍ	{ æ	V	FÉIF	G	É	I	FÉI	G	GÉI	G	GÉGH	I
HG	{ ä		É	F	ÉÉIF	I	É	F	ÉII	I	É	F	
HH	{ æ	Ó	FÉIF	I	É	I	FÉI	I	GÉI	I	GÉGH	G	
H€	{ ä		É	F	ÉÉIF	G	É	F	ÉII	J	É	F	
HÍ	ÚÍ	{ æ	V	FÉFI	G	ÉFI	I	FÉIJ	I	FÉIF	F	GÉIJ	I
H€	{ ä		ÉFI	J	ÉÉFI	I	ÉEF	I	ÉII	G	ÉEH	I	



**9bj YcdYD`UH#E\ Y`DfJbVjDU`GfYggYg`f7 cbHjbi YXL**

	Újæ^	Ú`iæ^	Úã{ æÄ•ã SÔ	Úã{ æÄ•ã SÔ	Væ Á æÄ•ã SÔ	Úã{ æÄ•ã SÔ	Úã{ æÄ•ã SÔ	Úã{ æÄ•ã SÔ	Úã{ æÄ•ã SÔ	Úã{ æÄ•ã SÔ	Úã{ æÄ•ã SÔ	Úã{ æÄ•ã SÔ
HÍJ		{ æ	Ó	ÉÉ	J	ÉÉ	J	ÉÉ	J	ÉÉ	J	ÉÉ
HÍ€		{ ä		ÉÉ	I	ÉÉ	I	ÉÉ	H	ÉÉ	H	ÉÉ
HÍF	ÚJF	{ æ	V	FÉ	J	FÉ	J	FÉ	J	FÉ	J	FÉ
HÍG		{ ä		ÉÉ	J	ÉÉ	J	ÉÉ	H	ÉÉ	H	ÉÉ
HÍH		{ æ	Ó	FÉ	J	FÉ	J	FÉ	I	FÉ	I	FÉ
HÍI		{ ä		ÉÉ	J	ÉÉ	J	ÉÉ	H	ÉÉ	H	ÉÉ
HÍÍ	ÚJG	{ æ	V	GÉ	F	GÉ	F	GÉ	J	GÉ	J	GÉ
HÍÎ		{ ä		ÉÉ	J	ÉÉ	J	ÉÉ	H	ÉÉ	H	ÉÉ
HÍÏ		{ æ	Ó	GÉ	F	GÉ	F	GÉ	I	GÉ	I	GÉ
HÍÌ		{ ä		ÉÉ	J	ÉÉ	J	ÉÉ	H	ÉÉ	H	ÉÉ
HÍJ	ÚJH	{ æ	V	GÉ	J	GÉ	J	GÉ	J	GÉ	J	GÉ
HÍ€		{ ä		ÉÉ	J	ÉÉ	J	ÉÉ	H	ÉÉ	H	ÉÉ
HÍF		{ æ	Ó	GÉ	J	GÉ	J	GÉ	I	GÉ	I	GÉ
HÍG		{ ä		ÉÉ	J	ÉÉ	J	ÉÉ	H	ÉÉ	H	ÉÉ
HÍH	ÚJI	{ æ	V	FÉ	I	FÉ	H	FÉ	J	FÉ	G	FÉ
HÍI		{ ä		ÉÉ	H	ÉÉ	J	ÉÉ	H	ÉÉ	H	ÉÉ
HÍÍ		{ æ	Ó	FÉ	I	FÉ	H	FÉ	I	FÉ	I	FÉ
HÍÎ		{ ä		ÉÉ	H	ÉÉ	J	ÉÉ	H	ÉÉ	H	ÉÉ
HÍÏ	ÚJÍ	{ æ	V	FÉ	J	FÉ	J	FÉ	J	FÉ	J	FÉ
HÍÌ		{ ä		ÉÉ	I	ÉÉ	I	ÉÉ	H	ÉÉ	J	ÉÉ
HÍJ		{ æ	Ó	FÉ	J	FÉ	H	FÉ	J	FÉ	H	FÉ
HÍ€		{ ä		ÉÉ	J	ÉÉ	J	ÉÉ	H	ÉÉ	I	ÉÉ
HÍF	ÚJGG	{ æ	V	GÉ	J	GÉ	J	GÉ	J	GÉ	J	GÉ
HÍG		{ ä		ÉÉ	J	ÉÉ	J	ÉÉ	F	ÉÉ	I	ÉÉ
HÍH		{ æ	Ó	GÉ	J	GÉ	J	GÉ	G	GÉ	I	GÉ
HÍI		{ ä		ÉÉ	J	ÉÉ	J	ÉÉ	F	ÉÉ	G	ÉÉ
HÍÍ	ÚJGH	{ æ	V	GÉ	J	GÉ	J	GÉ	J	GÉ	F	GÉ
HÍÎ		{ ä		ÉÉ	J	ÉÉ	J	ÉÉ	F	ÉÉ	J	ÉÉ
HÍÏ		{ æ	Ó	GÉ	J	GÉ	J	GÉ	G	GÉ	F	GÉ
HÍÌ		{ ä		ÉÉ	J	ÉÉ	J	ÉÉ	F	ÉÉ	I	ÉÉ
HÍJ	ÚJG	{ æ	V	GÉ	J	GÉ	J	GÉ	J	GÉ	J	GÉ
HÍ€		{ ä		ÉÉ	J	ÉÉ	J	ÉÉ	F	ÉÉ	I	ÉÉ
HÍF		{ æ	Ó	GÉ	J	GÉ	J	GÉ	G	GÉ	I	GÉ
HÍG		{ ä		ÉÉ	J	ÉÉ	J	ÉÉ	F	ÉÉ	J	ÉÉ
HÍH	ÚJG	{ æ	V	GÉ	J	GÉ	J	GÉ	J	GÉ	J	GÉ
HÍI		{ ä		ÉÉ	J	ÉÉ	J	ÉÉ	F	ÉÉ	I	ÉÉ
HÍÍ		{ æ	Ó	GÉ	J	GÉ	J	GÉ	G	GÉ	F	GÉ
HÍÎ		{ ä		ÉÉ	J	ÉÉ	J	ÉÉ	F	ÉÉ	J	ÉÉ
HÍÏ	ÚJGJ	{ æ	V	GÉ	J	GÉ	J	GÉ	J	GÉ	J	GÉ
HÍÌ		{ ä		ÉÉ	J	ÉÉ	J	ÉÉ	F	ÉÉ	I	ÉÉ
HÍJ		{ æ	Ó	GÉ	J	GÉ	J	GÉ	G	GÉ	F	GÉ
HÍ€		{ ä		ÉÉ	J	ÉÉ	J	ÉÉ	F	ÉÉ	I	ÉÉ
HÍF	ÚJHE	{ æ	V	GÉ	J	GÉ	J	GÉ	J	GÉ	J	GÉ
HÍG		{ ä		ÉÉ	J	ÉÉ	J	ÉÉ	F	ÉÉ	I	ÉÉ
HÍH		{ æ	Ó	GÉ	J	GÉ	J	GÉ	G	GÉ	F	GÉ
HÍI		{ ä		ÉÉ	J	ÉÉ	J	ÉÉ	F	ÉÉ	J	ÉÉ
HÍÍ	ÚJHF	{ æ	V	GÉ	J	GÉ	J	GÉ	J	GÉ	J	GÉ
HÍÎ		{ ä		ÉÉ	J	ÉÉ	J	ÉÉ	F	ÉÉ	I	ÉÉ
HÍÏ		{ æ	Ó	GÉ	J	GÉ	J	GÉ	G	GÉ	F	GÉ
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**9bj YcdYD`UH#E\ Y`DfJbVjDU`GfYggYg`f7`cbHjbi YXL**

Újæ^	Ú`i`æ^	Úã{ æ^•ã SÔ	Úã{ æ^•ã SÔ	Væ Á æ^•ã SÔ	Úã{ æ^•ã SÔ	Úã{ æ^•ã SÔ	Úã{ æ^•ã SÔ	Úã{ æ^•ã SÔ	Úã{ æ^•ã SÔ	Úã{ æ^•ã SÔ	Úã{ æ^•ã SÔ	Úã{ æ^•ã SÔ
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ííF	{ æ	Ó	FÉ F	í	€	í	FÉH	G	GÉI	G	FÉH	G
ííG	{ ä		€	F	ÉÉ F	G	€	F	ÉGJ	H	ÉEG	F
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íFG	{ ä		€	H	ÉÉG	G	ÉEH	H	ÉFH	J	ÉÉ	H
íFH	{ æ	ÚFí F	GÉ É	G	ÉH	í	FÉHH	í	FÉII	F	GÉJG	í
íFí	{ ä		ÉÉH	J	ÉÉFG	í	ÉEG	F	ÉÉ	í	ÉÉ	F
íFí	{ æ	Ó	GÉ É	í	ÉH	J	FÉHH	G	FÉII	F	GÉJG	G
íFí	{ ä		ÉÉH	í	ÉÉFG	G	ÉEG	F	ÉÉ	í	ÉÉ	F
íFí	{ æ	ÚFí G	GÉ G	G	ÉG	í	FÉGJ	í	GÉI	F	GÉJ	í
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**9bj YcdYD`UH#E\ Y`DfJbVjDU`GfYggYg`f7 cbHjbi YXL**

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Í FJ		{ æ } Ó	GÉHG	Í	ÉFG	J	FÉGJ	G	GÉÍ	F	GÉJ	G
Í GÉ		{ ā } Ó	ÉFG	I	ÉGHJ	G	ÉGH	I	ÉHG	J	ÉÉÍ	I
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Í G		{ ā } Ó	ÉFG	I	ÉGG	G	É	I	ÉFÍ	J	ÉEF	I
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Í HF		{ æ } Ó	FÉÍ H	J	ÉG	J	ÉÍ	G	FÉJ	H	FÉÍ	G
Í HG		{ ā } Ó	ÉFG	I	ÉÉÍ	I	É	I	ÉÍ	J	ÉFF	I
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Í H		{ ā } Ó	ÉH	J	ÉÍ	J	É	I	ÉÍ	I	ÉFH	I
Í H		{ æ } Ó	FÉÍ	J	ÉH	J	ÉÍ	I	FÉÍ	G	FÉG	I
Í H		{ ā } Ó	ÉH	I	ÉÍ	I	É	I	ÉÍ	J	ÉFH	I
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Í H		{ ā } Ó	É	I	ÉÉ G	I	ÉH	I	ÉG H	I	ÉÉ	I
Í HU		{ æ } Ó	HÉ G	I	É FG	I	FÉ É	G	GÉ	F	HÉ G	G
Í IÉ		{ ā } Ó	É	G	ÉÉ G	G	ÉH	I	ÉG H	I	ÉÉ	I
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Í IG		{ ā } Ó	É G	I	ÉÉH	I	É	I	É	I	ÉH	I
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Í II		{ ā } Ó	É G	G	ÉÉH	G	É	I	É	I	ÉH	I
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Í IÉ		{ ā } Ó	É I	J	É É H	J	É	I	É H	I	É É	I
Í IF		{ æ } Ó	GÉ Í	J	É Í	J	FÉ F	I	GÉ J	H	GÉ Í	I
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Í IH	ÚFÍ F	{ æ } V	GÉ Í	I	É J	I	FÉ I	J	GÉ FH	H	GÉ I	J
Í II		{ ā } Ó	É J	J	É É J	J	É F	I	É I	I	É F	I
Í III		{ æ } Ó	GÉ Í	J	É J	J	FÉ I	I	GÉ FH	H	GÉ I	I
Í III		{ ā } Ó	É J	I	É É J	I	É F	I	É I	J	É F	I
Í III	ÚFÍ G	{ æ } V	GÉ Í	I	É H	I	FÉ JG	J	FÉ É	I	GÉ H	J
Í III		{ ā } Ó	É G	J	É É F	J	É F	I	É G	I	É F	I
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Í IÉ		{ ā } Ó	É G	I	É É F	I	É F	I	É G	J	É F	I
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Í IG		{ ā } Ó	É É G	I	É É G	I	É	I	É J	F	É F	I
Í IH		{ æ } Ó	I É G	I	FÉ Í	I	FÉ Í	G	GÉ G	H	I É Í	G
Í II		{ ā } Ó	É É G	G	É É G	G	É	I	É J	F	É F	I
Í II	ÚFÍ I	{ æ } V	I É J	G	FÉ É	G	FÉ FG	I	FÉ G	I	HÉ I	I
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Í II		{ æ } Ó	I É J	I	FÉ É	I	FÉ FG	G	FÉ G	G	HÉ I	G
Í II		{ ā } Ó	É É J	G	É É F	G	ÉH	I	É J	J	É É	I
Í IJ	ÚFÍ Í	{ æ } V	GÉ FG	G	É	I	FÉ J	I	GÉ F	F	GÉ F	I
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**9bj YcdYD`UH#E\ Y`DfJbVjDU`GfYggYg`f7 cbHjbi YXL**

Újæ^	Ú`!æ^	Úà{ æÄ•ã SÖ	Úà{ æÄ•ã SÖ	Væ Á æÄ•ã SÖ	Ü* VÄæá SÖ	X{ } Á æ^Ä E SÖ							
FÉ I	{ æ	Ó	GÉ I H	I	EEI	I	GÉ I I	I	G	I	HÉ F I	G	
FÉ I	{ ä		EEÉJ	H	EEÉ I	G	EEÉ I	I	EEÉ G	F	EEÉ H	I	
FÉ J	ÚGÍ	{ æ	V	GÉ F I	G	EEÉ F	I	FÉ I J	G	FÉ I I	G	HÉ F H	I
FÉJ	{ ä		EEÉ I	H	EEÉ HJ	I	EEÉ I	I	EEÉ I J	H	EEÉ I	I	
FÉJF	{ æ	Ó	GÉ F I	I	EEÉ F	I	FÉ I J	I	FÉ I I	I	HÉ F H	G	
FÉJG	{ ä		EEÉ I	H	EEÉ HJ	G	EEÉ I	I	EEÉ I J	H	EEÉ I	I	
FÉJH	ÚGÍ Ó	{ æ	V	HÉ I G	I	EEÉ G	I	GÉ I I	I	FÉ I J	I	HÉ E J	J
FÉJ I	{ ä		EEÉ H	J	EEÉ I I	J	EEÉ I	H	EEÉ I	I	EEÉ I	H	
FÉJ I	{ æ	Ó	HÉ I G	J	EEÉ G	J	GÉ I I	G	FÉ I J	G	HÉ E J	I	
FÉJ I	{ ä		EEÉ H	I	EEÉ I I	I	EEÉ I	H	EEÉ I	J	EEÉ I	H	
FÉJ I	ÚGÍ	{ æ	V	GÉ I I	G	EEÉ I	I	GÉ F I	G	GÉ H	H	HÉ I G	G
FÉJ I	{ ä		EEÉ I	H	EEÉ J I	I	EEÉ I	H	EEÉ F I	F	EEÉ F G	F	
FÉJ J	{ æ	Ó	GÉ I I	I	EEÉ I	I	GÉ F I	I	GÉ H	H	HÉ I G	I	
FFÉÉ	{ ä		EEÉ I	H	EEÉ J I	G	EEÉ I	H	EEÉ F I	F	EEÉ F G	F	
FFÉF	ÚGÍ	{ æ	V	GÉ I I	G	EEÉ I	I	GÉ I F	G	FÉ I I	I	HÉ E	I
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FFÉ I	{ ä		EEÉ F G	H	EEÉ G	G	EEÉ I	I	EEÉ F	J	EEÉ F F	I	
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FFÉ I	{ ä		EEÉ F	H	EEÉ G H	G	EEÉ G	I	EEÉ I	I	EEÉ I	I	
FFÉJ	ÚGJ	{ æ	V	GÉ J I	G	EEÉ F H	F	GÉ I I	G	FÉ I F	I	HÉ I I	I
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FFF F	{ æ	Ó	GÉ J I	I	EEÉ F H	F	GÉ I I	I	FÉ I F	G	HÉ I I	G	
FFF G	{ ä		EEÉ J	H	EEÉ F	G	EEÉ G	H	EEÉ H F	J	EEÉ F G	H	
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FFF I	{ ä		EEÉ E G	H	EEÉ E G	J	€	F	EEÉ G	I	EEÉ F	F	
FFF J	{ æ	Ó	FÉ G F	J	EEÉ F	I	FÉ I G	I	GÉ I	I	GÉ G	I	
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FFG F	ÚHÉG	{ æ	V	HÉ I F	I	FÉ I	J	FÉ I I	I	FÉ I F	I	GÉ J I	G
FFG G	{ ä		EEÉ I I	I	EEÉ H G	G	€	F	EEÉ I F	I	EEÉ G	F	
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FFGJ	ÚHÉ	{ æ	V	É I I	J	EEÉ H F	J	EEÉ I	G	FÉ I I	J	É I I	G
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FFHG	{ ä		EEÉ F G	J	EEÉ J F	J	EEÉ H	H	EEÉ G	I	EEÉ I	H	
FFHH	ÚHÉ	{ æ	V	FÉ I G	I	EEÉ J	I	EEÉ J F	J	GÉ I	H	FÉ H H	J
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FFH I	ÚHÉ	{ æ	V	É I I	I	€	I	EEÉ G	G	GÉ H	I	É E I	G
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	Újæ^	Ú`!æ^	Úà{ æÄ•ã SÔ	Úà{ æÄ•ã SÔ	Væ Á æÄ•ã SÔ	Ü* /Äæá SÔ	X{ } Á a^Ä E SÔ						
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FÍ FG	{ ä		ÉH J	G	ÉGH	í	ÉFH	í	ÉÍ	í	ÉGG	í	
FÍ FH	ÚÍ FH	{ æ	V	FÉGG	J	ÉHH	J	ÉÍ	J	ÉJÍ	í	FÉJJ	J
FÍ FI	{ ä		ÉH I	I	ÉÉÍ	í	ÉFÍ	í	ÉHG	í	ÉG	í	
FÍ FÍ	{ æ	Ó	FÉGG	I	ÉHH	I	ÉÍ	I	ÉJÍ	G	FÉJJ	I	
FÍ Fí	{ ä		ÉH I	J	ÉÉÍ	J	ÉFÍ	í	ÉHG	J	ÉG	í	
FÍ Fí	ÚÍ Fí	{ æ	V	ÉJÍ	I	ÉÉÍ	í	ÉFÍ	J	FÉÍ	í	ÉÍ	J
FÍ Fí	{ ä		ÉÉÍ	í	ÉJFF	J	ÉÉÍ	í	ÉÍ	í	ÉFF	í	
FÍ FJ	{ æ	Ó	ÉJÍ	J	ÉÉÍ	í	ÉFÍ	í	FÉÍ	G	ÉÍ	í	
FÍ GE	{ ä		ÉÉÍ	í	ÉJFF	I	ÉÉÍ	í	ÉÍ	J	ÉFF	í	
FÍ GF	ÚÍ Fí	{ æ	V	ÉÍ	I	É	G	ÉÍ	J	FÉÍ	í	FÉÍ	J
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**Date:** July 6, 2018  
**To:** Hensel Phelps  
**Attention:** Mr. Robert Saucerman  
**Subject:** Lindsey Flanigan Glass Replacement Proposal.

*Mr. Saucerman,*

As per request from the City of Denver, we would like to offer the following budgetary costs for the demo and replacement of Stair 6, the Atrium Levels, 2, 3, 4 and 5, the East and West Elevations at Pedestrian Bridge, and designated Teller Glass Stations as identified:

**Scope 1, Stair 6 Sloped Glass:**

*At Stair 6: Southwest Metalsmiths would like to offer the following GMP budgetary costs for the demo and replacement of the Stair 6 glass: As shown in the Southwest Metalsmiths shop drawings dated October 2nd, 2008. We propose to remove and replace approximately 2,522 square feet of 1/2" clear tempered monolithic glass at Stair #6 with 11/16" nominal thickness tempered laminate glass. The new glass make up will be (2) layers, one 1/4" clear tempered with an .070 interlayer and one 3/8" clear tempered with polished exposed edges. Please see Clarifications and Inclusions for further qualifying information.*

***The Cost for this work: \$589,553.00***

**Scope 2, Atrium Levels 2, 3, 4, and 5:**

*At Atrium Level 2, 3, 4 and 5: Southwest Metalsmiths would like to offer the following GMP budgetary costs for the demo and replacement of the Atrium Area glass. As shown in the Southwest Metalsmiths shop drawings dated October 2nd, 2008. We propose to remove and replace approximately 1,939 square feet of 1/2" clear tempered monolithic glass at the Atrium with 11/16" nominal thickness tempered laminate glass. The new glass make up will be (2) layers, one 1/4" clear tempered with an .070 interlayer and one 3/8" clear tempered with polished exposed edges. Please see Clarifications and Inclusions for further qualifying information.*

***The Cost for this work: \$400,641.00***

**Scope 3, East and West Elevations at Bridge Pedestrian Bridge:**

*At East and West Elevations of Pedestrian Bridge: Southwest Metalsmiths would like to offer the following GMP budgetary costs for the demo and replacement of the Pedestrian Bridge glass. As shown in the Southwest Metalsmiths shop drawings dated October 2nd, 2008. We propose to remove and replace approximately 376 square feet of 1/2" clear tempered monolithic glass at the Pedestrian Bridges with 11/16" nominal thickness tempered laminate glass. The new glass make up will be (2) layers, one 1/4" clear tempered with an .070 interlayer and one 3/8" clear tempered with polished exposed edges. Please see Clarifications and Inclusions for further qualifying information.*

***The Cost for this work: \$84,404.00***

5026 EAST BEVERLY ROAD  
PHOENIX, ARIZONA 85044  
TEL: (602) 438-8577  
FAX: (602) 438-8579

[www.swmetalsmiths.com](http://www.swmetalsmiths.com)

3140 POLARIS AVENUE, SUITE 40  
LAS VEGAS, NV 89102  
TEL: (702) 368-6760  
FAX: (702) 368-6762



**Scope 4, Back of the House Glass:**

Based on the drawings for the window glass systems, we propose changing out approximately 1,282 square feet of the following windows to 11/16" clear tempered laminate with a sentry interlayer and exposed polished edges. The new glass make-up will be (2) layers, one 1/4" clear tempered with an .070 interlayer and one 3/8" clear tempered with polished exposed edges. See the below matrix for quantity, window type, and location.

Lindsey Flanigan Courthouse								
Floor #	Window Type	Location Grid Lines	Quantity	Width	X	Height	Sqft of Glass	SHEET #
1	W64	4/B.6	1	8	x	6.5	52	A-101A
	W65	8/B.8	1	20.25	x	8	162	A-101B
	W65	8/B.8	1	8.25	x	8	66	A-101B
	W65	8/B.8	1	15.75		8	126	A-101B
	W65	14/A.5	1	9.33		8	75	A-101B
	W65	14/A.5	1	4.75		8	38	A-101B
	W55	12/B.3	1	16.1	x	7.5	121	A-101B
2	W64	4/B.6	1	8	x	6.5	52	A-102A
	W66	11/A.9	1	5.8	x	6.5	38	A-102B
	W64	13/A	1	8	x	6.5	52	A-102B
		12 9.8/N. of A	1	12	x	3.5	42	A-102B
3	W64	4/B.6	1	8	x	6.5	52	A-103A
	W66	11/A.9	1	5.8	x	6.5	38	A-103B
	W63	13/A	1	5.25	x	6.5	34	A-103B
		12 9.8/N. of A	1	12	x	3.5	42	A-103B
4	W64	4/B.6	1	8	x	6.5	52	A-104A
	W66	11/A.9	1	5.8	x	6.5	38	A-104B
		12 9.8/N. of A	1	12	x	3.5	42	A103B
5	W64	4/B.6	1	8	x	6.5	52	A-105A
	W66	11/A.9	2	5.8	x	6.5	75	A-105B
	W63	13.5/ North of A	1	5.25	x	6.5	34	A-105B
			22				1282	

**The Cost for this work: \$104,403.00**

**Add Alternate for Detention Glazing:**

The following budget number is provided for the (2) areas at the Detention Facility, there is approximately 64 square feet of 1/2" clear tempered glass to be replaced with 9/16" clear tempered glass. Each opening is approximately 32 square feet each and is in a captured condition on the vertical sides. Based on captured condition is believed we can not exceed the 9/16" thickness without changing the glass capture materials.

**The Budget Cost for this work: \$ 5,800.00**

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 LAS VEGAS, NV 89102  
 TEL: (702) 368-6760  
 FAX: (702) 368-6762



## Clarifications:

- *Cost increases based on the Original GMP provided is based on the following items;*
  - *Increase in Labor Rates based on the Prevailing Wage determinations.*
  - *Material escalations*
  - *Determination made on the disposal of the glass.*
  - *Cost of Bond for the project.*
  - *Labor included on the daily take down and set up of temporary barricades for public safety.*
- *We have included the prevailing wage labor as described and outlined in the Memo for the City of Denver dated March 14<sup>th</sup>, 2018.*
- *This price is for the removal of the ½" clear tempered monolithic glass from the building includes the final disposal of the glass. Further discussion and logistics planning will be necessary to help facilitate safe and efficient disposal. We have accounted for the ability to use the designated empty spaces as identified on our March 1<sup>st</sup>, 2018 job walk. These spaces will be utilized for staging of gang boxes as well as the staging of glass both un-installed and installed for safe and efficient movements when disposing and installing.*
- *We have included a potential add alternate for the replacement of glass at (2) locations on the Detention Facility.*
- *There are areas at the bottom of stair 6 and at Level 2 that are in excess of the allowable manufacturing tolerance of 12'-9" for tempered laminate glass from our primary glass provider PRL Glass. These areas will require us to use a non-US Glass Manufacturer that has a large enough tempering oven to produce the 15'-0" tall glass at level 2. We have used this manufacturer in the past with great success. We will provide glass samples for approval prior to ordering. Payment terms with this manufacturer are 50% down and balance prior to shipping, that cost for the level 2 area is valued at \$61,901.00. It is not economically feasible to use them on the entire project with their payment terms.*
- *Southwest Metalsmiths assumes the risk of insuring that the tall span glass order to be correct for fit and function, as well as transit to the project for installation. There is no expectation that the City of Denver would be fiscally responsible beyond the one-time order of this glass.*
- ***As a contingency**, if the glass deposit requirements are not acceptable by the approver, a **\$30,000 ROM** should be added to cover the costs of reasonable design changes that keep inside the manufacturing limitations of our US based supplier.*
- *We anticipate a total of 24 to 26-week exposure to complete the work quoted. We will do our best to beat that duration if at all possible. We have included night shift work.*



### Inclusions:

- *Payment and Performance bond is included in this cost.*
- *Field Survey and dimensioning as necessary for execution of work.*
- *Templating of all custom notching of glass for proper fit and fabrication to insure notch location and hole placement.*
- *Replacement of all rubber washers and grommets for the glass re-installation.*
- *Re-finishing of damaged stainless-steel handrails and providing a "once over" for a like new appearance on all stainless-steel handrails, and physically re-tightening of each point supported attachment on all glass.*
- *At the location on the jail side, we have included the cost of the speaker hole cut out and stainless-steel glass clamps to minimize the deflection of the glass in the opening at the (2) locations.*
- *Finish samples for approval prior to fabrication.*
- *Loading and unloading of materials on the job site.*
- *All equipment and scaffolding necessary to execute scope of work.*
- *All parking and employee transportation is included in this cost.*
- *The daily setting and re-setting of temporary barriers provided by Hensel Phelps to protect the public from potential hazards.*

### General exclusions:

- 1) Southwest Metalsmiths, Inc. will provide Errors and Omissions and Professional Liability Insurance on a second-tier basis only. These insurance coverage's will be provided by Southwest utilizing the services of subcontracted professional engineering firms properly licensed in the state the work will be performed for deferred submittals on stairs/rails or other defined design requirements. First tier Error and Omissions and Professional Liability Insurance is specifically excluded on all projects regardless if the requirement is stipulated in the instructions to bidders, contractual obligations, specifications or other documents.
- 2) Design calculations for effects of deferred submittal connections to supporting structure.
- 3) Surveys outside of this specific scope of work.
- 4) Cost for building department submittals if required.
- 5) Permits and/or fees.
- 6) Anchor bolts, embeds, holes or fasteners for other trades.
- 7) Structural steel or bracing supporting the work.
- 8) General liability insurance coverage in excess of \$ 5,000,000.00 & Workmen's compensation insurance in excess of statutory limits.
- 9) Acceptance of liquidated damage clauses
- 10) Any item of work not specifically mentioned in this proposal.
- 11) Retention of any kind.

5026 EAST BEVERLY ROAD  
PHOENIX, ARIZONA 85044  
TEL: (602) 438-8577  
FAX: (602) 438-8579

[www.swmetalsmiths.com](http://www.swmetalsmiths.com)

3140 POLARIS AVENUE, SUITE 40  
LAS VEGAS, NV 89102  
TEL: (702) 368-6760  
FAX: (702) 368-6762



**Terms and Conditions:**

1. This proposal is subject to change if not accepted within 60 days
2. This proposal may be withdrawn without any liability to SMI Inc. if the buyers subcontract Terms and Conditions are not accepted.
3. We are not responsible for protecting our work after installation or repairing damage to our work caused by others.
4. Terms of payments are net 30 days.
5. No overtime is included in this proposal.
6. SMI will not proceed with any change order that adds cost to our contract without a written approval for this scope of work, value of the added work and any additional time required to complete the added Scope of work.
7. Written change orders are considered approved when issued and not subject to additional approvals
8. Notice of property damage caused by SMI must be submitted in writing within 24 hours of the occurrence.
9. We do not accept back charges for damages that are not caused by SMI.
10. Stored materials include fabricated and non-fabricated materials purchased for this project.
11. Progress Billings include stored materials; all Materials are to be stored in an off-site bonded warehouse for staging and consolidation prior to shipping to the jobsite.
12. This proposal is limited to the itemized scope of work described herein; the exclusions, terms and the Conditions listed above.

Thank you for the opportunity to quote this scope of work.

Sincerely,

A handwritten signature in black ink, appearing to read 'J. Toney', is written over a light gray rectangular background.

Jim Toney  
Vice President - Sales  
Southwest Metalsmiths Inc.



# SOUTHWEST METALSMITHS

I N C O R P O R A T E D

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5026 EAST BEVERLY ROAD  
PHOENIX, ARIZONA 85044  
TEL: (602) 438-8577  
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3140 POLARIS AVENUE, SUITE 40  
LAS VEGAS, NV 89102  
TEL: (702) 368-6760  
FAX: (702) 368-6762



COPPER SPRING SOLUTIONS LLC

### BID PROPOSAL

<b>PROJECT:</b>	Denver Justice Center Temp Walls	<b>DATE:</b>	06/21/18
<b>FIRM:</b>	Hensel Phelps Construction	<b>ATTN:</b>	Robert Saucerman
<b>TYPE WORK:</b>	Temporary Walls	<b>CSS CONTACT:</b>	Jim Kruse
<b>BID INCLUSIONS:</b>			
<ol style="list-style-type: none"> <li>1. This proposal is good for 30 days from the above date. Warranty period is figured at 1 Year date of substantial completion.</li> <li>2. Our standard insurance limits are 2 Mil. Per occurrence and 5 Mil. Umbrella.</li> <li>3. Coordination meeting prior to start of work required.</li> <li>4. Material pricing good thru July 2018.</li> <li>5. This bid is based on email dated 5/7/18.</li> <li>6. Build 150 panels in our shop for temporary partitions. These panels are 3 5/8" x 20 GA studs with one layer of 1/4" white melamine sheathing on one side. Walls have a brace to the floor with carpet between the floor and track and the finished floor.</li> <li>7. Panels are 4' wide x 6' tall. Since they are temporary; this will not look like a finished product. The panels will be uneven and there may be small gaps between panels.</li> <li>8. We will deliver and setup the panels initially with two other moves during the project. We will remove the panels when the project is complete.</li> <li>9. We have included the Davis Bacon wage rates in our bid.</li> </ol>			
<b>General Notes:</b>			
<ol style="list-style-type: none"> <li>1. Framing assemblies in conflict with MEP systems are figured to be constructed prior to MEP including top-out drywall and top of wall sealants where they apply. Add cost will apply for systems installed out of sequence.</li> <li>2. Framed openings for other trades will need to be done during the framing process. Openings are to be laid out by the affected trade. Openings needed after the framing process will be done on a T&amp;M basis.</li> <li>3. No back charge will be accepted without 48 hours written notice and the opportunity for Copper Spring Solutions LLC to make the necessary corrections with our own forces.</li> <li>4. Trash containers are to be within reasonable distance to the building, supplied and maintained by the General Contractor.</li> <li>5. During cold weather, building needs to be maintained at a temperature of 55 degrees per the Gypsum Association's Guide to Cold Weather Finishing. This temperature needs to be maintained once finishing begins until final turnover of the building. Cracking or joint shrinkage caused by improper temperature is not covered by the warranty of this scope.</li> <li>6.</li> </ol>			
<b>BID EXCLUSIONS:</b>	See page two of this proposal.		
<b>ADDENDA:</b>	None	<b>TAX: INCLUDED</b>	7.65%
		<b>Bond Rate</b>	2.75%
<b>BASE BID:</b>			
<b>ALTERNATES:</b>	Items below are not figured in base bid above		
1.			
2.			
3.			
4.			
5.			
<b>TOTAL</b>			73,082.00

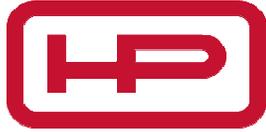
10

BOND → 2,010 -  
 \$ 75,092

## BID PROPOSAL

<b>PROJECT:</b>		<b>DATE:</b>	
<b>FIRM:</b>		<b>ATTN:</b>	
<b>TYPE WORK:</b>	<i>Metal Studs, Drywall and ACT</i>	<b>CSS CONTACT:</b>	
<b>BID EXCLUSIONS:</b>	<ol style="list-style-type: none"> <li>1. <i>Heat, Water, Light; 110 &amp; 220 Power; Wood Framing, Blocking &amp; Plywood; Metal Strap Blocking; Layout; Existing Floor Protection; Finish Caulking; Waste Removal from Jobsite; Trash Chutes &amp; Trash Bucket Equipped forklift; Thermal insulation</i></li> <li>2. <i>Off-Hour And Overtime Work; Liquidated Damages; Bond Costs</i></li> <li>3. <i>Installation of doors, frames and hardware. Furnish and installation of access doors.</i></li> <li>4. <i>All fire rated assemblies.</i></li> <li>5. <i>Drywall primer/sealer prior to final wall decoration as referred to in ASTM C840.</i></li> <li>6. <i>Level 5 finishes for deep tone accent paints not shown in bid documents.</i></li> <li>7. <i>Architectural trim metals; Aluminum expansion joints; Column Covers; Metal exceeding 14ga</i></li> <li>8. <i>Grid Ceiling; Tenting of light fixtures;</i></li> <li>9. <i>FRP &amp; GFRG and similar products unless specifically included.</i></li> <li>10.</li> <li>11.</li> <li>12.</li> <li>13.</li> <li>14.</li> <li>15.</li> <li>16.</li> <li>17.</li> <li>18.</li> <li>19.</li> <li>20.</li> <li>21.</li> <li>22.</li> <li>23.</li> <li>24.</li> <li>25.</li> <li>26.</li> <li>27.</li> <li>28.</li> <li>29.</li> <li>30.</li> <li>31.</li> <li>32.</li> <li>33.</li> <li>34.</li> <li>35.</li> <li>36.</li> <li>37.</li> </ol>		





**HENSEL PHELPS**

Plan. Build. Manage.

**Job Name**

**LFC - Glass Guardrail Replacement**

**Owner: City and County of Denver**

**Architect: GKK**

**Estimate Type: GMP Estimate**

**Current Date: 29-Aug-2018**

**Plains District Office**

420 Sixth Avenue  
Greeley, CO, 80631  
Phone: 970.352.6565  
Fax: 970.352.9311  
Estimator: RBS

# EXHIBIT L

## LFC - Glass Guardrail Replacement GMP Estimate

Owner: City and County of Denver  
Architect: GKK

Drawing Date: 28-Aug-2018  
Revision No: 00

PROJECT SECTOR:  GROSS FLOOR AREA: SECONDARY UNIT OF MEASURE :		Sector A		Total		
		Glass Replacement		GSF Unit Costs		
		1,000,000 GSF 100 EACH		1,000,000 GSF 100 EACH		
SEC.	PARAMETER	\$/GSF	AMOUNT	\$/GSF	AMOUNT	%
C10	<b>INTERIOR CONSTRUCTION</b>	{ 1.19 }	1,187,801	{ 1.19 }	1,187,801	67.34%
C1010	Partitions	1.19	1,187,801	1.19	1,187,801	
	<b>Subtotal - INTERIORS</b>	<b>1.19</b>	<b>1,187,801</b>	<b>1.19</b>	<b>1,187,801</b>	67.34%
F10	<b>SPECIAL CONSTRUCTION</b>	{ 0.10 }	95,431	{ 0.10 }	95,431	5.41%
F1010	Special Structures	0.10	95,431	0.10	95,431	
	<b>Subtotal - SPECIAL CONST.</b>	<b>0.10</b>	<b>95,431</b>	<b>0.10</b>	<b>95,431</b>	5.41%
	<b>Total - Building and Site</b>	<b>1.28</b>	<b>1,283,232</b>	<b>1.28</b>	<b>1,283,232</b>	72.75%
	<b>GENERAL CONDITIONS</b>					
Z1010	General Conditions	0.20	203,454	0.20	203,454	11.53%
Z1015	Vertical Hoisting	0.00	0	0.00	0	0.00%
	<b>Subtotal - GENERAL CONDITIONS</b>	<b>0.20</b>	<b>203,454</b>	<b>0.20</b>	<b>203,454</b>	11.53%
	<b>INDIRECTS &amp; RESERVES</b>					
Z1020	Contractor's Bonds	0.01	9,702	0.01	9,702	0.55%
Z1025	Subcontractor & Supplier Bonds	0.00	In COW	0.00	In COW	
Z1030	Builder's Risk Insurance	0.00	1,806	0.00	1,806	0.10%
Z1040	General Liability Insurance	0.01	9,555	0.01	9,555	0.54%
Z1050	Permits	0.01	12,261	0.01	12,261	0.70%
Z1070	A & E Design Costs	0.00	By Owner	0.00	By Owner	
Z1080	Professional Liability Insurance	0.00	By A/E	0.00	By A/E	
Z1090	Gross Receipts Tax	0.00	Not Req'd.	0.00	Not Req'd.	
Z1100	Utility Development & Tap Fees	0.00	By Owner	0.00	By Owner	
Z1110	Hazardous Material Abatement	0.00	By Owner	0.00	By Owner	
Z1120	Testing & Inspections	0.00	By Owner	0.00	By Owner	
Z1130	Escalation	0.00	None	0.00	None	
Z1140	Contractor Contingency	0.04	35,280	0.04	35,280	2.00%
Z1150	Preconstruction Costs	0.00	0	0.00	0	0.00%
Z1160	Textura	0.01	5,850	0.01	5,850	0.33%
Z1190	G & A - Corporate	0.04	44,100	0.04	44,100	2.50%
	<b>Subtotal - INDIRECTS &amp; RESERVES</b>	<b>0.12</b>	<b>118,554</b>	<b>0.12</b>	<b>118,554</b>	6.72%
	<b>FEES</b>					
Z1060	Contractor's Fee	0.16	158,760	0.16	158,760	9.00%
	<b>Subtotal - FEES</b>	<b>0.16</b>	<b>158,760</b>	<b>0.16</b>	<b>158,760</b>	9.00%
	<b>TOTAL CONSTRUCTION COST</b>	<b>1.76</b>	<b>1,764,000</b>	<b>1.76</b>	<b>1,764,000</b>	100.00%
	<b>SECONDARY UNIT COST</b>	17,640	EACH	17,640	EACH	

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Estimator: RBS, Estimate Checker: CC

Current Date: 29-Aug-2018

Workbook: DJC GMP Estimate - 20180824.xlsm

Boeckh's Data: City, State / Usage / Construction Type / 2000 / Jul - Aug 2018

# EXHIBIT L

Estimate Comparison:		LFC - Glass Guardrail GMP Estimate		LFC - Glass Guardrail RFP Estimate		Difference - increase / (decrease) from previous Estimate			Comments
		GSF Unit Costs		GSF Unit Costs		GSF Unit Costs		%	
		1,000,000 GSF 100 EACH		1,000,000 GSF 100 EACH		0 GSF 0 EACH		100%	
		\$/GSF	AMOUNT	\$/GSF	AMOUNT	\$/GSF	AMOUNT		
C10	<b>INTERIOR CONSTRUCTION</b>	{ 1.19 }	1,187,801	{ }	1,202,313	{ 1.19 }	(14,512)	99%	
C1010	Partitions	1.19	1,187,801		1,202,313	1.19	(14,512)	99%	
	<b>Subtotal - INTERIORS</b>	<b>1.19</b>	<b>1,187,801</b>		<b>1,202,313</b>	<b>1.19</b>	<b>(14,512)</b>	<b>99%</b>	
F10	<b>SPECIAL CONSTRUCTION</b>	{ 0.10 }	95,431	{ }	0	{ 0.10 }	95,431	0%	
F1010	Special Structures	0.10	95,431		0	0.10	95,431	0%	
	<b>Subtotal - SPECIAL CONST</b>	<b>0.10</b>	<b>95,431</b>		<b>0</b>	<b>0.10</b>	<b>95,431</b>	<b>0%</b>	
	<b>Total - Building and Site</b>	<b>1.28</b>	<b>1,283,232</b>		<b>1,202,313</b>	<b>1.28</b>	<b>80,919</b>	<b>107%</b>	
	<b>GENERAL CONDITIONS</b>								
Z1010	General Conditions	0.20	203,454		155,124	0.20	48,330	131%	
Z1015	Vertical Hoisting	0.00	0		0	0.00	0	0%	
	<b>Subtotal - GENERAL CONDITIONS</b>	<b>0.20</b>	<b>203,454</b>		<b>155,124</b>	<b>0.20</b>	<b>48,330</b>	<b>131%</b>	
	<b>INDIRECTS &amp; RESERVES</b>		0						
Z1020	Contractor's Bonds	0.01	9,702		8,800	0.01	902	110%	
Z1025	Subcontractor & Supplier Bonds	0.00	In COW		20,000	0.00	(20,000)	0%	
Z1030	Builder's Risk Insurance	0.00	1,806		1,579	0.00	227	114%	
Z1040	General Liability Insurance	0.01	9,555		9,317	0.01	238	103%	
Z1050	Permits	0.01	12,261		0	0.01	12,261	0%	
Z1070	A & E Design Costs	0.00	By Owner			0.00	0	0%	
Z1080	Professional Liability Insurance	0.00	By A/E			0.00	0	0%	
Z1090	Gross Receipts Tax	0.00	Not Req'd.			0.00	0	0%	
Z1100	Utility Development & Tap Fees	0.00	By Owner			0.00	0	0%	
Z1110	Hazardous Material Abatement	0.00	By Owner			0.00	0	0%	
Z1120	Testing & Inspections	0.00	By Owner			0.00	0	0%	
Z1130	Escalation	0.00	None			0.00	0	0%	
Z1140	Contractor Contingency	0.04	35,280		24,046	0.04	11,234	147%	
Z1150	Preconstruction Costs	0.00	0		0	0.00	0	0%	
Z1160	Textura	0.01	5,850		0	0.01	5,850	0%	
Z1190	G & A - Corporate	0.04	44,100		39,477	0.04	4,623	112%	
	<b>Subtotal - INDIRECTS &amp; RESERVES</b>	<b>0.12</b>	<b>118,554</b>		<b>103,219</b>	<b>0.12</b>	<b>15,335</b>	<b>115%</b>	
	<b>FEES</b>								
Z1060	Contractor's Fee	0.16	158,760		118,432	0.16	40,328	134%	
	<b>Subtotal - FEES</b>	<b>0.16</b>	<b>158,760</b>		<b>118,432</b>	<b>0.16</b>	<b>40,328</b>	<b>134%</b>	
	<b>TOTAL CONSTRUCTION COST</b>	<b>1.76</b>	<b>1,764,000</b>		<b>1,579,088</b>	<b>1.76</b>	<b>184,912</b>	<b>112%</b>	
	<b>SECONDARY UNIT COST</b>	17,640	EACH			17,640	EACH		

# EXHIBIT L

## LFC - Glass Guardrail Replacement Back-Up Estimate Detail

Owner: City and County of Denver  
Architect: GKK

Drawing Date: N/A  
Revision No: 00

	PARAMETER / ITEM OF WORK	FSR	USER 1	USER 2	USER 3	USER 4	QUANTITY	UNIT	\$/UNIT	TOTAL
	<b>A - Glass Replacement</b>						( 1,000,000 GSF )			
82	<b>C10 - INTERIOR CONSTRUCTION</b>									
83	<b>C1010 - Partitions</b>									
84	SC 1 - Replace Stair 6 Sloped Glass - SWM						2,522	SQFT	233.76	589,553
85	SC 2 - Replace Atrium Levels 2, 3, 4 and 5 Glass Handrail - SWM						1,939	SQFT	206.62	400,641
86	SC 3 - Replace East and West Glass Elevations at Pedestrian Bridge - SWM						376	SQFT	224.48	84,404
87	SC 4 - Replace Back of House Glass - SWM						1,282	SQFT	81.44	104,403
99	SC 5 - Replace Jail Glazing - Allowance						1	LSUM	5,800.00	5,800
	SC 6 - Glass Down payment Cost - 90 Day Line of Credit						1	LSUM	3,000.00	3,000
101							-	-	-	0
102							<b>C1010 Subtotal</b>		<b>1.19</b>	<b>1,187,801</b>
305	<b>F10 - SPECIAL CONSTRUCTION</b>									
306	<b>F1010 - Special Structures</b>									
307	Fabricate, Deliver, Set Up and Remove Temporary Walls - Copper Springs Solutions						3,600	GSF	20.86	75,092
308	Additional Scaffold Rental - Preconstruction Estimate included cost through September.						8	MO	2,542.31	20,338
309							-	-	-	0
310							<b>F1010 Subtotal</b>		<b>0.10</b>	<b>95,431</b>

# EXHIBIT L

## GENERAL CONDITIONS

JOB NAME: LFC - Glass Guardrail Replacement  
PROJECT SIZE: 1,000,000

PROJECT DURATION: 6 Mo.  
START DATE: Nov 2018

ITEM CODE	ITEM	QTY	UNIT	MATERIAL		EQUIP./SUBS.		LABOR		TOTAL
				\$/UNIT	AMOUNT	\$/UNIT	AMOUNT	\$/UNIT	AMOUNT	
<b>SUPERVISION &amp; ADMINISTRATION</b>										
100.100	PROJECT MANAGER	2.50	MO	600.00	1,500	675.00	1,688	17,044.00	42,610	45,798
100.101	OPERATIONS MANAGER		MO	550.00	0	675.00	0	19,469.00	0	0
100.105	GENERAL SUPERINTENDENT		MO	550.00	0	675.00	0	19,525.00	0	0
100.110	PROJECT SUPERINTENDENT		MO	550.00	0	675.00	0	17,822.00	0	0
100.120	AREA SUPERINTENDENT	6	MO	600.00	3,600	700.00	4,200	15,535.00	93,210	101,010
100.130	PROJECT ENGINEER	2.50	MO	700.00	1,750	---	0	13,643.00	34,108	35,858
100.138	SAFETY MANAGER		MO	550.00	0	675.00	0	16,206.00	0	0
100.139	SAFETY ENGINEER		MO	---	0	---	0	13,258.00	0	0
100.140	OFFICE ENGINEER		MO	---	0	---	0	11,595.00	0	0
100.145	OFFICE MANAGER		MO	---	0	---	0	7,032.00	0	0
100.148	INTERNS		MO	---	0	---	0	4,606.00	0	0
100.150	FIELD ENGINEER		MO	---	0	---	0	11,250.00	0	0
100.155	RODMAN & HELPERS		MO	---	0	---	0	7,903.00	0	0
100.160	FIELD ENGINEERS EQUIPMENT		MO	130.00	0	250.00	0	0.00	0	0
100.161	PROFESSIONAL SURVEYOR		HR	---	0	125.00	0	0.00	0	0
100.162	DRAFTSMAN - DETAILERS		MO	---	0	---	0	7,903.00	0	0
100.163	SECRETARY		MO	---	0	---	0	6,376.00	0	0
100.165	TIMEKEEPER - CHECKER		MO	---	0	---	0	5,291.00	0	0
100.170	QC MANAGER		MO	550.00	0	675.00	0	17,574.00	0	0
100.171	QC LEAD		MO	---	0	---	0	15,168.00	0	0
100.172	QC ENGINEER		MO	---	0	---	0	12,627.00	0	0
100.173	MEP COORDINATOR		MO	---	0	---	0	15,168.00	0	0
100.174	LEAD VDC ENGINEER		MO	---	0	---	0	14,754.00	0	0
100.175	VDC ENGINEER		MO	---	0	---	0	13,222.00	0	0
100.176	SENIOR ESTIMATOR		MO	550.00	0	675.00	0	18,020.00	0	0
100.176	LEAD ESTIMATOR		MO	---	0	---	0	14,754.00	0	0
100.177	DESIGN MANAGER		MO	550.00	0	675.00	0	18,071.00	0	0
100.177	SCHEDULER		MO	550.00	0	675.00	0	15,125.00	0	0
100.178	ESTIMATOR (BUYOUT)		MO	---	0	---	0	14,754.00	0	0
100.179	JOBSITE ACCOUNTANT		MO	---	0	---	0	7,884.00	0	0
100.180	BUSINESS EXPENSES		MO	1,000.00	0	---	0	---	0	0
100.181	BUSINESS TRAVEL		TRIP	---	0	3,500.00	0	---	0	0
100.182	HOME OFFICE TRAVEL (HNL TO JOBSITE)		MO	---	0	100.00	0	---	0	0
100.183	TRAINING/SEMINAR TRAVEL		TRIP	---	0	3,500.00	0	---	0	0
100.184	ESTIMATING TRAVEL		TRIP	---	0	3,500.00	0	---	0	0
100.500	MOVING & RELOCATE (PM/PS)		EACH	---	0	25,000.00	0	---	0	0
100.501	MOVING & RELOCATE (AS)		EACH	---	0	25,000.00	0	---	0	0
100.502	MOVING & RELOCATE (PE)		EACH	---	0	17,000.00	0	---	0	0
100.503	MOVING & RELOCATE (FE/OE)		EACH	---	0	17,000.00	0	---	0	0
100.504	MOVING & RELOCATE (QC/SAFETY)		EACH	---	0	17,000.00	0	---	0	0
100.505	SHIP VEHICLES		EACH	---	0	1,250.00	0	---	0	0
100.600	PARTNERING		LSUM	---	0	10,000.00	0	---	0	0
	HEAD TAX	11	MMO	5.25	58	---	0	---	0	58
	TOTAL SUPERVISION & ADMINISTRATION				6,908		5,888		169,928	182,723
<b>ENGINEERING &amp; SURVEY WORK</b>										
110.920	ADDITIONAL PLANS		SET	350.00	0	---	0	---	0	0
110.930	DRAWING PRINTING		LSUM	5,000.00	0	---	0	---	0	0
110.931	CADD FOR AS-BUILTS		MIL	100.00	0	---	0	---	0	0
100.932	PRINTS FOR AS-BUILTS		SHTS	1.25	0	---	0	---	0	0

# EXHIBIT L

## GENERAL CONDITIONS

JOB NAME: LFC - Glass Guardrail Replacement  
PROJECT SIZE: 1,000,000

PROJECT DURATION: 6 Mo.  
START DATE: Nov 2018

ITEM CODE	ITEM	QTY	UNIT	MATERIAL		EQUIP./SUBS.		LABOR		TOTAL
				\$/UNIT	AMOUNT	\$/UNIT	AMOUNT	\$/UNIT	AMOUNT	
110.940	OPERATION & MAINTENANCE MANUALS	2	SETS	500.00	1,000	---	0	---	0	1,000
110.950	LASER SCANNING		LSUM	---	0	---	0	---	0	0
110.951	3-D MODELING SERVICES		LSUM	---	0	---	0	---	0	0
	TOTAL ENGINEERING & SURVEY WORK				1,000		0		0	1,000

### SAFETY & FIRST AID

120.000	PRE-EMPLOYMENT SCREENING - SALARIED		EACH	---	0	200.00	0	---	0	0
120.005	SAFE TRAINING (HPCC & SUBS)		EACH	---	0	25.00	0	---	0	0
120.100	SAFETY EQUIPMENT - SALARIED		MNMO	20.00	0	---	0	---	0	0
120.110	SAFETY AWARDS - SALARIED		MNMO	26.00	0	---	0	---	0	0
120.150	AED		EACH	2,000.00	0	---	0	---	0	0
120.200	FIRST AID CABINETS	1	EACH	200.00	200	---	0	---	0	200
120.210	FIRST AID SUPPLIES - SALARIED	6	MNMO	32.75	197	---	0	---	0	197
120.300	FIRE PROTECTION		LSUM	5,000.00	0	---	0	---	0	0
120.310	FIRE EXT (1 EACH/5,000 SQFT) + 1 REFILL	5	EACH	100.00	500	---	0	50.00	250	750
120.400	BACKRAILS	763	LNFT	1.50	1,145	---	0	1.50	1,145	2,290
120.410	REMOVE STEEL SAFETY CABLE		LNFT	---	0	---	0	0.50	0	0
120.420	HORIZ OPENING PROTECTION		SQFT	2.00	0	---	0	1.50	0	0
120.450	BARRICADES		LNFT	1.00	0	---	0	0.50	0	0
120.451	SWPP		LSUM	---	0	---	0	---	0	0
				---	0	---	0	---	0	0
	TOTAL SAFETY & FIRST AID				2,041		0		1,395	3,436

### TEMPORARY FACILITIES

130.100	OFFICE TRAILER 24'x60' (INCL FRT/UP&DOWN)		MO	50.00	0	10,000.00	0	---	0	0
130.102	OFFICE TRAILER 12' x 60' (INCL FRT/UP&DOWN)		MO	50.00	0	4,000.00	0	---	0	0
130.105	OFFICE TRAILER 8'x30' (INCL FRT/UP&DOWN)		MO	50.00	0	3,000.00	0	---	0	0
130.108	OFFICE TRAILER - OWNER/ARCH/ENG		MO	50.00	0	4,000.00	0	---	0	0
130.109	RAMPS, DECKS, SKIRTHING @ TRAILERS		SQFT	25.00	0	---	0	10.00	0	0
130.110	OFFICE FURNITURE	1	PRSN	700.00	700	---	0	---	0	700
130.120	STORAGE & SAW SHEDS (20' CONTAINER)		EACH	---	0	2,500.00	0	---	0	0
130.130	TEMPORARY TOILETS		MO	---	0	175.00	0	---	0	0
130.131	WASH STATIONS		MO	---	0	175.00	0	---	0	0
130.140	PROFESSIONAL PHOTOS		EACH	---	0	500.00	0	---	0	0
130.142	PRECONSTRUCTION PHOTO SURVEY		LSUM	---	0	5,000.00	0	---	0	0
130.144	MISC PHOTOS FOR HPCC		MNMO	---	0	35.00	0	---	0	0
130.150	BULLETIN BOARDS		EACH	500.00	0	---	0	300.00	0	0
130.151	MISC JOBSITE SIGNS		LSUM	---	0	5,000.00	0	---	0	0
130.152	PROJECT SIGN		EACH	500.00	0	200.00	0	3,000.00	0	0
130.160	OFFICE SUPPLIES & EQUIPMENT		MNMO	200.00	0	---	0	---	0	0
130.161	COPIER/FAX/SCANNER RENTAL	6	MNMO	25.00	150	45.00	270	---	0	420
130.162	FAX MACHINE		EACH	1,500.00	0	---	0	---	0	0
130.163	JOBSITE COMPUTERS		MNMO	60.00	0	---	0	---	0	0
130.164	BIM COMPUTER		EACH	5,000.00	0	---	0	---	0	0
130.165	JOBSITE PRINTERS/PLOTTER/SERVER		EACH	50.00	0	2,000.00	0	---	0	0
130.166	IPAD/TABLET		EACH	750.00	0	---	0	---	0	0
130.167	JOBSITE SOFTWARE & MISC		MNMO	50.00	0	---	0	---	0	0
130.174	OFFICE SUPPLIES - O/A/E	6	MO	100.00	600	---	0	---	0	600
130.175	POSTAGE & SHIPPING		MNMO	---	0	80.00	0	---	0	0
130.180	CELLULAR PHONE CHARGES	11	MNMO	---	0	125.00	1,375	---	0	1,375
130.181	TELEPHONE & INTERNET MONTHLY CHARGES		MNMO	---	0	25.00	0	---	0	0

# EXHIBIT L

## GENERAL CONDITIONS

JOB NAME: LFC - Glass Guardrail Replacement  
PROJECT SIZE: 1,000,000

PROJECT DURATION: 6 Mo.  
START DATE: Nov 2018

ITEM CODE	ITEM	QTY	UNIT	MATERIAL		EQUIP./SUBS.		LABOR		TOTAL
				\$/UNIT	AMOUNT	\$/UNIT	AMOUNT	\$/UNIT	AMOUNT	
130.182	TELEPHONE & INTERNET SERVICE TO TRAILERS		LSUM	---	0	2,500.00	0	---	0	0
130.183	TELEPHONE EQUIP PURCHASE - SWITCH		LSUM	---	0	5,000.00	0	---	0	0
130.185	TELEPHONE EQUIP PURCHASE - HANDSETS		EACH	---	0	150.00	0	---	0	0
130.186	TELEPHONE EQUIP - SETUP		LSUM	---	0	1,250.00	0	---	0	0
130.187	NETWORK CABLING IN TRAILER		LSUM	---	0	1,250.00	0	---	0	0
130.190	WATCHMAN SERVICE	BY OWNER	WEEK	---	0	5,000.00	0	---	0	0
130.200	BOTTLED WATER SERVICE - OFFICE	1	MO	100.00	100	---	0	0.00	0	100
130.210	LADDERS & STAIRS		EACH	500.00	0	---	0	500.00	0	0
130.220	TEMP. ROADWAYS & ACCESS		LSUM	---	0	---	0	---	0	0
130.230	TEMPORARY FENCING		LNFT	---	0	100.00	0	---	0	0
130.240	TEMPORARY WALKWAYS		LNFT	---	0	250.00	0	---	0	0
130.250	TEMP. WATER SERVICE		LNFT	---	0	100.00	0	---	0	0
130.252	TEMP. WATER USAGE COST		MO	---	0	1,000.00	0	---	0	0
130.260	TEMP POWER (BY ELEC. SUB)		LSUM	---	0	---	0	---	0	0
130.262	TEMP. POWER EQUIP/SUPPLIES		LSUM	---	0	10,000.00	0	---	0	0
130.264	TEMP. POWER USAGE COST		MO	---	0	---	0	---	0	0
130.265	TEMP POWER COSTS - TRAILERS		MO	---	0	---	0	---	0	0
130.266	TEMP POWER COSTS - BUILDING		MO	---	0	---	0	---	0	0
130.267	TEMP POWER COSTS - START UP		MO	---	0	---	0	---	0	0
130.270	TEMP PARKING AREA		LSUM	---	0	---	0	---	0	0
130.275	EMPLOYEE PARKING FEES - SALARIED	3	MNMO	---	0	200.00	600	---	0	600
				---	0	---	0	---	0	0
				---	0	---	0	---	0	0
	TOTAL TEMPORARY FACILITIES				1,550		2,245		0	3,795

### BUILDING SERVICES & CLEAN-UP

140.100	WEEKLY CLEAN-UP (8MH/WK)		WEEK	25.00	0	---	0	480.00	0	0
140.105	DUMPSTERS		DUMP	---	0	1,000.00	0	---	0	0
140.107	JANITORIAL SERVICES - JOBSITE OFFICE		WEEK	---	0	---	0	---	0	0
140.110	FINAL CLEAN-UP ESTIMATE -BLDG	5	TRIPS	---	0	2,000.00	10,000	---	0	10,000
140.115	FINAL CLEAN-UP ESTIMATE - PARKING		SQFT	---	0	0.50	0	---	0	0
140.120	HAULING TO & FROM JOB		LOAD	---	0	3,000.00	0	---	0	0
140.130	PROJECT HAULING WORK		LSUM	---	0	---	0	---	0	0
140.140	HOISTING FOR SUBS		MO	---	0	---	0	---	0	0
140.141	PEST CONTROL		LSUM	---	0	5,000.00	0	---	0	0
140.142	WARRANTY COST (\$0.08/GSF OR MIN \$15,000)		GSF	---	0	0.08	0	---	0	0
				---	0	---	0	---	0	0
	TOTAL BUILDING SERVICES & CLEAN-UP				0		10,000		0	10,000

### INSPECTION & QUALITY CONTROL

150.000	QUALITY CONTROL SYSTEM		LSUM	---	0	---	0	---	0	0
150.001	TESTING (BY OWNER)		LSUM	---	0	---	0	---	0	0
150.100	CONCRETE TESTING WORK		LSUM	---	0	---	0	---	0	0
150.120	SOILS TESTING WORK		LSUM	---	0	---	0	---	0	0
150.122	ASPHALT TESTING WORK		LSUM	---	0	---	0	---	0	0
150.124	STEEL TESTING WORK		LSUM	---	0	---	0	---	0	0
150.126	SPRAYED FIREPROOFING TESTING WORK		LSUM	---	0	---	0	---	0	0
150.140	LEAK TEST STRUCTURES		EACH	600.00	0	1,500.00	0	650.00	0	0
150.142	THIRD PARTY SCAFFOLD REVIEW / INSPECTION	1	LSUM	---	0	2,500.00	2,500	---	0	2,500
150.143	ACOUSTICAL CONSULTANT		LSUM	---	0	---	0	---	0	0
150.144	NOISE & AIR MONITORING		LSUM	---	0	---	0	---	0	0

# EXHIBIT L

## GENERAL CONDITIONS

JOB NAME: LFC - Glass Guardrail Replacement  
PROJECT SIZE: 1,000,000

PROJECT DURATION: 6 Mo.  
START DATE: Nov 2018

ITEM CODE	ITEM	QTY	UNIT	MATERIAL		EQUIP./SUBS.		LABOR		TOTAL
				\$/UNIT	AMOUNT	\$/UNIT	AMOUNT	\$/UNIT	AMOUNT	
150.145	PUNCHLIST SOFTWARE, TABLETS, PROGRAMMING		LSUM	---	0	15,000.00	0	---	0	0
				---	0		0	---	0	0
	TOTAL INSPECTION & QUALITY CONTROL				0		2,500		0	2,500

### TEMPORARY HEAT & PROTECTION

160.100	CONCRETE HEATING & PROT.		MO	3,000.00	0	5,000.00	0	7,500.00	0	0
160.105	MASONRY HEATING & PROT.		MO	3,000.00	0	5,000.00	0	7,500.00	0	0
160.120	BUILDING HEATING (TEMP.)		MO	---	0	---	0	---	0	0
160.140	BUILDING HEATING (PERM.)		MO	---	0	---	0	---	0	0
				---	0	---	0	---	0	0
	TOTAL TEMPORARY HEAT & PROTECTION				0		0		0	0

### EQUIPMENT & TRANSPORTATION

170.100	**CRANES**		---	---	0	---	0	---	0	0
170.110	TOWER CRANE SK 315 W/ 237' JIB		MO	---	0	12,000.00	0	---	0	0
170.112	TOWER CRANE SK 405 W/ 240' JIB		MO	---	0	17,000.00	0	---	0	0
170.120	TOWER CRANE SK 575 W/ 262' JIB		MO	---	0	24,000.00	0	---	0	0
170.121	TOWER CRANE ANCHORS		EACH	---	0	---	0	---	0	0
170.122	TOWER CRANE FOUNDATION		EACH	---	0	---	0	---	0	0
170.123	TOWER CRANE UP / DOWN		EACH	---	0	---	0	---	0	0
170.124	TOWER CRANE JUMP		EACH	---	0	---	0	---	0	0
170.125	TOWER CRANE TIE-OFFS		MO	---	0	---	0	---	0	0
170.126	TOWER CRANE FREIGHT		LSUM	---	0	---	0	---	0	0
170.127	TOWER CRANE ELEC SERVICE		LSUM	---	0	---	0	---	0	0
170.128	TOWER CRANE ELEC BILL		MO	---	0	---	0	---	0	0
170.129	TOWER CRANE OPERATOR		MO	---	0	---	0	---	0	0
170.130	70 TON CRAWLER CRANE		MO	1,200.00	0	8,500.00	0	---	0	0
170.135	100 TON CRAWLER CRANE 338 210' MAIN BOOM		MO	1,200.00	0	5,500.00	0	---	0	0
170.137	150 TON CRAWLER CRANE		MO	1,200.00	0	12,500.00	0	---	0	0
170.140	35 TON TRUCK CRANE		MO	850.00	0	4,500.00	0	---	0	0
170.150	45 TON TRUCK CRANE		MO	1,000.00	0	3,500.00	0	---	0	0
170.160	70 TON TRUCK CRANE		MO	1,200.00	0	6,500.00	0	---	0	0
170.170	82 TON TRUCK CRANE		MO	1,200.00	0	7,500.00	0	---	0	0
170.175	90 TON TRUCK CRANE		MO	1,200.00	0	8,000.00	0	---	0	0
170.180	15T ROUGH TERRAIN CRANE		MO	900.00	0	2,200.00	0	---	0	0
170.190	18T ROUGH TERRAIN CRANE		MO	1,000.00	0	3,500.00	0	---	0	0
170.200	20T ROUGH TERRAIN CRANE		MO	1,200.00	0	2,800.00	0	---	0	0
170.210	30T ROUGH TERRAIN CRANE		MO	1,400.00	0	4,500.00	0	---	0	0
170.220	35T ROUGH TERRAIN CRANE		MO	1,400.00	0	4,600.00	0	---	0	0
170.230	40T ROUGH TERRAIN CRANE		MO	1,400.00	0	5,000.00	0	---	0	0
170.240	50T ROUGH TERRAIN CRANE RT 750 136' MAIN BOOM		MO	1,400.00	0	6,000.00	0	---	0	0
170.250	60T ROUGH TERRAIN CRANE RT 760E 136' MAIN BOOM		MO	1,400.00	0	7,000.00	0	---	0	0
170.290	CRANE FREIGHT IN / OUT, SETUP		LSUM	---	0	---	0	---	0	0
170.296	RIGGING / LIFTING DEVICES		LSUM	---	0	---	0	---	0	0
170.297	CRANE RIGGER / COORDINATOR		MO	---	0	---	0	---	0	0
170.298	CRANE OPERATOR		MO	---	0	---	0	---	0	0
170.299	CRANE OILER		MO	---	0	---	0	---	0	0
170.300	**HOISTS & LANDINGS**		---	---	0	---	0	---	0	0
170.310	ALIMAK DUAL 6,000		MO	---	0	13,000.00	0	---	0	0
170.320	CHAMP DUAL 6,000		MO	---	0	13,000.00	0	---	0	0
170.330	82 CHAMPION MATERIAL HOIST		MO	---	0	1,100.00	0	---	0	0
170.340	HOIST ANCHORS		EACH	1,500.00	0	---	0	---	0	0

# EXHIBIT L

## GENERAL CONDITIONS

JOB NAME: LFC - Glass Guardrail Replacement  
 PROJECT SIZE: 1,000,000

PROJECT DURATION: 6 Mo.  
 START DATE: Nov 2018

ITEM CODE	ITEM	QTY	UNIT	MATERIAL		EQUIP./SUBS.		LABOR		TOTAL
				\$/UNIT	AMOUNT	\$/UNIT	AMOUNT	\$/UNIT	AMOUNT	
170.341	HOIST FOUNDATION		EACH	400.00	0	150.00	0	400.00	0	0
170.342	HOIST UP / DOWN		EACH	2,000.00	0	5,000.00	0	---	0	0
170.343	HOIST JUMPS		EACH	500.00	0	1,000.00	0	---	0	0
170.344	HOIST PLATFORMS		EACH	500.00	0	500.00	0	500.00	0	0
170.345	HOIST FREIGHT IN / OUT		LSUM	---	0	12,000.00	0	---	0	0
170.346	HOIST ELEC SERVICE		LSUM	---	0	---	0	---	0	0
170.347	HOIST ELEC BILL		MO	---	0	---	0	---	0	0
170.348	HOIST OPERATOR (1 CAGE)		MO	---	0	---	0	---	0	0
170.349	HOIST OPERATOR (2 CAGE)		MO	---	0	---	0	---	0	0
170.400	**FORKLIFT RENTALS**		---	---	0	---	0	---	0	0
170.430	LULL - 8000# FORKLIFT		MO	1,000.00	0	2,200.00	0	---	0	0
170.440	GRADALL - 9000# FORKLIFT 45' REACH		MO	1,000.00	0	2,200.00	0	---	0	0
170.450	CASE - 4000# FORKLIFT		MO	700.00	0	2,500.00	0	---	0	0
170.500	**AUTOMOBILES & PICKUPS**		---	---	0	---	0	---	0	0
170.510	1/2 TON PICKUP		MO	225.00	0	575.00	0	---	0	0
170.520	3/4 TON PICKUP		MO	225.00	0	575.00	0	---	0	0
170.540	4 WHEEL DRIVE PICKUP		MO	325.00	0	700.00	0	---	0	0
170.542	PASSENGER VAN		MO	325.00	0	900.00	0	---	0	0
170.545	JOHN DEERE GATOR / KAWASAKI MULE		MO	500.00	0	400.00	0	---	0	0
170.550	SEDAN		MO	250.00	0	575.00	0	---	0	0
170.555	PE CAR ALLOWANCE		MO	---	0	500.00	0	---	0	0
170.600	**TRUCK RENTAL**		---	---	0	---	0	---	0	0
170.610	1 TON TRUCK		MO	350.00	0	850.00	0	---	0	0
170.620	2 TON TRUCK		MO	350.00	0	900.00	0	---	0	0
170.630	WATER TRUCK, 2500 GAL		MO	750.00	0	2,000.00	0	---	0	0
170.640	WATER TRUCK, 6000 GAL		MO	1,000.00	0	3,000.00	0	---	0	0
170.645	WATER TRUCK 613		MO	2,000.00	0	2,500.00	0	---	0	0
170.650	8 YARD MIXER TRUCK		MO	800.00	0	4,500.00	0	---	0	0
170.700	GENERATOR UNIT RENTAL		MO	400.00	0	1,500.00	0	---	0	0
170.800	**AIR COMPRESSOR RENTAL**		---	---	0	---	0	---	0	0
170.810	125 CFM (G) COMPRESSOR		MO	600.00	0	300.00	0	---	0	0
170.820	150 CFM (G) COMPRESSOR		MO	600.00	0	325.00	0	---	0	0
170.830	175 CFM (G) COMPRESSOR		MO	600.00	0	410.00	0	---	0	0
170.840	185 CFM (D) COMPRESSOR		MO	400.00	0	410.00	0	---	0	0
170.850	250 CFM (D) COMPRESSOR		MO	500.00	0	550.00	0	---	0	0
170.860	375 CFM (D) COMPRESSOR		MO	700.00	0	850.00	0	---	0	0
170.880	750CFM (D) COMPRESSOR		MO	1,400.00	0	1,500.00	0	---	0	0
170.900	**WELDING MACHINE RENTAL**		---	---	0	---	0	---	0	0
170.910	200 AMP (G) WELDER		MO	500.00	0	185.00	0	---	0	0
170.920	250 AMP (D) WELDER		MO	400.00	0	225.00	0	---	0	0
170.930	350 AMP (D) WELDER		MO	400.00	0	250.00	0	---	0	0
170.940	400 AMP (D) WELDER		MO	400.00	0	300.00	0	---	0	0
170.950	MISC WELDING SUPPLIES		LSUM	500.00	0	---	0	---	0	0
171.000	DEWATERING EQUIPMENT RENTAL		MO	---	0	---	0	---	0	0
171.050	RADIOS BASE STATION		EACH	---	0	2,500.00	0	---	0	0
171.051	RADIOS		EACH	---	0	750.00	0	---	0	0
171.120	CONCRETE POWER BUGGY		MO	100.00	0	250.00	0	---	0	0
171.150	56' MORGAN CONVEYOR		MO	500.00	0	2,500.00	0	---	0	0
170.200	FINISHING MACH. & BLADES		EACH	2,500.00	0	---	0	---	0	0
171.300	CONCRETE VIBRATORS		EACH	1,000.00	0	---	0	---	0	0
171.400	MISC. POWER EQUIP. @ 3% x LAB		LSUM	---	0	---	0	---	0	0
171.500	SMALL TOOLS @ 3% x LAB		LSUM	---	0	---	0	---	0	0

# EXHIBIT L

## GENERAL CONDITIONS

JOB NAME: LFC - Glass Guardrail Replacement  
 PROJECT SIZE: 1,000,000

PROJECT DURATION: 6 Mo.  
 START DATE: Nov 2018

ITEM CODE	ITEM	QTY	UNIT	MATERIAL		EQUIP./SUBS.		LABOR		TOTAL
				\$/UNIT	AMOUNT	\$/UNIT	AMOUNT	\$/UNIT	AMOUNT	
171.600	REPAIRS & MAINTENANCE @ 10% x EQPT		LSUM	---	0	---	0	---	0	0
	TOTAL EQUIPMENT & TRANSPORTATION				0		0		0	0

### SUMMARY

	SUPERVISION & ADMINISTRATION	---	LSUM	---	6,908	---	5,888	---	169,928	182,723
	ENGINEERING & SURVEY WORK	---	LSUM	---	1,000	---	0	---	0	1,000
	SAFETY & FIRST AID	---	LSUM	---	2,041	---	0	---	1,395	3,436
	TEMPORARY FACILITIES	---	LSUM	---	1,550	---	2,245	---	0	3,795
	BUILDING SERVICES & CLEAN-UP	---	LSUM	---	0	---	10,000	---	0	10,000
	INSPECTION & QUALITY CONTROL	---	LSUM	---	0	---	2,500	---	0	2,500
	TEMPORARY HEAT & PROTECTION	---	LSUM	---	0	---	0	---	0	0
	EQUIPMENT & TRANSPORTATION	---	LSUM	---	0	---	0	---	0	0
	<b>SUBTOTAL</b>				11,499		20,633		171,322	203,454
	USE TAX - CONSUMABLES			0.00%	0	0.00%	0	---	---	0
	GENERAL EXCISE TAX			0.00%	0	0.00%	0	0.00%	0	0
	FRINGE BENEFITS - SALARIED	169,928	\$	---	---	---	---	W/Above	0	0
	FRINGE BENEFITS - HOURLY	1,395	\$	---	---	---	---	W/Above	0	0
	MEDICAL, LIFE & DISABILITY - SALARIED (PER MO)	11	MO	---	---	---	---	W/Above	0	0

## LFC - Glass Guardrail Replacement

Owner: City and County of Denver  
Architect: GKK

Drawing Date: N/A  
Revision No: 00

### Clarifications and Assumptions

- 1 The following Assumptions and Clarifications are provided to convey the basis of the estimate and general approach taken by Hensel Phelps in the preparation of the estimate. The detailed estimate backup provided for each area of the project shall serve as a reference for all scope of work (work activity, assumed quantity and level of quality) which has been taken into account in this estimate. Work not specifically indicated in this detailed backup should be considered Not Included (NIC).
- 2 The estimate is based on five, eight hour workdays per week. All work will be performed at night.
- 3 The estimate does not include an cost associated with contaminated or hazardous materials, soil or water.
- 4 The estimate is based on Shop Drawings prepared by Southwest Metalsmiths.
- 5 The estimate includes an Allowance of \$5,800 for the replacement of Glass Panels in the Jail.
- 6 The estimate includes the rental of Scaffolding from September through the completion of the project.
- 7 The estimate includes access to the site through the main entrance of the Facility. Owner agrees to provide areas within the facility where materials and tools can be stored.
- 8 It is assumed that all materials will be either staged on site or be stored in an off site location. Owner agrees to payment of materials stored off site in a bonded warehouse.
- 9 The 12'-9" glass requires prepayment prior to fabrication. The value of this material is \$61,901. The cost of the glass is included in the cost of work and the finance charge for 90 days is included as a separate line item.
- 10 The estimate includes replacement of all rubber grommets and washers for the glass reinstallation.
- 11 The estimate includes Re-finishing of damaged stainless steel handrails and providing a "once over" for the like new appearance on all stainless steel handrails, and physically re-tightening of each point supported attachment on all glass.
- 12 The estimate includes temporary partitions to protect the public while the glass handrail has been removed.
- 13 This estimate does not include any special disposal requirements. Subcontractor will dispose of waste per all applicable Federal, State, and Local laws.
- 14 Preconstruction costs are not included in this GMP.
- 15 Contractor Contingency shown in this GMP is for use by the Contractor. It is understood that the Owner is carrying its own contingency for its use.
- 16 Schedule includes 222 calendar days from NTP to Substantial Completion. In order to meet the NTP start date the following activities need to be achieved:  
Executed Contract  
Building Permit  
Final Design Documents submitted for permit to City of Denver from GKK



EXHIBIT M

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
5/4/2018

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement.

Table with 2 main columns: PRODUCER (Flood and Peterson) and INSURED (Hensel Phelps Construction Co.), and CONTACT INFORMATION (Rebekkah McGuire). Includes a table for INSURER(S) AFFORDING COVERAGE with columns for INSURER and NAIC #.

COVERAGES CERTIFICATE NUMBER: CL1841922908 REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES.

Main table listing insurance coverages with columns: INSR LTR, TYPE OF INSURANCE, POLICY NUMBER, POLICY EFF, POLICY EXP, and LIMITS. Includes Commercial General Liability, Automobile Liability, Umbrella Liability, Workers Compensation, and Professional and Pollution Liability.

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
RE: Lindsey-Flanigan Courthouse - Glass Guardrail Replacement Project

The City and County of Denver, its elected and appointed officials, employees and volunteers are included as Additional Insured as respects General Liability and Auto Liability. Waiver of subrogation applies.

Table with 2 columns: CERTIFICATE HOLDER (City and County of Denver) and CANCELLATION (Should any of the above described policies be cancelled before the expiration date thereof, notice will be delivered in accordance with the policy provisions. Authorized Representative: Kelly Urwiller).